

An aerial photograph of a river filled with numerous long, narrow rafts made of bundled bamboo poles. Several people are visible standing on the rafts, some using long poles to navigate. The water is a calm, greenish-brown color. The scene is captured from a high angle, showing the layout of the rafts across the river.

THE VEOLIA INSTITUTE REVIEW

FACTS REPORTS

2024

THE SOCIAL AND ECONOMIC CHALLENGES OF

SUFFICIENCY

In partnership with
Archipel&Co.

 **VEOLIA**
INSTITUTE

THINKING TOGETHER TO ILLUMINATE THE FUTURE

THE VEOLIA INSTITUTE

Designed as a platform for discussion and collective thinking, the Veolia Institute has been exploring the future at the crossroads between society and the environment since it was set up in 2001. Its mission is to think together to illuminate the future.

Working with the global academic community, it facilitates multi-stakeholder analysis to explore emerging trends, particularly the environmental and societal challenges of the coming decades. It focuses on a wide range of issues related to the future of urban living as well as sustainable production and consumption (cities, urban services, environment, energy, health, agriculture, etc.).

Over the years, the Veolia Institute has built up a high-level international network of academic and scientific experts, universities and research bodies, policymakers, NGOs and international organizations. The Institute pursues its mission through publications and conferences, as well as foresight working groups.

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THE FORESIGHT COMMITTEE

Drawing on the expertise and international reputation of its members, the Foresight Committee guides the work of the Veolia Institute and steers its development.

The current members of the Foresight Committee are: **Harvey Fineberg**, President of the Gordon and Betty Moore Foundation and former President of the American Institute of Medicine; **Pierre-Marc Johnson**, international lawyer and former Premier of Quebec; **Philippe Kourilsky**, Honorary Director General of the Pasteur Institute; **Amy Luers**, Global Lead Sustainability Sciences at Microsoft and **Mamphela Ramphela**, former Managing Director of the World Bank.

We are pleased to welcome two new members this year: **Philippe Aghion**, Economist and Professor at the Collège de France and the London School of Economics, and **Marie-Laure Salles-Djelic**, Director of the Graduate Institute of International and Development Studies and President of IDDRI's Scientific Advisory Board.

We would like to express our deep gratitude to **Amartya Sen**, Economist, Nobel Prize 1998, Professor at Harvard, for his invaluable contributions and commitment to the work of the Veolia Institute since its creation in 2001 and until 2023.

THE REVIEW

The Veolia Institute Review - FACTS Reports is an international publication compiling diverse perspectives on topics at the crossroads between society and the environment.

The review was launched in 2007 with the aim of sharing best practices from the field, to help find solutions to problems in the economy, development, healthcare, environment, agriculture and education, in both developing and developed countries.

The interdisciplinary review is a vehicle for sharing the experiences and expertise of different stakeholders (researchers, academic experts, policymakers, companies, NGOs, international organizations, etc.), with the aim of taking advantage of a diversity of perspectives on a given topic, by combining feedback on best practices from the field and expert analysis.

*Issue coordinated by
David Ménascé
and Iris Levy,
Archipel&Co*

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INTRODUCTION

Nicolas Renard - Executive Director, Veolia Institute



Can sufficiency save us from raw material scarcity and global warming? Sufficiency is all about restraint, moderation, and absence of excess, and so necessarily involves curtailing our desires and needs. By reducing what we consume, sufficiency also reduces the pollution we release into the natural world and the resources we take from it. Its roots lie in notions of temperance, echoing virtues the ancient Greeks saw as prerequisites for a life well lived.

Sufficiency is not the same as degrowth. Sufficiency does not inevitably result in a contraction of GDP, whereas degrowth certainly does. In fact, if we want to tackle the ecological challenges that humanity faces, rather than focusing on shrinking the economy we need to shrink physical flows and the extraction of raw materials, energy and water from nature.

Like many concepts, sufficiency comes in many forms: weak or strong, incentivized or punitive, temporary or permanent, elective or imposed. There is energy sufficiency, the form we hear of most often, and there is sufficiency in the use of materials, water, and even land in order to limit soil sealing.

Is *Homo sapiens* destined to become *Homo sobrius*? Quite possibly. But it will take time. Because right now sufficiency is espoused by only a handful of European countries. And because sufficiency stands in stark contradiction to the foundations of our economic system: excessive consumption, over-production and wastage. Many sectors behave in ways that are the antithesis of frugality. In the fashion industry, Zara releases 52 collections every year. Becoming sufficient is an arduous task in a society that never ceases to glorify the exact opposite.

And yet, sufficiency is not out of reach, as demonstrated by France during winter 2023 when it delivered a rapid cut in its energy use. An example that highlights one of sufficiency's limitations. In developed countries it has mostly happened only in response to a crisis: an energy crisis, with the sharp spike in gas prices caused by Russia's invasion of Ukraine; an environmental crisis with the drought of summer 2022 that led to severe water restrictions being imposed in Europe.

Shifting to temperance after the excesses of consumer society requires actions to be taken at different levels. Starting with the individual level. This is probably the easiest but also the least effective. Modifying their behavior would allow Europeans to cut their ecological footprint by a quarter. But why not more? Because we have little control over our choices: our behavior is governed by social context, education, incentives, regulations, and prices, but also by infrastructure, urban planning, and how work is organized. How can we live without a car when public transportation, land-use policies and the spatial distribution of housing and jobs make it impossible?

Frugal individual behaviors can emerge only where reliable and affordable options exist. This requires consistent policymaking at local and national levels. Policies have to be equitable to ensure that the efforts required to live sufficiently do not unfairly penalize low earners. And policies have to be attractive and place value on sufficiency. People will not be won over by having their desires restricted. This is why there is a need to create positive perceptions of sufficiency, to present it as a new social ideal rather than a constraint resulting from finite resources.

Paving the way to controlling demand has to happen upstream through a change of mindset. Sufficiency acts at the root of the problem by questioning our needs in order to limit them to what is adequate, but it also requires a high level of personal commitment. And government policies cannot be based on the hope that people will all become virtuous. So does this imply forcing through sufficiency, imposing it through unpopular laws, taxes, quotas and norms? To an extent it does, because voluntary changes in behaviors will not have enough impact.

Sufficiency is undeniably one manifestation of responsible management of natural resources. But on its own it is not enough, no matter how far we take it. There are other levers we also need to bring into play, such as efficiency in the use of resources, and the circular economy. We cannot hope to tackle the massive ecological challenges we face by opposing sufficiency and efficiency, by hampering technological innovations, and by failing to use every available solution.

By reducing what we consume, sufficiency also reduces the pollution we release into the natural world and the resource we take from it



FOREWORD

Mamphela Ramphele

Former Managing Director of the World Bank and Member of the Veolia Institute's Foresight Committee

What is sufficiency?



Mahatma Gandhi's wisdom should continue to guide us as we explore the vexed question of Sufficiency. He reminded us that Mother Earth has enough for everyone's need, but never enough for everyone's greed.

The question before us is whether the dominant global economies system

is compatible with Sufficiency? The driver force behind the dominant capitalist economic system is consumerism. The higher the levels of consumption, the happier corporations are to see their products dominating markets leading to higher profits, and faster economic growth measured as GDP. This despite the unanswerable scientific evidence that the quest for higher economic growth rates and high consumption levels is pushing our planet out of its safe operating space. Humanity has already breached six of the nine Planetary Boundaries of the safe operating space for a liveable planet¹.

Sufficiency is an attitude of mind. In the village culture of my childhood in Limpopo Province of South Africa, we were brought up to be satisfied with whatever we received – from small gifts to the food set before us at meal times. Unhappy people were known to always compare what they received with what others got. The saying was that: *Sijagobe a se khore* – a greedy person is never satisfied. Both Mahatma Gandhi and African ancient wisdom teach us the same lesson – sufficiency is in the mind.

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A mindset of sufficiency is linked to our understanding of what it means to be human. Human beings are one the species on Earth that is wired to be in relationships with other humans. We cannot survive and thrive in isolation from other humans. From the cradle to the grave, we rely on the support of others. To be human is to be interconnected and interdependent with others, within the web of life. In Africa this understanding is called Ubuntu/Omenala/AjobiBiakoye. We are defined by our 'being', not by our 'having'.

The Covid pandemic also reminded us, often in very painful ways, how being within supportive loving relationships shapes our sense of wellbeing. The lower than expected mortality rates from COVID in many poor African settings, has yet to be explained by scientists. But there is suggestive evidence that communities that rallied together to support the most vulnerable, fared better than those without networks of support. Sufficiency comes from our being nested within loving supportive complementary relationships.

It is also now well documented that indigenous communities across the globe comprising no more than 6% of the global population, effectively steward 80% of critical ecosystems hosting biodiversity resources essential to sustaining life. The footprint of these indigenous communities is light due to their embedded cultural orientation of sufficiency and acute awareness of the importance of embracing life beyond human life. Indigenous cultures are also anchored by acute awareness of intergenerational interconnectedness, mutual

¹ Stockholm Resilience Centre.



responsibilities, and understanding, that human beings are part of nature. Humans do not have dominion over nature. They regard all life as sacred and deserving of the same respect as human life. Critically important is the understanding that as part of nature we do not own the land, but the land owns us as the source of our life and of its sustenance.

In 2009, scientists mapped nine planetary boundaries for the first time, to set out what constitutes safe operating space for our planet. The nine planetary boundaries are: climate change; the erosion of biosphere integrity; stratospheric ozone depletion; ocean acidification; atmospheric aerosol loading; bio geochemical flows in the nitrogen (N) and phosphorus (P) cycles; chemical pollution (introduction of novel entities in the environment); land-system change; global freshwater use. Human life can only be sustained within this safe operating space. But our human footprint continues to grow, threatening our very sustainability.

Measurements of changes in planetary boundaries have been done for the first time in September 2023. These measurements indicate that we have breached six of the nine planetary boundaries, namely: climate change; biosphere integrity (including biodiversity), freshwater availability, land use, nutrient pollution and human made waste such as plastics. The driver of these breaches is over-consumption of goods and services beyond

human need. The more we consume, the higher the growth, regardless of the impact of what we consume on our wellbeing and our planet.

The planetary emergencies upon us today are evidence of humanity operating beyond the safety margins of our planet. Climate change with droughts and floods is causing enormous human and other species suffering. Continued burning of

fossil fuels despite the knowledge and technological competence to transition to renewable energy sources, is setting off temperatures rises that have breached 1,5 degree Celsius. Inappropriate political and economic models have created inequities in societies at national, regional and global levels, are fuelling wars. Insatiable global arms industrial complexes thrive by perfecting the production of more and more lethal weapons.

There is suggestive evidence that communities that rallied together to support the most vulnerable, fared better than those without networks of support. Sufficiency comes from our being nested within loving supportive complementary relationships

Biodiversity loss is decimating landscapes and sources of freshwater such as the Amazon region. Global greed is turning the Amazon, our biggest planetary lung, into a carbon emitter. Deforestation and production of soybeans, palm oil, and cattle grazing have degraded the Amazon. Global pandemics are also reminding us that our planet is out of balance. These planetary emergencies are warning signs for us to return to the essence of our being – embracing our interconnectedness and interdependence within the web of life across time and space.

The good news is that the winds of change are blowing in many areas across the globe, and they are gathering momentum. The inspiration comes



FOREWORD

from indigenous communities and their leaders who are speaking up. I was recently at a Bioneer Summit in San Francisco and was inspired by listening to the growing chorus of indigenous voices from across the globe who are calling us to come home – home to nature-based solutions, wisdom, intelligence, and the joy of living in harmony with nature.

As a member of the Planetary Guardians established in 2023, with a Vision of “*A bright Future where People and the Planet Flourish*” I urge everyone, everywhere to be a committed guardian of our planet. Planetary Guardians are an independent collective of eminent people, including retired public leaders, scientists, business people, with a Mission to “elevate the science to make the Planetary Boundaries a measurement and operating framework for the world to urgently restore a healthy relationship with our planet.”

Brazil, as the host of COP30 in 2025, as well as key member of the G20, is an ideal country to pilot some of the proposed interventions to halt the degradation of ecosystems and loss of biodiversity. Brazil is the most advanced large country that is making the transition from fossil to renewable energy. 83% of its energy is sourced from renewables, and it is committed to completing the process of full renewables by 2030. Brazil has a strategic plan and a commitment for reforestation of the Amazon and restoration of life giving ecosystems and biodiversity. The Planetary Guardians are committed to support this great transition which will have significant global impacts.

Costa Rica is another country that made a decision in the 1940s, not have a military but to invest its public resources in high quality free education and wellbeing for all citizens. That decision has paid huge dividends. The country is also well on the way to full circular economy and the transition to renewable energy sources.

The African continent with its Agenda 2063 has huge opportunities to make the transition from extractive wasteful economic models to leveraging its abundance of land, sun, wind and biodiversity to become a flourishing youthful continent. A critical success factor for Africa is transitioning from old post-liberation leaders, who are married to extractive economic systems, to harness youthful skilled, creative, professional leadership, to lead the continent to prosperity in the second half of the 21st century. Transformation of dominant extractive economic models would also need to change towards inclusive bottom-up socio-economic development processes, that leverage science and technology. Protection of local ecosystems and cultural heritage are critical to promote shifting towards sufficiency mindsets.

We all need to break free from the trappings of over-consumption and learn anew how to live within the means of the safe operating space

set within scientifically mapped and measured planetary boundaries. We need to break free from extractive economic systems that promote wasteful consumption driven lifestyles. Embracing sufficiency borne of healthy relationships with self, family, community, wider society and ecosystems would see us thrive and flourish.

This FACTS Issue on Sufficiency will challenge us to re-evaluate our relationships with material goods and services. There can never be enough for us to consume material goods at the current rates. We need a shift in our mindsets about how much is enough. We have to embrace sufficiency as a way of life in a world where there is wellbeing for all within a healthy planet.

We need to break free from extractive economic systems that promote wasteful consumption driven lifestyles





1. MULTIPLE PERSPECTIVES ON SUFFICIENCY



*Although sufficiency is now collective,
its primary goal remains focused on changing how individuals behave*

Although there is increasing recognition worldwide of the urgent need to take action to tackle the climate emergency, the mechanisms for delivering ecological transition are widely debated – and sometimes contradictory. Among the many paradigms seeking to provide a response to climate and environmental challenges, sufficiency has benefited from renewed visibility and greater resonance in public debate over recent years. The signs of revived interest in sufficiency include use of the term in the latest IPCC report,¹ followed in March 2024 by the creation of a World Sufficiency Laboratory headed by researcher and IPCC expert Yamina Saheb. In France, energy sufficiency has been a public policy target since 2022 as part of the energy sufficiency plan.

It is essential to explore the different meanings of the notion to better understand how and why sufficiency has gradually emerged on the agenda. For while most stakeholders claiming to espouse sufficiency agree on a common core centered on reducing needs at source (unlike efficiency, which consists of maintaining the same model while consuming less energy or fewer materials), in reality the concept of sufficiency covers multiple definitions and variants. The philosopher **Emrys Westacott** reminds us that sufficiency is rooted in ancient philosophical and religious traditions, forged in antiquity and focusing primarily on the idea of individual asceticism. Sufficiency's modern-day advocates have gradually moved away from this narrow definition to embrace it in collective terms, calling into question our overall modes of production and consumption through the prism of new criteria such as utility, natural resource footprint, and technological practices. Although sufficiency is now collective, its primary goal remains focused on changing how individuals behave. **Aude Pommeret** takes the fundamentals of economics as her starting point, shining a light on the complexities of this goal and reminding us how hard it is to alter individual preferences. Analyzing the place that sufficiency occupies in public debate, **Mathieu Saujot** examines its myriad dimensions — individual and collective, impacting consumer behavior as well as policymaking — and the social and political challenges raised by this kind of approach.

Given this background, what is the reality of sufficiency today? **Cécile Désaunay** provides some answers by examining the emergence of a deconsumption society in France. A large number of studies point to the fact that people's awareness of environmental concerns and desire to alter their consumer habits cannot be the only explanation behind changes in consumer patterns and the appearance of a form of sufficiency, even though it remains marginal in reality.

In addition, querying the reality of sufficiency means questioning the concept's resonance beyond France, or at the very least outside of contexts encountered only in developed countries. The answer seems ambivalent, as well as confronting an initial semantic obstacle concerning the parallel use, in English at least, of the terms sufficiency, sobriety, and frugality. But most of all, any voluntary reduction in needs and production appears hard to grasp and of very little relevance in developing countries. Although sufficiency may well be a feature of these situations, it is not necessarily presented as such and coexists with other aspirations, as shown by **Blick Bassy**, who describes the position in Cameroon, and **Marius Korsnes**, talking about China. This international perspective is indispensable to understanding sufficiency in all its richness and ambivalence.

Iris Levy
David Ménascé
Archipel&Co,
Issue coordinators

¹ The sixth IPCC report, published in 2023, dedicated a chapter to the topic of sufficiency, examined as part of a wider look at potential cuts in greenhouse gas emissions achievable through demand-side reductions.



SUFFICIENCY: THE SOCIAL AND SYMBOLIC CHALLENGES

Scoping and presentation of this issue

Iris Levy, David Ménascé
Archipel&Co



David Ménascé, founder, and Iris Levy, lead consultant for foresight topics, work together at Archipel&Co, a social innovation and impact strategy agency. Archipel&Co has over 10 years' experience of working with businesses, NGOs, public bodies and social entrepreneurs to invent economically effective and socially desirable solutions for a just transition.

Sufficiency is a paradigm that in recent years has attracted the support of a wide range of stakeholders (NGOs, businesses and international institutions) as a way of enabling transitions in our lifestyles and production methods, and cutting our greenhouse gas emissions. A concept whose philosophical and religious roots are founded on the idea of individual asceticism, the notion of sufficiency invites us to question the usefulness of our needs in terms of goods and services, as well as rethink methods we use for production and collective organization. While sufficiency-based approaches are today encountered in many different fields, as illustrated in this issue of *Facts*, they also pose a number of challenges. For example, sufficiency comes up against the question of inequalities as well as the challenge of desirability.

Beyond cultural and geographic differences, the ecological emergency, particularly in the face of the climate crisis, is increasingly being recognized as a shared priority. Yet, despite this more or less unanimous diagnosis, today's responses remain extremely varied. Among the current paradigms attempting to tackle the common challenge of addressing social and developmental deficiencies without exceeding planetary boundaries, the concept of sufficiency is the one that has been widely embraced in recent years. However, this tendency is by no means universal, since the relevancy and maturity of ideas about sufficiency depend to a great extent on the country and the issues in question.

The French example is an interesting textbook case. A number of actors from civil society, foresight bodies and the energy sector recently helped to map out definitions and bring discussions on sufficiency to the fore in the public arena. These efforts were rewarded with the term's adoption in the national energy sufficiency plan rolled out in winter 2022. The 6th IPCC report, published in 2023, also dedicated a chapter to sufficiency, examined as part of a wider look at potential cuts in greenhouse gas emissions achievable through reducing demand.

This growing interest in sufficiency has also triggered wide-ranging debates surrounding the concept's legitimacy and usefulness, as well as the feasibility of its take-up. In order to better understand sufficiency's theoretical underpinnings, its newfound popularity and the challenges it faces, as well as to identify real-world levers for implementing it, this issue of the *Facts* review sets out to present a variety of contributions to compare viewpoints and perspectives. Constructive and critical, the analyses in this issue seek to clarify the debate, doing justice to the unique characteristics and relevance of sufficiency but without minimizing all the difficulties raised by reductions at source in demand for goods and services.

SUFFICIENCY: A PLURAL CONCEPT

From individual self-sufficiency to emission reduction scenarios: the birth of collective sufficiency

Sufficiency, unlike the notions of green growth, sustainable development and inclusive growth, is rooted in reflections that center on self-sufficiency, frugality and the renouncement of certain present-day consumer and production practices.



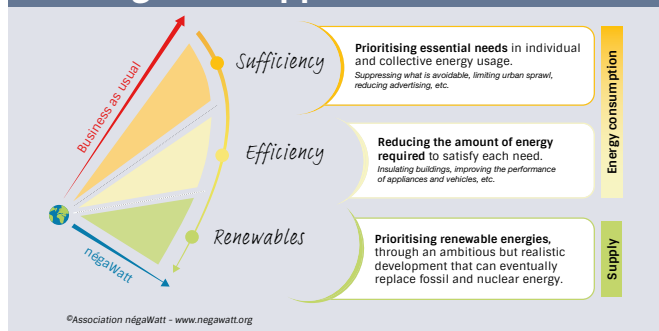
It is rooted in a long tradition of philosophical and religious thinking that favors an ideal of individual moderation, even asceticism, seen as synonymous with virtue. A heritage explored by philosopher Emrys Westacott in this issue.

Initially restricted to the sphere of personal ethics, the concept of sufficiency evolved during the 1970s and gradually emerged as an alternative to the society of (excess) consumption. This evolution came about in part thanks to the work of intellectuals such as Jacques Ellul and Ivan Illich, critics of technological progress whose ideas met with a particularly warm welcome in France. Contemporary thinking on sufficiency cannot be disassociated from criticism of the industrial consumer society's negative externalities. Prior to the 1960s, sufficiency was long held to be self-evident, as described by historian François Jarrige.¹

More recently, over the past couple of decades, the concept has been progressively employed by advocates of ecological transition to encourage an examination of the true utility of individual needs. Three fundamental criteria emerged: the superfluous, the useful and the necessary.

In this context, what should be today's definition of sufficiency? The concept's popularity means that different definitions coexist, a situation that leads to a measure of ambiguity and uncertainty. We might look to ADEME, the French agency for ecological transition, and define sufficiency as "a continuum of approaches that promote, in varying degrees and on varying scales, moderation in the production and consumption of energy and material resources, via a transformation of lifestyles that goes further than merely seeking efficiency."² Nuances notwithstanding, thinkers working on sufficiency agree on a fundamental conceptual and operational dividing line that clearly distinguishes between sufficiency and efficiency. Whereas efficiency seeks to satisfy existing needs by reducing the amount of energy consumed, sufficiency focuses on thinking about these needs, questioning their relevance and utility at the individual and collective levels. The triptych of sufficiency, efficiency and renewable energy is central to the approach put forward in France by a nonprofit called négaWatt, founded in 2001, that has helped to cement the distinction between sufficiency and efficiency.

The négaWatt approach



Despite semantic complexities that can make it difficult to translate the original French concept of "sobriété" in English – sufficiency and frugality are both used in this issue depending on author preference –, it is a concept with

widespread international recognition. Its success derives largely from its capacity to create convergence between long-standing issues, such as decoupling production from emissions, the questioning of consumer society, and more recent concerns.

Sufficiency encompasses new concerns and lifestyle aspirations such as self-sufficiency, frugality and voluntary simplicity. There is also a clear rise in the number of mainstream publications focused on living better with less, particularly in the English-speaking world.³ From this perspective, sufficiency and a focus on levers that allow individuals to take action are symptoms of the changing face of present-day individualism, and the central role that lifestyles now play as levers for asserting one's identity.

Growing number of publications on simplicity and sufficiency⁴



The concept of sufficiency also aligns well with energy sovereignty, an issue pushed to the fore by the war in Ukraine. Against this background, sufficiency is presented by certain observers as the price to pay for fundamental freedoms and international solidarity.

A concept adopted in multiple variants by a broad range of stakeholders

One illustration of this strong international uptake is that in 2023, for the first time, the IPCC highlighted sufficiency as one of the pillars needed for meeting greenhouse gas emission targets set by the Paris Agreement. The third part of the sixth IPCC report says that changes to lifestyles and energy uses are essential to transition.⁵ The report sets out its demand-side solutions, the phrases used most often being: demand-side strategies, demand-side mitigation actions, deep demand reduction, low demand scenarios, reduced demand, downshifting, sufficiency, changes in consumption choices, and socio-cultural and lifestyle changes.

3 Recent examples: Maddox, T. *Simple Living*; Seymour, J. *Self-sufficiency*; Becker, J. *The more of Less*.

4 From left to right: Princen, T. (2005). *The Logic of Sufficiency*. Paperback; Loreau, D. (2005). *L'art de la simplicité [The Art of simplicity]*. Marabout; Rabhi, P. (2010). *Vers la Sobriété heureuse [Towards Happy Frugality]*. Actes Sud; Maddox, T. (2015). *Simple Living*. Kindle Edition; Becker, J. (2016). *The More of Less*. WaterBrook; Seymour, J. (2009). *The New Complete Book of Self-Sufficiency*. Dk – Dorling Kindersley.

5 Chapter of IPCC report dealing with sufficiency: *Demand, services and social aspects of mitigation*.

1 Jarrige, F. (2022). Dans l'Histoire, la sobriété a longtemps été une évidence [Throughout history, sufficiency has long been the norm.]. *La Tribune*.

2 ADEME, *Panorama sur la notion de sobriété [Overview of the notion of sufficiency]*, (2019).

Specifically, the IPCC authors classify sixty or so individual actions into one of three categories:

- *Avoid*: actions to avoid, like eating less meat, taking fewer flights, etc.;
- *Shift*: behavioral alterations in the service of new lifestyles, such as working from home, using public transportation and cycling;
- *Improve*: individual levers for reducing energy usage for existing behaviors (mainly insulation for buildings).

The IPCC views sufficiency as complementary to technological solutions (techniques for eliminating carbon dioxide), the use of renewables, and other responses such as the circular economy and improving the resilience of infrastructures. Contributions from economist Aude Pommeret and behavioral scientist Xavier Brisbois examine the role changes in individual behaviors could play, and the difficulties in bringing these changes about.

Sufficiency is now seemingly a concept adopted by a broad range of stakeholders beyond simply an inner circle of campaigners and NGOs. Take-up is all the greater by virtue of it being a plural concept that can be expressed in multiple ways, adapted to the diversity of stakeholders and their ambitions and approaches to the topic.

In addition to the IPCC's approach, sufficiency is central to various future-looking scenarios for reaching carbon neutrality by 2050 in France and internationally.

- **ADEME.** As part of its forward-looking study *Transition(s) 2050*, ADEME defined four scenarios for reaching carbon neutrality in 2050, one of them sufficiency-based (Frugal Generation) which could deliver savings in energy use of up to 55%.⁶
- **International Energy Agency.** The IEA included sufficiency in its zero net emissions strategy published in May 2021.⁷ It states that cutting excessive or useless energy use would help cut greenhouse gas emissions by at least 4% over the entire pathway.
- **RTE.** In October 2021, France's electricity network manager published six scenarios for carbon neutrality by 2050.⁸ It lists 25 actions to boost sufficiency across four sectors (residential, offices, industrial, transport) that could allow France to achieve a 90-TWh cut in its electricity use by 2050.
- **négaWatt.** In October 2021, the nonprofit published the fifth edition of its forward-looking report⁹ focused on three levers: sufficiency (prioritizing essential needs), efficiency (insulating buildings) and using renewable energy.

Sufficiency has now become a key theme for all major environmental NGOs, despite the concept being appropriated in different ways. Organizations like WWF and the Climate Action Network encourage changes to everyday items and behaviors — how plastic is used, for example — to demonstrate that “happy sufficiency” is possible.

The success of sufficiency is also a result of its multiple real-world applications. Sufficiency has incrementally extended its scope to spheres beyond just energy sufficiency. Many industries have now adopted approaches guided by

sufficiency, from digital devices to textiles, urban planning and, obviously, the management of natural resources. We have made every effort to illustrate this diversity throughout the issue, giving a platform to figures from the fashion industry (Stéphanie Calvino), researchers specializing in cities (Charlotte Halpern), and an expert in food system sufficiency (Marius Korsnes). Each, in their own way, shines a light on the broad palette of sufficiency approaches that extend beyond individual actions. To conclude the issue, Philippe Bihouix argues in favor of sufficiency that is organized and systemic, and not dependent on decisions taken by individuals.

WHAT IS SUFFICIENCY? DEFINITIONS PUT FORWARD BY négaWatt

négaWatt suggests identifying four different types of sufficiency.¹⁰

Structural sufficiency, which consists of looking at how our space or activities are organized and within that scope, creating the conditions needed for moderating our consumption (for example, in planning terms by reducing the distance needed to travel to work, to shops, etc.).

Dimensional sufficiency, which concerns scaling equipment and facilities to properly reflect their uses (for example, by using vehicles whose mass, size and power is suited to local or long distance journeys).

Usage sufficiency, which involves using facilities and equipment correctly to reduce consumption (for example, by switching off devices kept in standby mode, lowering driving speed limits, and extending the lifespan of facilities and equipment).

Collaborative sufficiency, which entails pooling facilities and equipment and their usage (for example, car sharing mechanisms and incentives to encourage shared working or living spaces).

INEQUALITIES AND DESIRABILITY: SUFFICIENCY FACES COMPLEX CHALLENGES

SUFFICIENCY AND THE CHALLENGES OF INEQUALITIES

Implementing sufficiency will always come up against the question of inequalities, reflecting the tension between chosen and imposed sufficiency. In OECD countries, the objectives of sufficiency have to take account of the need for social justice and fair transition. A number of recent crises, such as the yellow vests protests in France, illustrate the increasingly powerful interconnection between climate challenges and the fight against inequality. The question of unequal CO₂ emissions between different social classes is central to the position of NGOs like Oxfam, whose demands in terms of sufficiency center on consumption by the richest portions of society, seeking to make certain specific behaviors, such as regular flying, seem unacceptable.

Internationally, the concept of sufficiency finds little support among countries with developing economies, where the concern is that it simply equates to keeping poor

⁶ ADEME, *Transition(s) 2050*.

⁷ IEA, *Net Zero by 2050*. This scenario was updated in September 2023 (*Net Zero Roadmap*).

⁸ RTE, *Futurs énergétiques 2050 [Energy futures 2050]*.

⁹ négawatt, *Scénario 2022*.

¹⁰ négaWatt, *Qu'est-ce que la sobriété? [What is Sufficiency?]*, (2016).



countries mired in poverty. Amazingly, the term sufficiency appears in neither the 2014 Addis Ababa Declaration nor the 2030 Agenda. It features only rarely in a few very recent international texts. In his contribution, economist Alessio Terzi examines issues raised by growth and innovation and highlights the extent to which the prospect of degrowth, invariably associated with sufficiency at the collective level, cannot in his opinion be seen as a desirable avenue for future development.

THE SEARCH FOR MESSAGING THAT MAKES SUFFICIENCY DESIRABLE

Faced with the difficulty of turning ecological transition into a concrete reality, many actors today are attempting to address the issue of desirability and the role played by perceptions and new forms of storytelling. These actors take as their starting point a twofold hypothesis: to bring about ecological transition and changes to individual and collective behaviors requires making sufficiency not just acceptable but also desirable. According to Estelle Brachlianoff, Chief Executive Officer of Veolia, "Our task now is to make sure ecology and desirability go hand in hand." Equally, creating desirability must rely not simply on rational arguments but also on the leveraging of perceptions, representations and storytelling.

The question of desirability is particularly significant when it comes to sufficiency, which finds itself confronted by at least two competing forms of storytelling. First is that of the consumer society, which remains a foundational aspiration for most people. Then there is messaging surrounding techno-optimism and green growth, promoting the idea that innovation and technology can solve the ecological challenges we face.

Against this background a number of figures, most of them French, are trying to develop new storytelling about the desirability of "intensive sufficiency". They argue for messaging that combines technological sufficiency and reducing needs (priority to low-tech techniques, cuts in consumption) with the rediscovery of a more intensive relationship with the natural world. Advocates of this form of messaging stress the desire for ways to reconnect with nature. In France, this discourse is promoted by intellectuals and academics such as science fiction author Alain Damasio, anthropologist Philippe Descola and philosopher Baptiste Morizot, author of *Ways of Being Alive*, 2020. In their article, researchers Nathan Ben Kemoun and Pauline Vigey describe the unsuspected potential of this form of intensive sufficiency. Researchers Mary Lawhon and Tyler McCreary offer an examination of the concept of "enoughness", which entails rethinking our organizational methods and relationships to work in particular.

Notwithstanding these efforts, in reality the adoption of sufficiency at individual levels remains ambivalent yet emerging, as described by Cécile Désaunay in her article examining the extent and reality of "deconsumption" in French society. Access to consumer society and certain goods and services remains a marker of success and social integration, particularly for the working and middle classes. More fundamentally, as pointed out by Mathieu Saujot,

Sufficiency can benefit from being coupled with other approaches, such as innovation, circularity and efficiency, to help it gain greater acceptability and desirability

the very act of defining what needs are judged essential or legitimate raises profound social and political questions. Moreover, new barriers are emerging that render access to more sustainable forms of consumption difficult for a large number of people. Works by political scientist Jérôme Fourquet also point to the gradual premiumization of certain food and clothing choices in particular.¹¹ Discussing conclusions drawn from her book *The Sum of Small Things*, political scientist Elizabeth Currid-Halkett points out that consumption that is "discreet" and sustainable may become a new form of social distinction.

Finally, sufficiency remains tarnished by its association with austerity, self-limitation and restriction. It is interesting to note that the construction of discourses advocating sufficiency oscillates between, on the one hand, a form of blaming — and the stigmatization of certain values previously associated with mobility (flight shaming) or comfort — and the promotion of a joyous sufficiency that is "within reach" on the other. In this issue, anthropologist Stefano Boni examines how challenges to people's comfort acts as a brake on the implementation of collective sufficiency. Parallel to this is a counterargument that encourages people to reappropriate the idea of pleasure shared, contrary to the ascetic, perhaps austere, ideal of sufficiency.¹²

Although these observations are all rooted in the context of industrialized countries, in this issue we have sought to broaden our gaze as far as possible by shining a light on how sufficiency is seen internationally, with contributions from Blick Bassy, who examines the "natural sufficiency" of water management methods in Cameroon, Marius Korsnes, who describes sufficiency in China, and Charlotte Halpern, who examines the specific challenges facing cities of the global South in regard to sufficiency-based development.

CONCLUSION

Sufficiency is clearly a fertile concept, but it also faces multiple challenges. The diversity of approaches described in this issue serves to highlight the need to hybridize sufficiency with other approaches, messages and paradigms. The model represented by the *french secondhand platform leboncoin*, as described by its managing director Amandine de Souza, provides an instructive example. In a wider sense, reinventing business models to center on sufficiency can be thought of as a complex trajectory entailing a greater or lesser degree of renouncement, as described by Laurence Lehmann Ortega, rather than a form of one-size-fits-all renouncement. Sufficiency can certainly be a useful and necessary lever for meeting the challenges of ecological transformation, as illustrated by Jean-François Nogrette in terms of water sufficiency. Equally, it can benefit from being coupled with other approaches, such as innovation, circularity and efficiency, to help it gain greater acceptability and desirability.

¹¹ Fourquet, J. (2021). *La France sous nos yeux* [France before our eyes].

¹² See, among others, Foessel, M. (2022). *Quartier Rouge, le plaisir et la gauche* [Red-light district. The Left & pleasure]. PUF.



FRUGALITY: from the good life to the good society

Emrys Westacott
Professor of philosophy (Alfred University, NY)



Emrys Westacott is professor of philosophy and Chair of the Division of Human Studies at Alfred University in Western New York. He is the author of numerous articles, and three books: *Thinking through Philosophy* (with Chris Horner, Cambridge, 2000), *The Virtues of our Vices* (Princeton, 2012), and *The Wisdom of Frugality* (Princeton, 2016). He is currently working on a book about our changing conceptions and expectations regarding work and leisure.

The concept of frugality is associated with a number of other related notions including temperance, thriftiness, conservation, and simple living. For over two thousand years, philosophers and other moral teachers have praised the life of frugal simplicity, arguing that it is both morally beneficial and a sure path to happiness. In the past, the focus has primarily been on the lifestyle of individuals, but in recent times the concept has been applied more broadly to whole communities and institutions. One reason for this shift is the emergence of a critical attitude towards consumerism, and also towards the widespread assumption (strengthened by consumerism) that continuous, endless economic growth is a rational and desirable goal to pursue. Another reason is a growing sense that the current environmental crises the world faces require frugality to be embraced not just by individuals but also by communities, organizations, and institutions, up to and including the whole of society. This environmental concern expresses itself through policies and practices that are "frugal" in the sense of conserving resources, reducing waste, recycling, reusing, and supporting local economies. Although there can be times when a supposedly frugal practice may not, considered by itself, succeed in reducing the ecological footprint of an individual or a community, it is reasonable to suppose that overall and, in the long run, the cultivation of a frugal outlook throughout society will be environmentally beneficial.

INTRODUCTION

The French word "sobriété" would naturally be transliterated into English as "sobriety" but is often translated as "frugality" or "sufficiency". When used to signify something like environmentally responsible policies, practices, and attitudes that reduce waste, conserve resources, and shrink ecological footprints, however, neither term is quite right (although for want of anything better, "frugality" may have to do.) Both terms belong to a cluster of overlapping and interrelated concepts. These concepts don't have an essential core meaning that they all share; rather, to borrow a metaphor from Wittgenstein, they are related by a set of family resemblances. Each member of the family will share with some of the others certain meanings, connotations, associations, and implications. Taken together they also form a spectrum of implicit value judgements. We will first consider this range of meanings in relation to individuals and lifestyles, this being the main concern of philosophers, religious teachers, and moralists in the past. After noting the reasons why so many thinkers have advocated simple living, we will consider how and why the notion of frugality (and its cousins) came to be applied socially to communities, organizations, and institutions. Lastly, we will look at the relevance of frugality to debates about current environmental crises.



FRUGALITY AS AN ATTRIBUTE OF INDIVIDUALS AND LIFESTYLES

For the most part, going back to biblical times, discussions of the nature and value of *sobriété* or frugality have focused on the character and lifestyle of individuals. In its most literal sense, of course, sobriety simply means remaining sober. But there are several associated senses: abstemiousness; temperance, moderation; restraint; and self-control. These have typically been applied first and foremost to a person's habits and tastes in eating and drinking. But their reference can be extended beyond this to other activities (sex, relaxation, exercise, playing games, watching Tik Tok videos, etc.), to a person's general character, and to their lifestyle.

The primary sense of frugality is thriftiness: living on relatively little, avoiding waste, and being fiscally prudent. Benjamin Franklin is one of the best-known guides on such matters. Maxims he coined, such as "Waste not, want not," and "A penny saved is a penny earned," are still quoted today. This kind of frugality has almost always been considered a moral virtue and a desirable trait in any parent, offspring, or spouse. It keeps people out of debt and enables them to be independent (as opposed to being dependent on patronage or charity). Frugal types today, even if they can afford to be more carefree with their money, will still prefer to repair, recycle, and reuse items rather than throwing them out and buying anew.

Frugality is also associated with living simply. In one sense, this can suggest an austere, spartan, ascetic way of life, such as that chosen by monks in many religious traditions. Here, its value is held to lie in the way it helps train the mind to exercise control over the body, eschew self-indulgence, eliminate distractions, and cultivate spiritual purity and depth. Simplicity carries other positive connotations as well.

A simple lifestyle is viewed as natural and healthy; those who embrace it are more likely to be seen as honest, unaffected, and unpretentious. Living close to nature, like Thoreau at Walden, and being relatively self-sufficient, are other beneficial attributes often associated with a life of frugal simplicity.

Understood as character traits or ways of living, all these aspects of frugality and simplicity are typically regarded as admirable. But a few of them can carry negative connotations as well, especially when taken to excess. For instance, too much fiscal caution can lead one to become ungenerous and miserly. Asceticism can become – and can be viewed as – a puritanical and pointless rejection of the pleasures that life offers. What is plain and unadorned may strike some as prosaic and uninteresting.

WHY PEOPLE PRAISE FRUGALITY AND SIMPLE LIVING

The list of sages who have advocated frugality and simple living is long and distinguished. It includes, for instance, Lao Tze, Buddha, Socrates, Plato, Diogenes, Epicurus, Cicero,

Jesus, Seneca, Plutarch, Epictetus, Marcus Aurelius, Boethius, Muhammad, Thomas More, Montaigne, Spinoza, Franklin, Rousseau, Thoreau, Nietzsche, Tolstoy and Gandhi.

The arguments given in support of their views are of two kinds: the moral, and the prudential. The moral arguments aim to show that living simply will help make you a better person. For instance, it will keep you away from temptations to decadence, avarice, materialism, pride, and other vices; it will build a strong character that, not having been made soft by luxury, is able to cope with adversity and exercise self-control; and it will foster sound values all round.

Prudential arguments aim to show that living simply leads to happiness. You will, for instance, free yourself from anxieties about money or social status, enhance your capacity to enjoy simple pleasures, attend more to the sources of authentic well-being such as friendship and the appreciation of nature, and thereby be more likely to achieve and enjoy peace of mind.

SOCIAL FRUGALITY

The venerable tradition just described has largely focused on the individual. The basic question being addressed is: What is the good life for a human being? Sometimes, though, within that tradition, the ideal of frugal simplicity has been conceived in social terms and extended to entire communities,

as in Plato's *Republic* or Thomas More's *Utopia*. And this social interpretation of frugality, along with the view that the benefits of living more simply can extend to society as a whole, has become more important, and popular, in modern times. There are several reasons for this.

First, industrialization, along with the increasing pace and complexity of modern life, prompted a romantic reaction in which a nostalgic idealization of pastoral simplicity, an appreciation of the natural world as both beautiful, inspiring, and morally beneficial, a desire to feel at home in nature, and a new respect for the lives of ordinary folk, figured prominently. These sentiments are expressed, for instance, in the poetry of William Wordsworth or the paintings of Jean-François Millet.

Second, social critics became increasingly disturbed by the growth of consumerism in the twentieth century, particularly the kind described by Thorsten Veblen as "conspicuous consumption," which is more concerned with signifying or raising one's social status than with satisfying real needs.

Third, people began to question a default assumption shared by nearly all contemporary economists and politicians that we should be continually pursuing economic growth. In *The Affluent Society* (1958), John Kenneth Galbraith argued that prosperous societies like the US should seek less growth and devote their resources, instead, to improving public services. More recently, other economists have argued that the obsessive pursuit of economic growth without end is deeply irrational. Capitalism, it is claimed, by fostering

The primary sense of frugality is thriftiness: living on relatively little, avoiding waste, and being fiscally prudent



acquisitiveness, competitiveness, a desire for novelty, and expectations for constant material progress, encourages people to believe that happiness consists in buying more, bigger, and better stuff. But this is misguided. The kind of happiness achieved is typically superficial and unfulfilling. And instead of using society's wealth to allow everyone more leisure – which for Aristotle was a necessary condition of the good life – we exhaust ourselves by working many more hours than is really necessary in order to buy stuff that we don't really need.¹

The usual argument for endlessly pursuing economic growth as a political goal is that this will benefit everyone, since a rising tide raises all boats. But making the pie bigger isn't so obviously worthwhile if nearly all the extra portions go to those at the top who really don't need more, while the millions who live in poverty get little or none. Would it not be more rational, say the critics, to distribute more equitably the vast social wealth already generated?

THE ENVIRONMENTALIST CASE FOR EMBRACING FRUGALITY

For many people today, the most powerful and persuasive argument for society as a whole to embrace a vision of a more frugal, more restrained, and less materialistic way of being concerns the environmental crises that the world now faces. These include: pollution in the oceans, seas, lakes, rivers, earth and air; loss of biodiversity; species extinction waste management; water scarcity; soil depletion; food scarcity; and, of course, global warming along with the resultant droughts, fires, floods, hurricanes, and other extreme weather conditions. The environmentalist argument in favour of frugal living would hardly have occurred to the sages of simplicity mentioned above since most of them lived before the industrial revolution, the population growth it made possible, and the consequent transformation of the planet over the past two centuries. But it is now very much in the foreground.

The environmentalist case for becoming more frugal connects several lines of philosophical thinking, including concern about the effects of industrialization, the critique of consumerism, and the rejection of unlimited economic growth as a social goal. It also brings together frugality understood as an individual practice or lifestyle and frugality understood as a social norm. Frugal zealots have long followed the mantra, "Use it up, wear it out, make it do, or do without." Now organizations and institutions – governments, commercial enterprises, schools, universities, hospitals, non-profit agencies, etc. – also routinely look for ways to conserve energy, reduce waste, and develop goods, services and processes that minimize consumption of finite resources by

repairing, reusing, and recycling where possible.² Of course, businesses have always been interested in saving money in order to increase profits. But increasingly, they also look to lessen their ecological footprint in response to pressure from employees, customers, clients, or the general public.

Two further ways in which the attempt to be more frugal connects up with environmental concerns should be mentioned here: localism and innovation.

The "circular economy," which encourages repairing, refurbishing, and recycling over production and consumption of new items, can support and be supported by the "solidarity economy" in which local resources, local knowledge, and community support for and participation in local enterprises play a key role. Here, the hope is that localism shrinks ecological footprints, offering an environmentally viable alternative to the sort of "disposable economy" that very often rests on large scale production and long-distance transportation.³

Innovations that save energy and resources while reducing the cost of living can be large or small in scale, technically complex or marvelously simple. Solar panels, heat pumps, and electric vehicles involve sophisticated technologies. Consequently, they tend to require a hefty initial outlay, and only save the consumer money in the long run. But some environmentally beneficial inventions can be surprising simple. Nets fixed around storm drainage pipes reduces pollution in rivers, lakes and seas while catching a large amount of recyclable material. Reusable menstrual caps can replace sanitary napkins that clog sewers, take up space in landfills, and leach various chemicals into soil and waterways. Cell phone covers help prolong the life of cell phones, thereby reducing the demand for new ones.⁴

Many environmentalists are likely to sympathize with the idea mentioned earlier that it is misguided for prosperous societies to pursue endless economic growth. But the view that societies should embrace "degrowth" also has its critics. One obvious problem it faces is that very few politicians are willing to make it one of their goals. They assume, with some justification, that most of the electorate prefer the prospect of economic growth with its promise of more jobs and increasing prosperity. Another counterargument is that certain kinds of economic growth actually offer the best chance of dealing with environmental crises. Capitalism is quite efficient at directing money to where profits can be made. And right now, one of the most promising areas is innovative green technology.

This social interpretation of frugality, along with the view that the benefits of living more simply can extend to society as a whole, has become more important, and popular, in modern times

¹ See Skidelsky, R. et E. (2012). *How much is enough: Money and the good life*. New York : Other Press. See also Schor, J. (1993). *The Overworked American: The Unexpected Decline of Leisure*. New York : Basic Books.

² This sort of "circular economy" is discussed by Raillard, J.-P. (2023). Is technological innovation the only path to the future of the circular economy? The Veolia Institute FACTS Report Review n°25 14-19.

³ For an account of the "solidarity economy", and its benefits, see Bhaduri, S. (2023). Frugal innovation for ecological transformation – a way forward? The Veolia Institute FACTS Report Review n°25 24-27.

⁴ This last example is taken from the Bhaduri article mentioned above.





The explosion in demand for such things as solar panels and batteries for electric vehicles, along with the falling production costs of such items, illustrates this point. Countries and companies that invest in green technology can expect to reap handsome rewards. But such investment requires initial capital, which can only be provided by continuing economic growth.⁵

TAKING A BROAD, LONG-TERM PERSPECTIVE

The environmentalist benefits that are held to flow from each of us trying to live more simply and frugally are not always certain or obvious. Sometimes the values, goals, and practices associated with frugality can conflict with one another. For instance, living closer to nature typically means living in the countryside in a house that requires far more energy to heat or to cool than a city apartment, and travelling everywhere by car rather than on public transport. Contrary to one's intuitions, driving ten miles to a local farm to pick your own strawberries may carry a bigger environmental impact than shopping in the supermarket for strawberries that were shipped in vast quantities from thousands of miles away. Repairing an appliance like a refrigerator may be cheaper than buying a replacement; but the latest models are likely to be much more energy efficient.

Critics and skeptics can point to incongruities like these, and also to the fact that the action of any individual makes virtually no difference, given the scale of the problems we face. Nevertheless, the environmentalist case for embracing frugal simplicity remains strong overall. Of course, the actual effect of each individual choice is usually miniscule;

but that doesn't make it pointless. Individual actions may be small, but their collective impact can be great. In a drought it really does matter that each person do all they can to conserve water.

Moreover, as more individuals, households, neighbourhoods, and institutions adopt the frugal outlook, this way of thinking becomes more widespread. People are, after all, influenced by what those around them do. There are many places where

littering used to be common but where a refusal to litter has gradually become the default attitude. And changes in mindset help to foster other kinds of material progress. As more people recycle, so does recycling become more economically viable. And this in turn leads to technological innovations – such as those facilitating single stream recycling – which make the process more efficient and easier for everyone to participate in. Manufacturers, looking to appeal to environmentally conscious consumers, start to make products that use recycled materials and which can themselves be easily recycled.

The environmentalist case for becoming more frugal connects several lines of philosophical thinking, including concern about the effects of industrialization, the critique of consumerism, and the rejection of unlimited economic growth as a social goal

Consumerism, as noted earlier, is generally seen as one of the factors responsible for some of the environmental problems we now face. But consumers can also exert influence through the choices they make, voting with their wallets, so to speak. They can buy organic fruit and vegetables, and items made from recycled material; they can boycott companies with poor environmental records while supporting companies that adopt enlightened policies. This will often not be especially frugal behaviour in one sense of the term: the items purchased may not be the cheapest available. But in the broader sense of helping to conserve resources through the exercise of wisdom and prudence, it may legitimately be described as a form of frugality.

⁵ See Terzi, A. (2022). *Growth for Good: Reshaping Capitalism to Save Humanity from Climate Catastrophe*. Cambridge, MA : Harvard University Press.



SOCIAL AND POLITICAL CHALLENGES TO SUFFICIENCY

Mathieu Saujot

Director of the Lifestyles in Transition program at IDDRI
(Institute for Sustainable Development and International Relations)



Mathieu Saujot heads the Lifestyles in Transition program at the Institute for Sustainable Development and International Relations (IDDRI). His recent work focuses on integrating lifestyles into environmental foresight, transitioning to sustainable food supplies that are accessible to all, and the social and democratic dimensions of the transition. He has been conducting research at IDDRI since 2010, examining a number of issues linking cities and the ecological transition: the transition to low-carbon cities and urban modelling; policies to combat fuel poverty in housing and mobility, affordable housing policies, and analysis of the relationships between lifestyles and technical systems in the project for a sustainable city. Mathieu is a graduate of ENSTA ParisTech and holds a PhD in economics. He completed his thesis on planning low-carbon cities at Mines ParisTech under the supervision of Pierre-Noël Giraud.

Sufficiency benefits from considerable resonance in the public sphere. Understood as a re-interrogation of the legitimacy of our needs, it makes no sense unless implemented at individual and collective levels. Public policies have a key role to play, but they must make the link between sufficiency and solidarity in order to strengthen its social acceptability. In addition to developing sector-specific policies to encourage sufficiency in various industries, from digital to textiles, teaching people about the main cycles that govern our day-to-day lives is fundamental if we are to grasp the purpose of the sufficiency approach.

The sufficiency concept has recently shifted from being relatively unknown to being one of the pillars of energy transition scenarios.¹ How do you view this change?

Mathieu Saujot: Three elements are useful in charting the emergence of sufficiency as a concept.

- First is the current crisis. A crisis can be defined as a moment during which customary analytical frameworks are no longer relevant, meaning we no longer understand how to interpret a situation. Against this background, new concepts for charting the crisis may be required in place of the inoperative former concepts. The energy crisis caused by the invasion of Ukraine has played a major role in the emergence of the concept of sufficiency.
- Then there is the work in recent years by a number of actors in France, including négaWatt,² ADEME³ and RTE,⁴ to put the sufficiency concept on the agenda. These actors have embedded sufficiency into their transition scenarios and have prepared the ground via a close-up study of the concept and its variants.
- Lastly, we must stress the growing interest in the concept of sufficiency shown by scientists, as illustrated in particular by the presence in the chapter V of the 3rd IPCC report⁵ of the question of demand and the challenges facing sufficiency.⁶

The convergence of these three dimensions explains the growing popularity of the sufficiency concept and its legitimization in the public sphere.

¹ During a period of inflation and with the energy crisis resulting from Russia's invasion of Ukraine, the French government adopted an energy sufficiency policy at the end of 2022.

² Sufficiency is one of the three core pillars of the approach advocated by négaWatt since its creation in 2001, alongside energy efficiency and ramping up the use of renewable energy.

³ The notion of sufficiency occupies a key place in three of the four scenarios outlined in *Transition(s) 2050*, a forward-looking study published by ADEME.

⁴ Sufficiency has a large place in the scenario described in *Futurs énergétiques 2050*.

⁵ Chapter V is entitled *Demand, services and social aspects of mitigation*.

⁶ In the IPCC report, challenges surrounding frugality are predominantly referred to using the term sufficiency.





How do you define sufficiency?

M.S.: A definition of sufficiency means starting by examining its multiple origins.

The concept of sufficiency has its roots in Greek philosophy, a philosophy that had a major influence on European culture.⁷ But sufficiency also has spiritual and religious roots, particularly in Christianity where a “good life” is associated with a form of moderation. In this regard, *Laudato si’*, an encyclical letter by Pope Francis is very interesting as it offers a spiritual rereading of the concept of sufficiency.⁸ Another definition of sufficiency, focused on critiquing the industrial society, was seen during the 1970s.⁹ But other approaches prefer a highly quantitative definition of sufficiency, breaking down the various sources of our environmental footprint and quantifying the corresponding demand.

My preferred definition of sufficiency, which aligns with the IPCC definition, consists of re-examining needs (and thus demand) at source, with the aim of satisfying our vital needs without threatening our well-being or that of the planet and future generations. Sufficiency cannot be reduced to simply restricting needs without discrimination: it presupposes a reassessment of our ultimate needs (travel, food, etc.) and their legitimacy. This very complex question is encountered with increasing frequency in our societies.

*Consuming and acting frugally
is pointless if all the
infrastructures are wasteful*

But it is also important to refrain from thinking of sufficiency solely at the individual level. Consuming and acting frugally is pointless if all the infrastructures are wasteful. If macro systems fail to evolve in parallel, calls for individual sufficiency will be close to inaudible.

This definition of sufficiency, centered on re-examining needs and demand, has the merit of distinguishing itself from the concept of efficiency. In an ideal world, both approaches would be combined so that we can be sufficient *and* highly efficient! But such an association is far from easy. Historically, efficiency has actually tended to favor the adoption of behaviors that run contrary to sufficiency, as theorized in the famous Jevons paradox (the more efficient the use of coal becomes, the more that coal is used).¹⁰ But it is crucial to properly distinguish between these two approaches.

At present, the concept of efficiency has greater political currency than the concept of sufficiency, as it is compatible with the prevailing model and the production-led strategies of most businesses. We also already have the standards and tools needed to implement efficiency.

Sufficiency, however, continues to attract widespread suspicion and anxiety: it is seen as synonymous with all-round degrowth and the end of progress. These anxieties aside, sufficiency is harder to implement in policy terms. A large number of actors are working on these questions but the answers are still in the process of emerging, particularly as there are so few examples of spontaneous sufficiency.

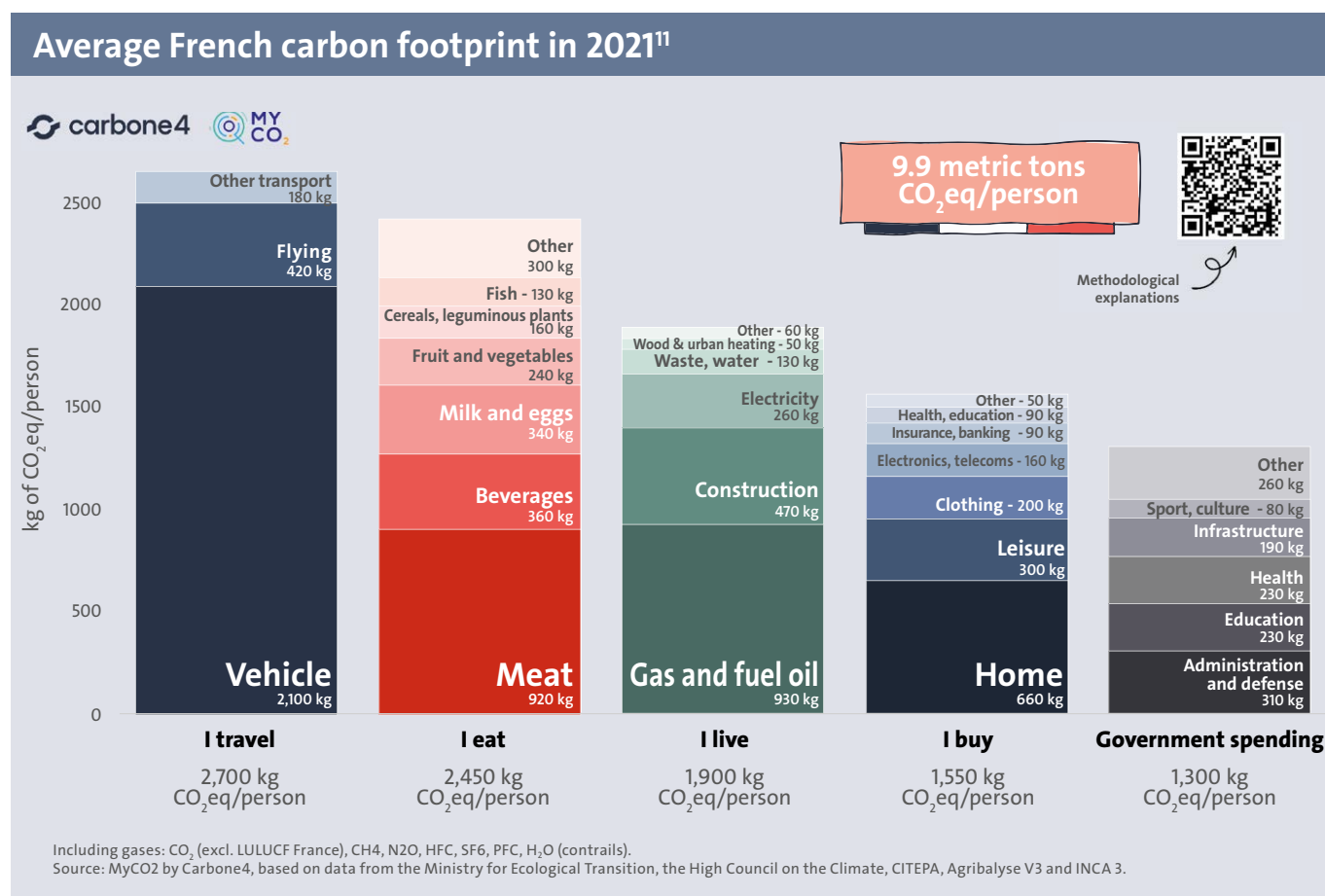
⁷ Sufficiency can contain echoes of the virtues of temperance and moderation favored by several Greek philosophers, including Plato and Aristotle.

⁸ *Laudato Si’* (Praise Be to You, my Lord), encyclical letter from Pope Francis on protecting our common home, published in 2015.

⁹ Critiques of technology in the 1970s formed around the work of thinkers such as Dupuy J.-P. Ellul, J. and Illich, I..

¹⁰ The Jevons paradox, described by English economist Jevons W.S. (1885) in *The Coal Question*, states that as technological improvements increase the efficiency of resource use, overall resource consumption is liable to increase not decrease.





For many people, sufficiency is imposed more than anything else, a response to trade-offs caused by reduced purchasing power. For these people, messaging about sufficiency can seem to miss the point completely. How can this social factor be taken into account when shifting to sufficiency?

M.S.: This is a question with a threefold response.

First, and this may seem obvious but it is actually pretty much absent from the debate: we can only demand sufficiency from those who have enough wriggle room to be able to put it into practice. This reflects the sometimes overlooked idea that our societies are governed by rights and obligations and that we should expect those with the greatest resources (financial, social, cultural, temporal) to act first.

Furthermore, political messaging needs to put more focus on sustainable practices already implemented by those who face the greatest constraints, in terms of the fight against food waste and growing food for personal use. These practices are not necessarily sufficiency in the strict sense, but they are part of a drive for sustainability that would benefit from being recognized as such. Otherwise, we run the risk of cautioning

the idea that sufficiency is accessible only to well-off urbanites, something that is both false and highly damaging for the transition. We must create the conditions needed for a collective drive to support this idea.

Lastly, it is important to adapt to each audience, to preserve a form of basic decency and consistency, to take account of the situation facing the individuals being addressed. To paraphrase a sociologist: “when society constantly downgrades your status, the idea that you, as an individual, have a mission to save the planet seems somewhat out of alignment.”¹²

How can sufficiency become a desired outcome for as many people as possible when consumption remains one of the pillars of our social contract?

M.S.: A preliminary remark first of all. When we point fingers at the consumer society and the influence of consumerism in our societies, we think instinctively of the consumption of goods. In reality, in the West the three leading drivers of our environmental footprint are food, mobility and housing,

¹² Mallier H., a sociologist who works on issues surrounding environmental questions and the working classes. Extract from an article by Richardot, R. (March 6, 2023) *Entre sobriété subie et sobriété choisie, les questions écologiques s'installent dans les quartiers populaires*, [Between chosen and suffered frugality, ecological issues are taking hold in working-class neighbourhoods], Le Monde.

¹¹ My CO₂, Carbone 4.



which occupy a far larger place than the consumption of goods. So, our individual CO₂ emissions mostly relate to meeting our vital needs: food, housing and mobility. This means care is needed to avoid the idea that consumption can be reduced to being simply the purchase of distinctive goods for the purpose of standing out from the neighbors.

In this context, to consume like a member of the middle classes remains a powerful marker of social inclusion, as several sociological studies have shown.¹³ But the vision of what constitutes upper-middle class consumption norms is shaped by advertising and the emergence of standards of consumption that are increasingly unattainable for many people. So the challenge is to define collectively what might be the “right” level of consumption, moving beyond sterile debates and taking account of people’s desire for social distinction and a sense of belonging. Because sustainable consumption also frequently responds to a desire for distinction: “I made a sustainable purchase because I can afford to.”

The question of consumption is also inextricably linked to the amount of control people have, or not, over their lives. For somebody facing many constraints, working in a low-status job with little social recognition, the domestic sphere is one of the few spaces that provides a sense of control. It is very difficult to constrain yourself within this sphere, to impose a sufficiency that is undesired. Conversely, an ecology-minded engineer

working in a job with high social recognition benefits from a controllable sphere that extends beyond the domestic alone. From their perspective, adopting sufficiency-led behaviors equates to exercising a form of control over their life, and is more meaningful. But these configurations demand an effort and remain a minority, for the time being.

Political messaging needs to put more focus on sustainable practices already implemented by those who face the greatest constraints, in terms of the fight against food waste and growing food for personal use

Autonomy, freedom and emancipation are fundamentally sources of happiness and well-being that are fed via different mechanisms: social recognition through work, social protection that makes it possible to plan for a future, consumption of certain goods and services, political activism, etc. However, the space controllable by the individual is currently too limited to allow us to live in sufficiency. For sufficiency to be possible and meaningful, it is vital that individuals have their margin for maneuver restored

to them, are given a sense of autonomy, freedom and emancipation in the various spheres of their lives.¹⁴

How can public policies help accelerate the shift to sufficiency?

M.S.: The government clearly has a role to play in several ways. Political discourse is important, as are the policies for different sectors set out in various future-facing studies, such as from négaWatt.

¹³ For example, works by Lazarus, J. (2006). *(Les pauvres et la consommation [The poor & consumption]. Vingtième Siècle. Revue d'histoire vol n°91, n°3, 137-152)* and more recently Fourquet, J. *(La France sous nos yeux. [France before our eyes]. Points).*

¹⁴ To examine this issue in greater depth, see: Saujot, M. (octobre 2022). *Quel contrat social dans un monde fini ? [Which social contract in a finite world?]* Décryptage Iddri n°3.



In recent studies we have described pricing measures that may help accelerate sufficiency, which raise complex challenges.¹⁵ Progressive pricing is one interesting possibility that has been adopted for water services in several cities (Montpellier, Dunkirk, and Libourne), but this has not yet been sufficiently documented. Is this something that could be extended to electricity, as has been trialed in countries such as Germany? This is a difficult subject, because electricity use varies widely according to the make-up of the household, quality of the accommodation, etc.

Aside from pricing, regulation is also key. If we require automakers to build smaller vehicles, they will likely have no choice but to obey the law. The types of regulations to design will vary enormously depending on the sector: work on this fundamental issue needs to begin immediately. And at the same time, the social acceptability of sufficiency also requires strengthening.

Are certain sectors more advanced than others in terms of sufficiency?

M.S.: Levels of sufficiency maturity vary greatly between sectors, with seemingly contradictory evolutions coexisting.

- **Digital:** one interesting measure is extending the length of product guarantees. But technological advances, such as 5G, have not really led to the type of debates that they merit. It was presented as inevitable, the march of progress, based on claims about new uses, and criticisms centering on the impact of the exponential growth in data usage failed to pave the way to any meaningful discussion. A few months later, an advertising campaign by one of the operators merely highlighted the marginal nature of the needs being met.¹⁶
- **Mobility:** the debate on bonus-malus measures failed in terms of tackling vehicle weights. The proposal from France's Citizen Climate Convention was massively watered down. Conversely, the uptick in bicycle use is something that promotes a shift toward sufficiency.
- **Food:** encouraging people to eat less meat remains something of a taboo, or at least it is politically divisive. We are, however, seeing more questions being raised on these issues, such as the debate about serving vegetarian meals in school dining halls. But you also have to make allowances for the political and financial clout of certain industries, particularly livestock rearing, regardless of changes in consumer attitudes.¹⁷

Our individual CO₂ emissions mostly relate to meeting our vital needs: food, housing and mobility

- **Residential:** the energy crisis has been a watershed moment, with energy efficiency encouraged and campaigns to see home heating reduced to 19°C. The key is to massively ramp up renovations in an attempt to reconcile efficiency with sufficiency.
- **Textiles:** various potentially interesting projects concerning environmental labelling are emerging, but we are also seeing the explosion of fast fashion.

Does the adoption of ambitious sufficiency policies require the invention of new decision-making methods?

M.S.: Sufficiency raises major democratic concerns. Some researchers are working on the concept of consumption corridors that would be compatible with planetary boundaries.¹⁸ But how can these limits be defined collectively? How can we reach agreement on what is, and is not, an essential need?

I believe that participatory democracy is one credible route. In France, the Citizens' Convention for the Climate at least had the benefit of offering an innovative model. It failed to have the desired political impact but did create a precedent. The dial has shifted and we can clearly see just how relevant it is for citizens to have their say on issues as critical as the ecological transition in order to arrive at concrete proposals. These mechanisms are complex, demand considerable resources and cannot replace experts and elected politicians. But these tools are of interest because they make it possible to anchor the discussions in people's everyday lives, which vary according to gender, social and cultural origin, etc. This

is quite unlike the abstract approach that considers only the "average person", meaning that the issue of acceptability can be addressed in a far more nuanced and relevant manner, something that the many opinion polls on this issue, for example, fail to do.

Ultimately, what do you see as the main brakes and challenges to implementing sufficiency?

M.S.: Several challenges coexist.

The first, and this is under-estimated, is our ignorance about all the structural components that make our day-to-day lives possible. How is our food produced? Where does water in our tap come from? How is our waste recycled? All of these are essential topics that most of us know little or nothing about. But without some degree of understanding, even rudimentary, of the major cycles that support our lives it is difficult to adopt sufficiency-led behaviors. We are to an extent acting blind,

¹⁵ Saujot, M. et Rüdinger, A. (octobre 2022). *Un besoin urgent de faire rimer sobriété et solidarité. [An urgent need to combine sufficiency and solidarity].* Décryptage Iddri n°2.

¹⁶ As shown, for example, by the slogan used to advertise 5G by telecoms operator Free: *Le plus grand réseau 5G, au prix de ce que vous en faites vraiment* (The biggest 5G network, for a price that reflects what you really use it for).

¹⁷ See, in particular, the study from Greenpeace's Europe unit: *Feeding the problem. The dangerous intensification of animal farming in Europe / Study by IDELE: Dossier Annuel Bovin Viande : Année 2022 – Perspectives 2023* (Annual Meat Cattle Dossier: Years 2022 - Outlook for 2023)

¹⁸ Fuchs, D. (2019). Living Well within Limits: The Vision of Consumption Corridors. in *Routledge Handbook of Global Sustainability Governance*. 296-307. Kalfagianni, A., Fuchs, D., & Hayden, A. (Eds.). Routledge. Coote, A. (2020). Universal basic incomes and sustainable consumption. *Sustainability: Science, Practice and Policy*, 17(1), 32-46.





unable to assess the full relevance of sufficiency and its positive implications. Certain NGOs fully understand this and are trying to educate and raise awareness, even if this risks shocking some people. It is vital that this understanding and sense of meaningfulness are re-established.

A second clear brake is the weight that competing narratives other than sufficiency occupy in our imaginations. We are raised with the idea that more is better, and it takes a lot to turn your back on this mental framework.

But we must guard against a form of defeatism. It is important to remember that individual and collective preferences evolve all the time. There is a discourse that states people are incapable of changing voluntarily and, therefore, there is no alternative other than imposing ecological change in an authoritarian manner. This type of discourse is not only false it is also dangerous, because it encourages inaction. History shows us that lifestyles are variable over time, contradicting the claim that human nature is unchanging.

For sufficiency to be possible and meaningful, it is vital that individuals have their margin for maneuver restored to them, are given a sense of autonomy, freedom and emancipation in the various spheres of their lives

We should also leverage the network effect of social norms. When a critical threshold is reached in terms of the number of people adopting a social norm, it then tends to become generalized, leading to wider changes: the rise in the number of vegetarians accelerates the rise in vegetarian food offerings, which in turn facilitates the adoption of a vegetarian diet. This changeover mechanism is non-linear,¹⁹ and we are only at the start of the cycle. But it is probable that sufficiency will benefit from these network effects.

Finally, one of the conditions required for change is an interconnection between changes at the individual and structural levels. There is no sense in teaching our kids to act with sufficiency if this does not materialize in day-to-day life. On the other hand, if teaching people about sufficiency in their eating habits goes hand-in-hand with a policy for vegetarian school meals and environmental labelling of products sold in supermarkets, these discrete

components support each other and may trigger real changes in representations and behaviors. For the moment we rely all too often on communication campaigns alone.

¹⁹ See the debate on tipping points.



ELECTIVE SUFFICIENCY AND INDIVIDUAL BEHAVIORAL CHANGES: insights from economics¹

Aude Pommeret

Professor of economics at the University of Savoie Mont Blanc



Aude Pommeret is a professor of economics at the University of Savoie Mont Blanc where she heads the chair in environmental economics. She previously worked at HEC Lausanne and City University of Hong Kong. Her research on energy and environmental economics has recently focused on the energy transition. She has been a scientific advisor to France Stratégie² since 2018. In this role she has contributed to work examining the value of climate actions with the Quinet commission, abatement costs with the Criqui commission, and the economic impacts of climate actions with the Pisani-Ferry-Mahfouz commission when she also served as coordinator for the commission's special report on sufficiency. She is a member of the socio-economic analysis expert committee that sets discount rates used to assess public investments, the board of the Institute of Mathematics for Planet Earth, and the advisory council of the TSE Energy & Climate Center.

¹ This article is largely based on the Pisani-Ferry-Mahfouz commission's special report on sufficiency published in May 2023 and coordinated by Aude Pommeret with contributions from Miquel Oliu-Barton, Alice Robinet, Katheline Schubert (PSE) and Mathilde Viennot. It forms part of the mission to assess the macro-economic impacts of climate transition entrusted to Jean Pisani-Ferry by the prime minister on September 12, 2022. Twelve special reports were published separately and are available via the France Stratégie website.

² France Stratégie is an independent institution reporting to the French Prime Minister, which contributes to public action through its foresight analyses of major social, economic and environmental issues.

Sufficiency can be defined as a reduction in energy demand that is not a result of energy efficiency gains. It may result from individual choices, collective norms, or public organizational principles. Whatever the chosen lever, sufficiency is rarely spontaneous. Instead, it results from varying degrees of public encouragement (awareness campaigns and nudges as well as traditional policy tools such as taxes, subsidies and regulations). From the theoretical standpoint, elective (rather than imposed) sufficiency requires a change in people's true preferences, or the correction of behavioral bias that helps distort choices. Economics makes it possible to improve understanding of the origins of elective sufficiency, drawing on preference-based analysis which must not ignore the collective, social, organizational and institutional mechanisms that help to shape individual behaviors.

INTRODUCTION

In June 2023, the French government launched the second phase of the energy sufficiency plan rolled out in the winter of 2022. Faced with the threat of a lingering energy crisis and the need to cut CO₂ emissions, energy transition minister Agnès Pannier-Runacher declared in an interview with *the Parisien* newspaper that "sufficiency is year-round, including the summer."³ During his visit to the Paris Air Show on June 19, 2023, President Emmanuel Macron said that: "Correctly organized sufficiency, which I call non-punitive, understood by everybody, shared by everybody, reasonable, where everybody plays their part, that avoids what is of no use and makes it possible to cut emissions, is a good thing." In early 2024, the energy sufficiency plan was still in force, mostly in the form of 15 recommendations and high-profile measures designed to accelerate sufficiency in various sectors and organizations (mobility, buildings, businesses, local authorities, etc.).

Sufficiency is thus emerging in the public sphere at the interface of these various exhortations, insisting both on the importance of people's "voluntary" and "spontaneous" engagement and the role of public policymaking. In this context, understanding the origins of sufficiency requires a more in-depth examination of the factors surrounding its emergence: basically, is sufficiency primarily imposed or elective?

³ "No air conditioning below 26°C": a law that Agnès Pannier-Runacher wants to "at last apply" in offices, *Le Parisien*, June 19, 2023.



Energy use data gathered during winter 2022-2023 provides some preliminary answers. This period saw a 13% fall in non-climate-related gas consumption⁴ (GRTgaz, 2023), and a 9% fall across the electricity network⁵ (RTE, 2023). How to explain this reduction? The May 2023 survey by IPSOS-RTE polled over 11,000 people and showed that the effect of price rises (real or anticipated) was largely responsible for reductions in energy use during winter 2022-2023, and that this therefore corresponded to imposed sufficiency.⁶ However, RTE's *Perspectives pour l'hiver 2024 [Outlook for Winter 2024]* shows that until November 2023 (date of the most recently published observations), climate-adjusted electricity consumption remained markedly below the historical average⁷ despite prices returning to more usual levels. GRTgaz made similar observations.⁸ Although these figures are too recent for objective analysis, they suggest that imposed sufficiency can transform itself into elective sufficiency, with agents initially altering their behavior because of price-related constraints then continuing to use less energy once the price constraint no longer applies.

How can we account for this shift in behavior? Economic theory, which we will draw on here, provides a powerful analytical framework for better understanding the origins of elective sufficiency, its theoretical underpinnings as well as the practical conditions for putting it into practice, by identifying the role of public incentives. However, although the mechanisms to explain how elective sufficiency can emerge do exist, they cannot be used to predict the extent of the expected effects. Elective sufficiency cannot solve the problem but it can be part of a solution, thereby reducing the need for restrictive policies.

INDIVIDUAL SUFFICIENCY: DEFINITION AND SCOPE

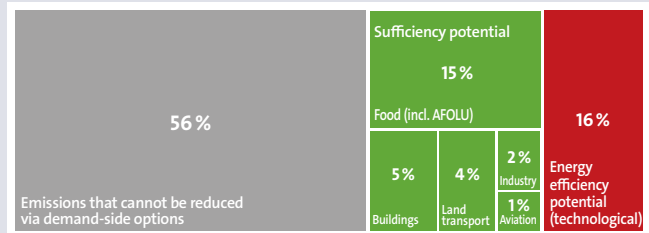
Sufficiency can, indirectly, be defined as a reduction in energy demand that is not a consequence of improved energy efficiency, which corresponds to a reduction in energy consumption that leaves the service provided unaltered. In contrast, traveling by bike can replace traveling by car, but the service provided is not the same, if only in terms of health or time: this is clearly an example of sufficiency.

This reduction in demand for energy can equally result from individual choices, such as turning down heating in the home, collective norms, such as flying less frequently, and/or public organizational principles, such as better urban planning and public transport. Sufficiency offers significant potential for cutting emissions by 2050: 30% of emissions generated by end users worldwide compared to the underlying trend according to the IPCC, and 15% of final energy use in France compared to today according to négaWatt.

Potential reduction in worldwide emissions caused by end user demand by 2050 according to the IPCC

Explanation: the potential reduction in worldwide greenhouse gas emissions by 2050 as a result of sufficiency is 15% in the food industry.

NB: the preponderance of food in total emissions results from the integration of AFOLU (Agriculture, Forestry, and Other Land Use).



Source: France Stratégie, report on sufficiency, based on the IPCC (2022), *Climate Change 2022: Mitigation of Climate Change, Chapter 5: Demand, services and social aspects of mitigation*, figure 5.7, page 530 and Supplementary Material II, table 5.SM.2, page 42.

Sufficiency could be of particular importance in sectors such as food and aviation. For each of these sectors, this lever would represent close to 90 and 75% of the median demand-led decarbonization effort⁹ via adoption of the following behaviors: reduction in wastage and transition to a healthier and less carbon-intensive diet on the one hand, and the abandonment of long-haul flights and a modal shift to rail on the other hand.

Given this, we will focus here on examining *elective* sufficiency on the part of individuals. In other words, from the economic perspective, looking at the sufficiency that results from changes in behaviors without any imposed constraints, meaning that people cut their energy use even though their range of possibilities is unrestricted.¹⁰ For a long time, this complex question was ignored under the pretext of the permanence of personal preferences on

⁴ For the period from August 1, 2022 to March 12, 2023 compared to the same winter period in 2018-2019; see GRTgaz (2023), Dashboard for monitoring gas consumption in France winter 2022-2023.

⁵ Calculated for Q4 2022 compared to historical averages; see RTE (2023) Bilan électrique 2022: un système électrique français résilient face à la crise énergétique [Electricity Report 2022: resilience of France's electricity system in the face of the crisis], summary.

⁶ See IPSOS-RTE (2023), *Etude sur les mécanismes de décision des Français en matière de consommation d'énergie [Study of French People's Decision-Making Mechanisms for Energy Use]*, p.150.

⁷ RTE's 2023 annual electricity review.

⁸ Dashboard for monitoring gas consumption in France.

⁹ See Table 1 in the special report on sufficiency by the Pisani-Ferry-Mahfouz commission.

¹⁰ In microeconomics, the theory of ordinal utility analyzes decisions made by individuals as resulting from the maximization of utility. Choices are classified by order of preference according to the utility they procure.



the one hand, and the absence of behavioral bias on the other. These misguided positions obstruct the adoption of suitable public policies. Understanding the reasons that can lead individuals to alter their preferences or make mistakes is vital to implementing appropriate policies and quantifying their cost. The assumption that preferences are immutable equates to over-estimating the cost of transition. On the other hand, assuming that preferences can change instantly and at no cost amounts to under-estimating the cost.

From the point of view of the economic theory of individual decision-making, elective sufficiency can therefore be analyzed in two ways:

- first, it can come from changes in true preferences (such as wanting to eat less red meat, lower the heating in the home, or live in the countryside) that can lead to incorporating climate concerns into individuals' utility function;
- but it can also come from correcting behavioral bias. Agents' demands do not always result directly from their true preferences: demand can also include behavioral bias that, for example, pushes people to consume excessively (poor information about wastage or the existence of co-benefits).¹¹ This being the case, acting on these biases may reinforce elective sufficiency.

Elective sufficiency cannot solve the problem but it can be part of a solution, thereby reducing the need for restrictive policies

A FIRST APPROACH: CHANGING TRUE PREFERENCES

Here we highlight various factors liable to provoke a change in preferences.

In this context, if education, information and communication policies were to endogenously steer agents' preferences (all other things being equal, price in particular) toward less carbon-intensive consumption, then the cost of climate policies would be lower than forecast. Examples show that certain policies are capable of changing people's behaviors to a greater extent than initially envisaged. In British Columbia, Canada, for instance, a study¹² revealed that a carbon tax led to a far larger short-term fall in demand for gasoline than would have been expected from an equivalent rise in the price of gasoline.

The existence of co-benefits. Co-benefits, or positive externalities, are additional positive effects on wellbeing that were not initially taken into account in the model or forecast. For example, increasing the density of towns and cities not only cuts energy use, it also improves health

by increasing people's active mobility.¹³ The existence of co-benefits means that individuals' have an increased preference for cutting their energy consumption, because it also helps improve their health.

Second lever, disseminating information. This point assumes the existence of a dysfunction in the market (inadequate information) that results in a sub-optimal situation (such as overconsumption) that would, therefore, be corrected. A study¹⁴ shows that a strike on the London underground network, forcing many users to experiment with new routes, resulted in lasting changes in behaviors as well as improving the network's efficiency. The authors claim this proves users were not using their

optimal route, as search costs alone are not enough to explain their behavior. There is, however, no consensus in the empirical literature concerning the effect that information has on energy consumption. It appears that labels can have a mixed effect on consumer choices (such as refrigerators¹⁵). To give another example, an experiment¹⁶ demonstrated that information campaigns resulted in a 20% cut in energy use in the home; campaigns surrounding transport had no observable impact on the energy efficiency of vehicles purchased.¹⁷

Third component: the impact of lobbying and peer behavior. Several studies stress the impact of peer behavior (peer effect) on individual choices (buying a car,¹⁸ installing solar panels¹⁹ or using water more sparingly²⁰). Awareness-raising campaigns are capable of gradually altering how people behave, for example, by changing how they compare themselves to other social strata (by associating symbolic markers of material and social success with less carbon-emitting behaviors and goods). Supply-side sufficiency policies (changes in the supply of goods, services, their allocation or form of delivery)

13 Creutzig F. et al. (2022), Demand-side solutions to climate change mitigation consistent with high levels of well-being, *Nature Climate Change*, vol. 12, p. 36-46, January.

14 Larcom S., Rauch F. and Willems T. (2017), The benefits of forced experimentation, *The Quarterly Journal of Economics*, vol. 132, no. 4, p. 2019-2055, November.

15 Houde S. (2018), How consumers respond to product certification and the value of energy information, *The RAND Journal of Economics*, vol. 49(2), p. 453-477.

16 Aydin E., Brounen D. and Kok N. (2018), Information provision and energy consumption: Evidence from a field experiment, *Energy Economics*, vol. 71, vol. 403-410.

17 Allcott H. and Knittel C. (2019), Are consumers poorly informed about fuel economy? Evidence from two experiments, *American Economic Journal: Economic Policy*, vol. 11(1), p. 1-37.

18 Grinblatt M., Keloharju M. and Ikäheimo S. (2008), Social influence and consumption: Evidence from the automobile purchases of neighbors, *The Review of Economics and Statistics*, vol. 90(4), p. 735-753.

19 Bollinger B., Burckhardt J. and Gillingham K. (2020), Peer effects in residential water conservation: Evidence from migration, *American Economic Journal: Economic Policy*, vol. 12(3), p. 107-133; Gillingham K. and Bollinger B. (2021), Social learning and solar photovoltaic adoption, *Management Science*, vol. 67(11), p. 7091-7112; Baranzini A., Carattini S., and Peclat M. (2017), What drives social contagion in the adoption of solar photovoltaic technology, *GRI Working Papers*, no. 270, Grantham Research Institute on Climate Change and the Environment.

20 Bollinger et al. (2020), *op. cit.*

11 See below.

12 Rivers N. and Schaufele B. (2015), Salience of carbon taxes in the gasoline market, *Journal of Environmental Economics and Management*, vol. 74, p. 23-36.



also have effects on individual preferences, notably over the long term, by modifying markers of social success in favor of more frugal lifestyles.²¹

A SECOND APPROACH: CORRECTING BEHAVIORAL BIAS, PRIMARILY VIA NUDGES

Thinking about behavior-based approaches assumes that demand does not reflect agents' preferences when in the presence of a behavioral bias. If this bias causes excessive energy consumption, reducing it may lead to sufficiency (and also increase wellbeing, itself defined as a function of preferences). Among the behavioral biases that are modelled by economics is one referred to as internalities. This indicates that consumers systematically misperceive the benefits of a marginal unit of consumption. These errors can correspond, for instance, to possible co-benefits that consumers are unaware of, or more generally reflect the fact that they are poorly informed about the product or the consequences of its consumption (e.g. wastage).

According to Thaler and Sunstein (2008)²², nudge-based behavioral strategies aim to "alter[s] people's behavior in a predictable way without forbidding any option or significantly changing economic incentives." For an intervention to be considered a nudge it has, therefore, to be inexpensive and easy to avoid.

Nudges and the dissemination of information can correct behavioral bias (internalities) without imposing material costs, but by modifying the underlying choice architecture, for example, by altering the default option to leverage people's tendency to passively accept default values. Furthermore, they contrast to traditional policymaking tools²³ in the sense that they are seen as replacing rather than complementing, for example, a carbon tax policy. Many nudges take more or less the following format: they consist of making the advantages of changing behavior more accessible by simplifying the decision-making process,²⁴ for example, with the use of labels. The impact-to-cost ratios of nudge-type interventions

and traditional policymaking tools (tax incentives and other financial inducements) show that nudges are often more cost-effective than traditional interventions.²⁵

CONCLUSION

No matter the perspective examined, sufficiency, even if elective, cannot come about spontaneously. At the very least, provoking changes in preferences requires creating the conditions needed for elective sufficiency by developing the infrastructures required for choices to be enacted (for example, by providing additional cycle routes, internet connections to make home-working possible, and recharging stations for electric vehicles). Reducing behavioral bias is another interesting lever, particularly via information on the co-benefits of energy sufficiency. Red meat is a particularly eye-catching example. Information about the negative health consequences of eating excessive

amounts of red meat can guide rather than impose choices and lead people to reduce their intake. However, green nudges can also lead to a form of gentle manipulation that can be ethically questionable, with the possible repercussion of reducing the acceptability of environmental policies.

Beyond questions of implementation, an examination of how to alter preferences also raises dilemmas in terms of evaluating public policies: if individual preferences are modified, what is the benchmark to use when

assessing the efficiency of policies? A first approach is to start from people's fundamental preferences, almost in the anthropological meaning of the term, in order to satisfy them. A second approach, highlighted by Amartya Sen,²⁶ is to think in terms of people's "capabilities", which are defined as their aptitude or freedom to access "functionings". The challenge lies in maximizing people's capabilities. Assessing wellbeing then becomes a matter of measuring the capabilities that make it possible to determine all possible combinations of functionings an individual can achieve in terms of mobility, health, etc.²⁷ However, in practice the use of capabilities for evaluating public policies remains limited owing to the difficulty in establishing uniform indicators for them. Nonetheless, such an approach does provide useful pointers for understanding and ultimately improving the efficiency of public policies designed to foster sufficiency.

The assumption that preferences are immutable equates to over-estimating the cost of transition. On the other hand, assuming that preferences can change instantly and at no cost amounts to under-estimating the cost

21 Coulangeon P., Demoli Y., Ginsburger M. and Petev I. (2023), *La Conversion écologique des Français – Contradictions et clivages*, [The ecological conversion of the French - Contradictions and divisions], PUF.

22 Thaler, R. H., & Sunstein, C. R. (2008). *Nudge Improving Decisions about Health, Wealth, and Happiness*. New Haven, CT, Yale University Press.

23 See section 3 for endogenous behavioral changes, possibly triggered by traditional environmental policies.

24 Benartzi, S., Beshears, J., Milkman, K. L., Sunstein, C. R., Thaler, R. H., Shankar, M., Tucker-Ray, W., Congdon, W. J., & Galing, S. (2017). Should Governments Invest More in Nudging? *Psychological Science*, 28(8), 1041-1055.

25 Benartzi et al. (2017), *op. cit.*

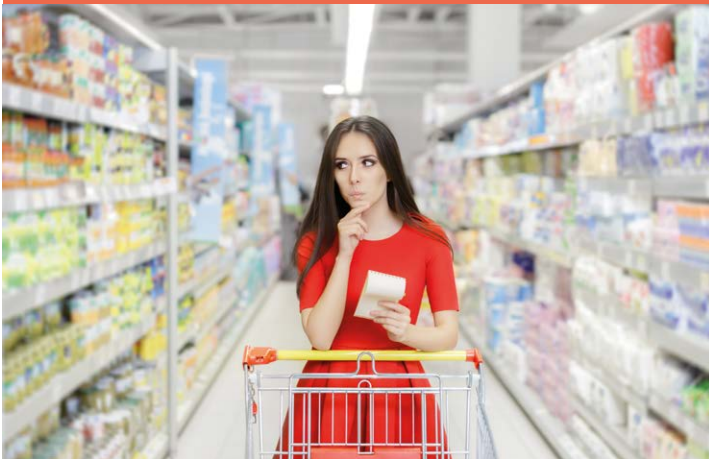
26 Sen A. (1985), *Commodities and Capabilities*, Amsterdam, North-Holland.

27 See Sen (1985), *op. cit.*, or Sen A. (2001), *Development as Freedom*, Oxford University Press.



WELCOME TO THE AGE OF DECONSUMPTION

Cécile Désaunay
Research Director at Futuribles



Cécile Désaunay is Research Director at Futuribles¹. Her work focuses on analyzing changing lifestyles and consumption patterns. Cécile graduated from Sciences Po Rennes and has a Master's in Bookselling from Université Paris Nord - Paris 13. She makes regular presentations of trends and perspectives in her specialist field, and works with public and private organizations seeking to incorporate them in their strategies. She has authored a wide range of texts published in Futuribles, as well as a book entitled *La Société de déconsommation. La révolution du vivre mieux en consommant moins* [*The Deconsumption Society. The Revolution of Living Better By Consuming Less*] (2021).

In recent years, France has witnessed a gradual shift away from the consumer society and toward what we term the deconsumption society. This emerging trend, particularly evident in the slowing consumption of goods, results from a number of socio-cultural and economic factors: an aging population, the saturation of material needs, a rise in forced frugality, and growing questioning of the consumer society. The potential for deconsumption to take on increasing importance over the medium to long term is, however, contingent on a number of variables and choices that are currently impossible to determine, such as the extent to which large corporates decide to adopt practices rooted in the circular and functional economies.

The past two years have seen inflation in France reach unprecedented levels, with highs of 6% in 2022 and 5% in 2023, compared to just 1.6% in 2021,² in a process driven mainly by rising costs for food (12% in 2023) and energy (23% in 2022). In response, French households cut their food spending by 8% between July 2022 and July 2023.³

This drop in consumption led Alexandre Bompard, Chairman and CEO of supermarket chain Carrefour, to declare in August 2023 that France was seeing a “deconsumption tsunami.”⁴ Setting aside the exaggerations of a corporate leader anxious about falling sales, the unusual situation the country faced in 2022 and 2023 provides a useful opportunity to explain how, and why, France is witnessing a progressive shift away from the consumer society and toward what we term the deconsumption society.

Today, consumer spending represents over half of France's GDP and over 80% of household budgets, as well as being a determining feature of lifestyles and aspirations. But this has not always been the case, and the consumer society is in fact a remarkable concept. In less than a century, it has managed to impose itself in every area of developed societies, to the extent that people have forgotten that it is no more than the briefest moment in humanity's story.

¹ Futuribles is a prestigious French foresight center.

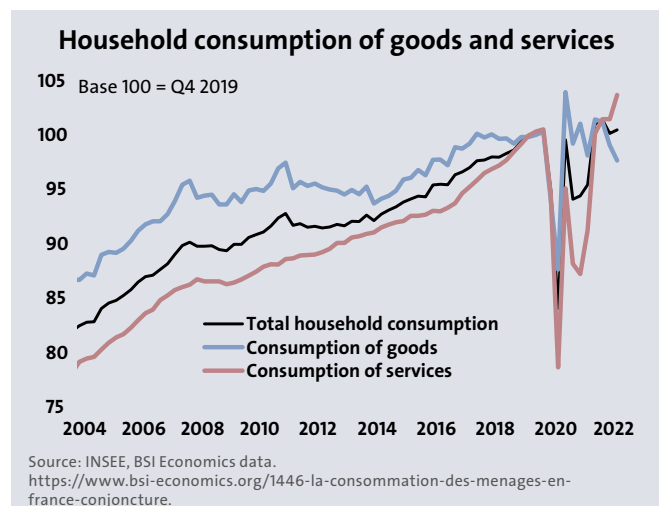
² <https://www.insee.fr/en/statistiques/7739642?sommaire=7739680>.

³ <https://www.insee.fr/en/statistiques/7663292>.

⁴ <https://www.la Tribune.fr/economie/france/inflation-le-pdg-de-carrefour-demande-un-moratoire-sur-la-loi-des-croissances-974152.html>.



Nevertheless, consumption growth in France is slowing year by year, with maximums of no more than 1% to 2% annually, compared to 3% or even 4% in the 1970s and 1980s.



Consumption of goods seems to have peaked in 2021, with only the consumption of services returning to positive growth. A more granular analysis of changes by product category shows sometimes very steep falls over the past 10 or 20 years. For instance, French people eat less meat than 20 years ago – although meat-eating has picked up slightly over the past two years.⁵ They also buy fewer clothes,⁶ new cars,⁷ and even smartphones.⁸

Four current trends explain this slowdown in consumption in France. These trends may continue into the future and lead the country to shift lastingly to deconsumption.

1. AGING POPULATION

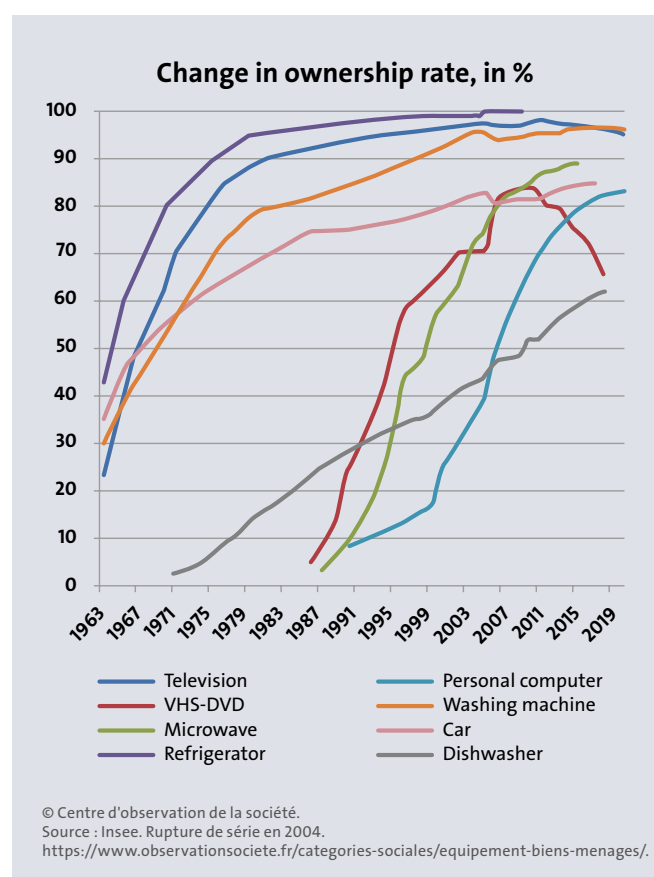
The oldest and most determining cause of stagnating consumption in France is its aging population. People over 65 consume 21% less than the national average, and account for 20% of the population (up 6 points on 1990). This is because aging and retirement go hand-in-hand with reduced needs, and therefore less spending on transport, clothing, household goods, food, restaurants, etc.⁹

And the population is only going to grow older in future with, in particular, a rise in the number of people aged over 75 or 80. This will automatically continue to drive down overall household expenditure in France.

France is witnessing a gradual shift away from the consumer society and toward what we term the deconsumption society

2. SATURATION OF MATERIAL NEEDS

The second driver behind the stagnation of household material consumption is the fact that ownership levels of consumer goods have hit their ceilings. For instance, over 9 in 10 households own a washing machine, television, fridge-freezer and cellphone, and almost as many own computers.¹⁰



In other words, French society is now saturated with goods, and the phenomenon of multiple ownership which helped shore up sales for a while no longer applies for items such as televisions and cellphones. This means the only thing now driving sales is the need for a replacement, something that can be accelerated by innovations and planned obsolescence.

3. RISE IN ENFORCED FRUGALITY

French people are also consuming less because their purchasing power continues to fall. Households have to meet their fixed (pre-engaged) expenses, primarily for housing (rent, loan repayments, etc.), bills for water and energy, phone and internet, school meals and insurance. These costs have doubled over the past 60 years and now, on average, account for a third of total household expenditure.

5 <https://www.i4ce.org/en/publication/reducing-meat-consumption-public-policies-a-long-way-from-sustainability-objectives-climate/>.

6 <https://www.syndex.fr/actualites/actualite/lhabillement-un-secteur-en-crise>.

7 https://www.fiches-auto.fr/articles-auto/chiffres-de-l-auto/s-1202-voitures-d-occasion-vs-voitures-neuves.php#google_vignette.

8 <https://www.igen.fr/iphone/2021/07/les-ventes-de-smartphones-reconditionnes-continuent-de-progresser-en-france-123825>.

9 Perrot M., Mathé T., Hébel P. & Robineau, D. (2012). *Comment consomment les seniors ? [How do the elderly consume?]* in Cahier de recherche NC296, CREDOC.; Herpin, N., & Michel, C. (2012). *Avec le passage à la retraite, le ménage restructure ses dépenses de consommation [With retirement, households restructure their consumption]*, INSEE, France portrait social.

10 <https://www.insee.fr/fr/statistiques/3676680?sommaire=3696937> and <https://www.credoc.fr/publications/barometre-du-numerique-2019>.



For the poorest households, they account for two thirds of their total budget, meaning they have less to spend on leisure, entertainment, eating out, and so on.¹¹ For an average French household (a fairly meaningless average), housing alone represents close to 80% of pre-engaged expenditure, and 25% of household consumer expenditure. Transport expenses represent around 15% of household consumption, mostly on vehicles and fuel.

The weight of fixed expenses in household budgets has increased further since 2022 due to the spike in inflation, with food and energy rising the most sharply.

4. UNPARALLELED CRISIS FACING THE CONSUMER SOCIETY

The final factor that explains why French people are consuming less than they used to is the fact that they are increasingly critical of the accumulation of goods and its consequences on health, the climate, and the environment. These criticisms are, of course, nothing new and have been around since the 1960s. But they are now unparalleled in scope and in the proportion of consumers embracing them. Their impacts are felt in three areas.

- First, the myth of infinite natural resources that can be exploited unconditionally and without consequences is now very widely discredited by growing tensions surrounding these resources and the externalities generated by their exploitation.
- Second, for some years now research has foregrounded the idea that, once a certain level of comfort is reached, greater material consumption does not deliver boost happiness. Quite the opposite, when the quest for always more becomes an obsession and can trigger psychological issues such as anxiety and a feeling of insecurity.¹²
- Third, consumers are becoming more skeptical of the consumer society's promises. They are increasingly aware of the consequences of unbridled material consumption: environmental impacts, costs of constantly updating products, health risks surrounding the products consumed (pesticides, endocrine disrupters), etc. Changes in the vocabulary used to describe the consumer society are a clear indicator of this disillusionment: 8 in 10 French people today agree very much or somewhat with the statement that the consumer society "is a bad idea because it leads to excessive waste". Almost 3 in 10 consider the consumer society to be "manipulative".¹³ In the eyes of the French, one group of actors embodies everything that is wrong with the consumer society: big business. The CEVIPOF (Centre for Political Research at Sciences Po) political trust barometer shows that under half of French people trust big businesses, and just 4%

The oldest and most determining cause of stagnating consumption in France is its aging population

"fully trust them."¹⁴ Almost 9 in 10 people surveyed believe that businesses encourage excess consumption.¹⁵

FROM ALWAYS MORE TO ALWAYS BETTER

In response to these criticisms, a majority of consumers polled by various surveys looking at this issue declared that they try to consume "responsibly", which represents the new ideal in the quest to reconcile ecological and practical concerns.¹⁶ This translates the idea that consumers have both a responsibility for harm caused to the environment, and the power to alter their behaviors to reduce these impacts. For example, two thirds of French people declare they have changed certain of their consumer habits to reduce their impact, and 13% state that they do everything in their power to reduce the impact of their consumption habits.¹⁷ And for 60% of consumers, responsible consumption means no longer consuming unnecessary products or services.

It would appear that the idea of voluntary frugality is progressively emerging within the general discourse; a process influenced by encouragement from personalities, non-profits and even institutions such as ADEME, the French agency for ecological transition. In November 2023, it created a real buzz around a Black Friday advertising campaign it ran that featured a "de-salesperson" dissuading customers from buying new goods and encouraging them to repair those they already own to make them last longer, or to rent instead.¹⁸

A consequence of all this is that many people in France want to "live a better tomorrow in a society less focused on consumption." Almost 6 in 10 people think our economic model needs a complete rethink, abandoning the myth of infinite growth.¹⁹

Nonetheless, these declarations must be treated with a certain caution because they do not necessarily translate into changes in day-to-day practices. However, this gradual change in the representations and evocations associated with consumption may, over time, produce ways of living less centered on material consumption.

WHAT PLACE FOR CONSUMPTION IN TOMORROW'S SOCIETY?

In the future, the role of consumption will, therefore, be decided by a range of determining factors that include an aging population, saturated needs, growing awareness of the environmental impacts of consumption, and the aspirations of individual households. But this future also depends on three major unknowns.

¹¹ <https://drees.solidarites-sante.gouv.fr/publications/les-dossiers-de-la-drees/depenses-pre-engagees-quel-poids-dans-le-budget-des-menages>.

¹² See, for example, Fromm E., (1976) *To Have or to Be?* Harper & Row.

¹³ <https://observatoirecetelem.com/en/observatoire-cetelem-de-la-consommation/the-era-of-activist-consumers/perceptions-of-personal-and-general-circumstances-remain-stable-2>.

¹⁴ CEVIPOF, *Political Trust Barometer*, 14th Wave, February 2023.

¹⁵ Greenflex/ADEME, *Baromètre de la consommation responsable [Responsible Consumption Barometer]*, 2019 edition.

¹⁶ https://harris-interactive.fr/opinion_polls/les-zooms-de-lobservatoire-cetelem-consommation-responsable-pouvoir-dachat-des-enjeux-contradictaires/.

¹⁷ Greenflex/ADEME, *Baromètre de la consommation responsable [Responsible Consumption Barometer]*.

¹⁸ <https://www.youtube.com/watch?v=7wj1BC5wwg4>; https://www.youtube.com/watch?v=CKrUPX_F27U.

¹⁹ Greenflex/ADEME, *op. cit.*



1. HOW WILL FIXED EXPENSES EVOLVE?

The weight of fixed expenses in household budgets, discussed above, will depend both on the economic context (property prices, inflation, etc.) and choices made at the household level. Specifically, two major questions will determine the shape of the years ahead. Will French households continue to prioritize expenditure on housing, or will they make new choices to reduce these costs (smaller footprint per person, home shares, etc.)? And, faced with the seeming likelihood of lasting inflation in food and energy bills (impact of the climate crisis, geopolitical realities, etc.), just how far will households be able to cut their expenses without affecting their ability to meet their basic needs?

2. WHAT TRADEOFFS BETWEEN ALWAYS MORE AND ALWAYS BETTER?

Consumers in the future will increasingly have to juggle between their desires to consume in ways that are healthier and more sustainable on the one hand, and maintaining the attractiveness of the consumer society on the other hand. How they decide on tradeoffs between the two will depend on a wide range of factors, including their social category, age and financial margin for maneuver.

It would appear that the idea of voluntary frugality is progressively emerging within the general discourse

3. WHAT ROLES FOR PUBLIC AUTHORITIES AND BUSINESSES?

Until now, the priority for public authorities and businesses has been to drive growth by encouraging households to consume more and more. But now, just like consumers, they are starting to come up against the environmental and climate impacts of this form of consumption, as well as having to address demands from citizens and non-profits. This is forcing them to gradually alter their postures in favor of promoting more responsible forms of consumption. For the moment, as far as public authorities are concerned, putting this trend into effect is limited to a few headline

issues, such as the circular economy and single-use plastics. Specific laws have been passed to promote both of these, but they are too watered down in the view of campaigning organizations, which have been particularly critical of the target date for a total ban in France on single-use plastics: 2040. A whole range of practices can be seen in the business sector, from merely running communication programs to deep-seated changes of model, such as shifting to a functional economy approach (i.e. selling the ability to meet a need rather than a material good).

CONCLUSION

If material consumption is to become less determining for individuals and societies, this will require a re-think of the entire wealth creation system, it being understood that deconsumption does not necessarily equate to degrowth.

Other economic models, such as the functional economy or the circular economy, may become dominant. Furthermore, the loss of meaning left by the end of the consumer society should also be offset by the rise of new storytelling, new evocations capable of inspiring individuals and society as a whole. And, in all cases, these new forms of storytelling could shrink the space occupied by consumption in our lives, encouraging us to place more importance on the immaterial, interpersonal relationships, and free time.

This new storytelling must also meet a threefold challenge, just as the consumer society managed to do: find a way to reconcile individual behaviors and self-fulfillment with the overall economic, social and environmental balance of our societies. In other words, what place should consumption occupy in tomorrow's world to ensure it contributes to both individual and collective well-being?



SUFFICIENCY AND CHINA: Can we find a middle way for animal-based foods?

Marius Korsnes

Associate Professor at the Department of Interdisciplinary Studies of Culture, Norwegian University of Science and Technology



Backyard garden, countryside - © Marius Korsnes

Marius Korsnes is an Associate Professor at the Department of Interdisciplinary Studies of Culture, Norwegian University of Science and Technology (NTNU). He leads the five-year project “A Middle Way? Probing Sufficiency through Meat and Milk in China” (MidWay, ERC Starting Grant), which explores the concept of sufficiency by examining meat and milk production and consumption practices in China.

Marius holds a Master of Philosophy in Culture, Environment and Sustainability from the University of Oslo and a PhD in Science, Technology and Society (STS) from NTNU, focusing on China’s energy transition.

He authored the 2020 book “Wind and Solar Energy Transition in China” (Routledge) and has published several articles on sustainability transitions and transformations within both energy and agri-food systems in Norway and China.

The idea of sufficiency is an enlightening one for rethinking human consumption, beyond the single paradigm of efficiency. The MidWay research project examines the concept of sufficiency in relation to the evolution of meat and milk consumption in China, and highlights the historical, cultural, political and social determinants of consumption. In so doing, it raises several broader questions concerning food safety, the role of government bodies and sustainable consumption. Ultimately, sufficiency can be analyzed taking into account the specific characteristics of each country and can constitute a relevant paradigm for initiating a sustainable transition in our food and eating practices.

INTRODUCTION

Human consumption and production directly impact Earth’s ecological state. Strangely, however, although planetary boundaries are increasingly breached or threatened (Richardson et al., 2023¹), neither government, industry, nor academia appear very concerned with limiting consumption levels. This apparent indifference is due to an ingrained belief in efficiency and technological improvements that allegedly will enable humans to continue with status quo. Nevertheless, as a large and increasing strand of research has shown, efficiency efforts do not lead to reductions in overall consumption levels. Never in history have humans extracted as many resources from Earth’s surface as today. The Global Resources Outlook shows that our use of resources has more than tripled since the 1970s, and it continues to grow (IRP 2019²). These resources are used unevenly around the world and cause harmful impacts on the environment and human health. Between 1970 and 2017, high-income nations were responsible for almost three-fourths of global resource extraction (Hickel et al., 2022³). For these reasons, research on *sufficiency*, i.e. the possibility of having enough of something for a specific purpose, is urgent. This article explains some of the recent work on sufficiency and connects it to the consumption of animal-based foods, particularly meat and milk, in China.

1 <https://www.science.org/doi/full/10.1126/sciadv.adh2458>.

2 IRP (2019). *Global Resources Outlook 2019: Natural Resources for the Future We Want*. Oberle, B., Bringezu, S., Hatfeld-Dodds, S., Hellweg, S., Schandl, H., Clement, J., and Cabernard, L., Che, N., Chen, D., Droz-Georget, H., Ekins, P., FischerKowalski, M., Flörke, M., Frank, S., Froemelt, A., Geschke, A., Haupt, M., Havlik, P., Hüfner, R., Lenzen, M., Lieber, M., Liu, B., Lu, Y., Lutter, S., Mehr, J., Miatto, A., Newth, D., Oberschelp, C., Obersteiner, M., Pfister, S., Piccoli, E., Schaldach, R., Schüngel, J., Sonderegger, T., Sudheshwar, A., Tanikawa, H., van der Voet, E., Walker, C., West, J., Wang, Z., Zhu, B. A Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya.

3 [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(22\)00044-4/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(22)00044-4/fulltext).





Small pork farm with maize production for feed. © Marius Korsnes

SUFFICIENCY

There has been an increased interest in sufficiency in recent years. Although the ideas behind it are older, the coining of the notion, as used in the social sciences (distinguished from its usage in philosophy), is often attributed to the work of Wolfgang Sachs⁴ in the 1990s. He convincingly argued *sufficiency* as necessary for *limiting efficiency*: “While efficiency is about doing things right, *sufficiency* is about doing the right things” (Sachs, 1999, p. xi). The concept has been further developed by the work of Thomas Princen, particularly in his book *The Logic of Sufficiency* (2005), which conceptualises the idea as a social *organising principle* working as a guideline for societal discussions and questions around constraints to continued growth and expansion.

At its most superficial level, sufficiency is about having *enough* of something; not too little or too much. Nevertheless, precisely what is enough and too much depends on time and place, as well as social, cultural, and historical context. Over time, our needs and wants are socially constructed through escalating increases in resource intensity, leading to a normalisation of needs at unsustainable levels (Shove, 2003⁵). The entrenchment of efficiency as a dominant organising principle is criticized by sufficiency approaches since efficiency thinking appears only to exacerbate global ecological degradation. The increasing dominance of efficiency logics corresponds with expanding new needs and wants. Without any limitations to this expansion, planetary boundaries will be transgressed within a short time (Richardson et al., 2023⁶).

*What is enough
and too much depends
on time and place,
as well as social, cultural,
and historical context*

An open definition of sufficiency is helpful to consider that needs are not static and that present-day levels of demand are not necessary or given: the possibility of having enough – not too little and not too much – of something for a particular purpose (Darby & Fawcett, 2018⁷). This also includes scrutiny of the *purpose* a service is supposed to cover. For example, putting on another layer of clothing covers the service of staying warm just as well as a heat pump. Still, only the heat pump counts as efficient. The same could be said for using a clothesline versus a drier, and so on. In other words, any serious analysis of sufficiency cannot accept the present-day efficiency regime as a point of departure for providing solutions. This also leads to another important consideration when talking about sufficiency. Defining the concept from the point of view where increasing affluence is recognized as the main culprit, we thus place the onus on the present-day rich and middle-income groups and countries (Callmer, 2019⁸). In summary, acknowledging that current consumption levels are neither inevitable nor necessary, the concept of sufficiency allows for a critical examination of how needs are constructed by questioning what constitutes adequacy and excess (Korsnes and Solbu, 2024⁹).

THE MIDWAY PROJECT: A MIDDLE WAY?

The project “A Middle Way? Probing Sufficiency through Meat and Milk in China” (MidWay) (ERC 2022-2027) sets out to study the concept of sufficiency through the cases of meat and dairy consumption and production practices

4 <https://d-nb.info/1059157284/34>.

5 Shove, E. (2003). *Comfort, cleanliness and convenience: the social organization of normality*, Oxford, New York: Berg.

6 <https://www.science.org/doi/full/10.1126/sciadv.adh2458>.

7 Darby, S. & Fawcett, T. (2018). Energy sufficiency: a concept paper for eceee, online, URL: <https://ora.ox.ac.uk/objects/uuid:3472d9c4-51bf-4ffe-95fe-94143235eed/files/m68be18268c889556c11d51488f165019>.

8 <https://kth.diva-portal.org/smash/record.jsf?pid=diva2%3A1380175&dsid=-3833>.

9 Korsnes, M. and Solbu, G. (2024). Can sufficiency become the new normal? Exploring consumption patterns of low-income groups in Norway, Forthcoming in *Consumption and Society*.



in China. These cases are interesting because, although both products were sparingly consumed in Chinese history, consumption has boomed over the past 40 years. While meat was an established high-status product in China, milk was historically considered a 'barbarian' food, and most Chinese were intolerant to it. Since 1978, the Chinese government and domestic and international actors have made a concerted effort to integrate meat and dairy products into Chinese food practices. Seeing China as a strategic research site to ask questions about the supply and demand of animal foods, the MidWay project hypothesises that what has made meat and milk integral to Chinese food practices might also be 'otherwise', i.e., opening for a possible future disembedding of meat and dairy from food practices.

The ultimate objective of the MidWay project is to probe the concept of sufficiency as an applicable organising principle to achieve reduced consumption – highlighted through the sub-objectives of understanding how meat and milk have been rendered desirable in China. The MidWay project develops a perspective which shows how food is connected to social, technical, political, historical, and cultural variables, which can lead to profound changes by facilitating a multifaceted policy response. Concretely, this includes looking at both historical processes of rendering certain types of animal-based foods desirable and studying the reproduction of meat and milk within contemporary food practices in urban China. Thus, meat and milk are not treated as products to be examined in isolation but as outcomes of social practices (see Rinkinen et al. 2020¹⁰), which have quickly changed in the past 40 years.

The ultimate objective of the MidWay project is to probe the concept of sufficiency as an applicable organising principle to achieve reduced consumption – highlighted through the sub-objectives of understanding how meat and milk have been rendered desirable in China

MEAT AND MILK IN HISTORICAL CHINA AND TODAY

The cases of meat and milk in China are interesting to study from a sufficiency perspective because they show the extent to which needs and wants are socially constructed – and 'could be otherwise' (Woolgar & Lezaun, 2013¹¹). Comparing these two cases enables a more comprehensive understanding of the journey from low to high consumption levels, as the role of historical status differs for the two products. Both meat and dairy have received government support and have been subject to massive industrial efforts that have rendered them popular and desirable (DuBois & Gao, 2017¹²). This recognition is helpful for our understanding of sufficiency. If milk and meat have become commonplace today, they could also be rendered less common in the future. Using this lens, the MidWay project has thus far focussed on historical accounts of how meat and milk have been rendered desirable. We have concentrated on meat consumption, particularly the history of pigs and pork.

Looking at meat in earlier times, Korsnes and Liu (2021¹³) pointed out that animals and meat are deeply entangled in the Chinese way of life as they co-evolved through time. Although access to sufficient food was a clear outcome of social division, frugality and moderation were relatively widespread virtues amongst the elite. For millennia, parents have said to their children that "70 percent full and not more" is the proper level of consumption (Chang, 1977¹⁴). One of the oldest texts in China, the *Neiye*, put it this way: "In eating it is best not to fill up; in thinking it is best not to overdo" (quoted in Sterckx 2019,¹⁵ chap. 9).

Vegetarianism was widely practised in Chinese history (Simoons, 1991¹⁶), mainly due to the proliferation of Buddhism. Confucianists generally did not oppose meat consumption and slaughtering, but Daoists were recommended to refrain from eating animal flesh (*ibid.*). On average, meat was consumed in minimal quantities in Chinese history (Chang, 1977). Meat products were mainly "consumed more often as flavoring for vegetables and as the basis of a sauce than as the principal component of a dish" (*ibid.*, 201) or for special festivities or family celebrations (Simoons, 1991). As elsewhere, however, poor people – i.e. most of the population – consumed less meat than wealthier people. A pillar in the Confucian order was a harmonious interrelation between humans and animals through properly conducted farming (Bray, 2018¹⁷). Although animal husbandry was widespread, it is interesting that animals were more

valuable as service providers in the household and farm than they were as food. Because China was a grain-based society (Bray 1984¹⁸), animals came in handy as draught animals or manure providers and household and farm waste product consumers. In short, animals were more valuable when alive than dead (Schneider, 2013¹⁹).

From this basis of animals and humans living in relatively harmonious relations to ensure enough food on the plate for households in a confined area, the situation changed dramatically with the opening up of China in 1978. It has been estimated that around 95 percent of food energy from an average diet came from plants in the 1960s and 70s, but this was radically changed after 1978 (Smil, 2004²⁰). Consumption

10 Conceptualising demand: A distinctive approach to consumption and practice.

11 Woolgar, S., & Lezaun, J. (2013). The wrong bin bag: A turn to ontology in science and technology studies?. *Social studies of science*, 43(3), 321-340.

12 DuBois, T., & Gao, A. (2017). Big Meat: The rise and impact of mega-farming in China's beef, sheep and dairy industries. *Asia-Pacific Journal, Japan Focus*, 15(17).

13 Korsnes, M., & Liu, C. (2021). Meating demand in China: Changes in Chinese meat cultures through time. In Hansen and Syse 2021, *Changing meat cultures: Food practices, global capitalism, and the consumption of animals*, 79-97.

14 Chang, K. C. (Ed.) (1977). *Food in Chinese Culture. Anthropological and historical perspectives*. New Haven and London: Yale University Press.

15 Sterckx, R. (2019). *Chinese Thought: From Confucius to Cook Ding*. Penguin UK.

16 Simoons, F.J. (1991). *Food in China. A cultural and historical inquiry*. CRC Press, Boca Raton.

17 Bray, Francesca. (2018). "Ch. 6. Where Did the Animals Go? Presence and Absence of Livestock in Chinese Agricultural Treatises." In *Animals through Chinese History: Earliest Times to 1911*, edited by Roel Sterckx, Martina Siebert and Dagmar Schäfer. Cambridge University Press.

18 Bray, F. (1984). *Science and Civilisation in China, Part 2, Agriculture* (Vol. 6). Cambridge University Press.

19 Schneider, M. (2013). *Modern Meat, Industrial Swine: China and the Remaking of Agri-Food Politics in the 21st Century*, PhD Thesis: <https://ecommons.cornell.edu/server/api/core/bitstreams/bbf69683-094e-4b90-8711-9dc40679a776/content>.

20 Smil, Vaclav. (2004). *China's Past, China's Future: Energy, Food, Environment*. New York & London: RoutledgeCurzon.



of meat, milk and eggs increased by about 4, 10 and 7 times per capita between 1980 and 2010 (Bai et al., 2018²¹). Since the opening-up period, agricultural production increased considerably, and ensuring enough food for people became essential for Deng Xiaoping, to avoid social unrest (Yasuda, 2018²²). Today, the composition of Chinese meals has changed rapidly, connected to trends such as eating out, increases in fast food consumption, and buying food via online or app-based platforms such as Meituan or ele.me. The various ways in which animal products have become embedded in such consumer cultures is what the MidWay project will study over the next four years.

As part of this endeavour, the MidWay project organised a workshop in Guangzhou in August 2023, serving as a point of departure to say something about changes in contemporary food practices in urban China. The workshop focussed on *Urban food, sufficiency, and sustainable agriculture in China*. It featured presentations from experts from academia and industry on meat and milk consumption and production in China. The workshop also discussed pathways for a more sustainable agri-food system in China, where insightful points emerged. The most pressing issues that arose from the group discussion were the following points:

- With almost one-fifth of the world's population but only 9 percent of its arable land and 5 percent of its water resources (Shapiro, 2012²³), China faces significant challenges with food security and environmental burdens. How can the trade-offs between resource constraints, food security, environmental sustainability, and social welfare be balanced? This includes the question of healthy and nutritious foods, where health is also related to the ideal level/forms of consumption. Questions of nutrition and sustainability could be seen together, as government recommendations could include planetary and human health in food recommendations.
- The sufficiency question: how to measure and achieve sufficiency in food production and consumption, considering the future demand and supply scenarios, the limited resources, and the environmental impacts of animal-based agriculture? This includes the questions of overconsumption and food waste, which are increasing problems in China. An ideal level of animal-based food consumption could be defined as 'enough' and 'good enough', which means sufficient, high-quality, and sustainable.
- The different scales and structures of animal agriculture: how to learn from the experiences and mistakes of industrialisation in other countries, and how to explore and systematise the existing practices and initiatives that could contribute to a better food system in China, such as small-scale farming, alternative food networks, green development, and food waste reduction? How to deal

If milk and meat have become commonplace today, they could also be rendered less common in the future

with the relatively few large-scale companies, the closed loop systems for fertilisation, the small-mid scale level of farms and cooperatives, and the different animals and their requirements? There is no one-size-fits-all solution, but there is a need for balance and diversity. The production scale involves a trade-off between large-scale and small-scale farming, which have different implications for food security, environmental protection, rural development and health and wellbeing.

- The consumer versus the system: how to cope with the need to avoid food waste, personal health, and the demand for quality and safety of animal products versus the need for economic feasibility, industrial efficiency, and scale? Who is responsible for making decisions about health, nutrition, or sustainability, and how can food practices change to become more sustainable?
- The role of the government: how to understand the central planning in China, the balance between state control and privatisation, the top-down versus bottom-up solutions, and the communication with the government? The Chinese government, without a doubt, has the tools available to make the right changes. However, the question is whether economic aspects still trump social and environmental sustainability concerns.

CONCLUSION

Studying sufficiency in a Chinese context might offer novel tools to address the negative consequences of human action on Earth's biosphere. To avoid simplistic portrayals, the MidWay project seeks to disentangle the processes behind today's meat and milk production and consumption practices in China. Through a detailed understanding of how demand and supply are co-shaped, the perspective can help to understand the multiple ways in which what we eat and drink is connected to changing diets, forms of production, new technologies, understandings of health, fashion and so on. Gaining such a more detailed comprehension could assist us in better

understanding how demand might be reduced in the future. This, in turn, can aid us in designing more accurate and potentially more tolerable policy responses to address the issue.

Nevertheless, it is important to stress that 'sufficiency' does not necessarily have a direct relevance to Chinese society and culture. The MidWay project is still open to the question of whether the concept is helpful in a Chinese context and whether there could be other more suitable concepts from Chinese history and culture. In Chinese tradition, notions such as moderation, balance and frugality have been central, with connotations and meanings that might fit better than 'sufficiency'. Moreover, it is important to stress that sufficiency concerns should be addressed from the 'top-down' as pointed out by Callmer (2019, p. 11) – implying that those who already have more than enough should be the primary focus of analyses and change.

21 <https://www.science.org/doi/10.1126/sciadv.aar8534>.

22 Yasuda, J. K. (2018). *On Feeding the Masses. An Anatomy of Regulatory Failure in China*. Cambridge University Press.

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LIVING WATER: a look at sufficiency in Cameroon

Blick Bassy

Singer, songwriter, producer, and musician



Students from the Lycée Henri IV taking part in the "Tous des Héros" [We're all heroes] water project, organised to coincide with Blick Bassy's concert at the Scène de Bayssan on 19 March 2024.

Blick Bassy is a multidisciplinary artist, a Cameroonian musician, author, producer, and director born in 1974 in Yaoundé, Cameroon. After founding his band Macase in 1996, he embarked on a solo career in 2006 and has released five albums including his latest, *Mádibá*, which came out in 2023 and is dedicated to water. He has won several high-profile prizes, including the World Music category at the 2019 SACEM Grand Prix. His first novel, *Le Moabi Cinéma* [The Moabi Cinema], won the Grand Prix Afrique in 2016.

In this interview Blick Bassy, a long-term campaigner for the preservation of water resources, talks about his vision of sufficiency. Many people in Cameroon who live without permanent access to tap-water intuitively manage water resources frugally. Their approach is rooted in a more direct relationship to water which, being visible, is almost a living thing. But in Cameroon and other African countries, water plays a vital spiritual and cultural role too. Ultimately, raising awareness about the scarcity of water resources can be achieved not only by focusing on water's universal character as a common foundation for all, but also by using the art of music to shape new perceptions about water, as demonstrated by Blick Bassy.

The concept of sufficiency, particularly as it applies to the challenges of water management, is increasingly gaining traction in various countries, including France. What do you think is the position in Cameroon and West Africa in general? Is this a concept that resonates in public debate and people's perceptions of water?

Blick Bassy: I would like to answer your question by talking about my personal experience. I grew up in Cameroon, dividing my time between the capital, Yaoundé, and the small village where my grandfather lived. Villagers lived a naturally frugal life. Sufficiency was not theorized as a concept or explicitly acknowledged, but it was nevertheless omnipresent in traditional lifestyles.

For example, we ate what we harvested, and the only food we purchased was more or less to eat that day. We lived with very little, but it was not a source of frustration: we had no need for more. One of my many memories is of my grandmother using dried meat to give her sauces a meaty taste, using the same "infused" pieces of meat again and again. What we ate tasted of meat although we weren't actually eating meat, which was reserved for the end of the year. And that was fine!





This natural sufficiency was also very obvious in terms of water management, particularly in the villages where most people obviously had no access to running water. Water was drawn from wells, stored at home in containers and managed with great parsimony. An experiment I got the chance to run with Action Against Hunger in Ivory Coast provided an eloquent illustration of people's deep-seated, instinctive attachment to frugal water use. The project involved negotiating the supply of running water in certain districts of Abidjan to give low-income families access to water thanks to extremely cheap payment plans. After an eight-month trial, almost 90% of families had cancelled their plan because they couldn't pay, even though we'd negotiated prices that were meant to be compatible with their financial means. What was happening? The fact was that by moving too fast to make running water from a tap available, we had somehow managed to extinguish the spontaneous sufficiency of local residents.

I believe the critical point lies in whether or not people can actually see their water. For many years people's habits were forged through this visual relationship: every day you could see the water container and how it got progressively emptier. This ability to see water directly shows us, without the need for any intermediaries, the impact our daily water use has. In this situation we can observe that water use is extremely moderate and frugal. It is a relationship that is more or less reciprocal: people manage the water, but the water also manages them! Water sees us. I myself grew up with this frugal relationship to water. My brothers and sisters and I would go to the well to collect water, and each of us was then responsible for how much we used. Depending on how

much water was left at home we knew that one cup more, or one cup less, could have real consequences for our future needs, because fetching water at night was impossible. I believe this was a healthier relationship to water than how we live today, where water in developed countries simply flows from taps and showers.

With the experiment in Ivory Coast, the switch to a water supply system meant people could no longer see their water, and they weren't given information beforehand on how it worked. So it upset their habits and deprived them of their points of reference. How could they keep track of their water use without being able to see how their stored water changed? This shift from an approach based on stored water to one based on flowing water requires a real change in perspective. I'm convinced that tying

access to running water to a gauge system, or similar, that makes it easy to measure changes in the amount of water used would make the transition easier and encourage people to use their water frugally.

The spontaneous sufficiency in water management that was such a feature of my childhood is not only encountered in villages. In built-up areas of Cameroon we also see enforced sufficiency resulting from disruptions in the water network. Because the companies that manage water supplies do not operate properly and the infrastructure is not always operational, many people are forced to have a borehole at home, fetch water from a standpipe, or simply collect rainwater. This is a case of imposed sufficiency because the public system doesn't work. People are back to managing their stores of water again.

*The earth that feeds us
loves us because, no matter
how much we weigh,
she always bends so
she can carry us on her back*





Ngondo messenger during the festival

You seem to feel a degree of nostalgia about this frugal relationship to water. How can this frugal philosophy continue to be passed on while also making sure as many people as possible have access to running water?

B. B.: We clearly have to work to make sure that everybody has access to running water and suitable modern infrastructure. But it is true that I do feel a certain nostalgia. I feel nostalgic for a world where everybody really understood the importance of water. I keep thinking of seeing, looking: observing our water every day means we have a more direct relationship with it. This ability to see creates a relationship that is almost reciprocal: you look at each other, you see each other. In my childhood water was a living thing. Today it is dead because we no longer see it. Paradoxically, abundance reduces water's vitality because the illusion of unlimited access makes it less important in our eyes.

But it doesn't have to be this way. I believe education is a key component in rekindling the relationship between water and consumers. We should be teaching kids from the earliest

age to be aware of how their bodies work, explaining to them that not only is the human body over 50% water, but that their bodies need water to function, more than any other resource. Like this we can help forge a new relationship to water. I think that once we realize just how important water is for our bodies to function, and by extension for our lives in general, then our relationship to water resources changes more or less instantly, and quite naturally. I'm a big believer in education and focusing on the body as levers that make it easier to change how people think about water, how we portray it and our relationships to it.

Tying access to running water to a gauge system, or similar, that makes it easy to measure changes in the amount of water used would make the transition easier and encourage people to use their water frugally

What has led you as an artist to take such an interest in water? What role do you hope to play in shaping a new relationship to water resources?

B. B.: My interest in water is the fruit of an extended period of personal reflection. Like so many before me, I noted a prevailing disorder, the chaos in the management of our ecosystems and our societies. Abusive exploitation of resources, armed conflicts, changes to our relationship with the living world and other living things,



and so on. Faced with these mind-bendingly complex challenges, I sought to identify a common denominator, a unifying theme that would make it possible to restore ties and change mindsets. Water struck me as the perfect topic. Because water is the element that all living things are composed of, whatever their form, material or identity. Every element making up our ecosystem is composed of water. It is literally the source of life, in the physical and biological senses.

Recognizing this, I placed water at the heart of my approach, working from the principle that it can act as the starting point for inventing solutions for many of the problems confronting us in today's world. For we are all related through water. Over and above water, I believe that we would benefit from restoring nature and living things to their rightful place at the heart of our ways of thinking, seeing them as sources of inspiration. I believe that biomimicry is an especially relevant approach.

Water's universality evidently coexists with cultural differences. In Cameroon, as in other countries of Africa, water has a very powerful spiritual dimension. Every year, Sawa people from different coastal regions come together for the Ngondo festival in Douala. During the festival, messengers are tasked with gathering testimony from the ancestors, which they do by communicating with the forces and spirits of the Wouri River. This highly respected religious institution is very far removed from western ways of thinking.

I believe it is essential to protect and promote this heritage of Cameroon's cultural and spiritual ties to water. There is a nonprofit called *La Route des Chefferies* [*The Chieftdoms route*], founded a couple of decades ago, which is working on this. I have partnered with them to take part in a project called *La Route de l'Eau* [*The water road*], which aims to catalog all of Cameroon's waterways and the ritual cultural practices in the regions they run through, and which often bear their name. The initiative gives us the opportunity to talk to local people and improve our understanding of their relationship to water and the role it plays in their lives in many different ways. I can think of countless examples. For women, the moment in the day when they head off to fetch water can be a pretext for getting out of the house and spending time with other women. And water is linked to numerous ritual practices, some of them part of daily life. There are water rituals carried out before planting certain types of tubers. Water occupies a place that extends far beyond simply practical household uses. And this place becomes even more central when water resources are not easily accessible.

My work as an artist centers on this need to protect and raise awareness of our heritage. My most recent album, *Mádibá*, is dedicated to water. I tried to evoke the scarcity, necessity, and energy of water as well as its life-giving power but without lecturing. I composed each track like a fable so I could tackle the subject of water in a way that is more detached and poetic. The fables also let me adopt the roles of different characters expressing their relationships

In Cameroon, as in other countries, water has a very powerful spiritual dimension



Sleeve art for the album *Mádibá*

to water: an elder, a woman, a bird, and so on. In the song *Bengue* I evoke the rain through the eyes of an elder telling his grandson that rain used to fall on the ground just behind their home, but no longer comes because humans have killed it. Rain no longer comes, not even if you wait for it all day. I felt it was essential to talk about the lack of water, the impact of pollution, the difficulties people have in accessing safe water.

As part of preparations for one of my concerts in March 2024 in Béziers in south-west France, we organized a project with the 12-year-olds at Henri IV school in Béziers. The idea was to make a video where the kids talked about their ideas and visions of water.

It was a wonderful project that helped remind them just how omnipresent water is in all aspects of their lives.

Have you got any projects lined up that will deal with the same questions?

B. B.: At the moment I'm working on a project in Cameroon that hopes to use virtual reality headsets to teach school kids about the different professions involved in the water industry. The fact is that young people are unaware of the range of jobs linked to water: maintenance, distribution, recycling, and so on. Immersing kids in this reality is also a way to kindle their interest in water and how to protect it, as well as helping create the next generation of professionals. I'm thinking hard about other projects on water-related topics that combine awareness and expression. Basically, my interest in water is far from exhausted.



2. SUFFICIENCY UNDER DEBATE: POLITICAL AND SOCIAL CHALLENGES



*The acceptability of sufficiency, as well as its desirability,
are conditioned as much by political
and social considerations as by symbolism*

Sufficiency's newfound resonance cannot mask the fault lines and various forms of criticism the concept attracts. Some voices question the very legitimacy and relevance of sufficiency, particularly when presented as the main approach for responding to the climate crisis.

Alessio Terzi highlights some of sufficiency's blind spots, looking at its assumption – that it is possible to alter people's behaviors so they voluntarily renounce certain goods and services, a supposition seen as relying on an overly simplified vision of how humans make their choices – as well as its consequences. Specifically, he stresses the negative and unintended consequences of approaches focused on degrowth, often associated with sufficiency at the collective level, arguing instead for green growth and technological innovation, vital components for decarbonizing our economies and societies.

Other contributors examine the difficulties associated with the acceptability of sufficiency, particularly in social terms. **Elizabeth Currid-Halkett** analyzes how mechanisms for social distinction are being restructured for the era of inconspicuous consumption. Far from abolishing strategies for distinction, the introduction of sustainable and frugal goods and services, in clothing and food in particular, has led to the appearance of new social and symbolic hierarchies rooted mostly in the acquisition of specialist knowledge and insights. Within this context, poor or modest households have little access to sustainable products. The acceptability of sufficiency and voluntary renouncement also has to contend with certain values deeply embedded in western societies, such as individual comfort, a notion whose centrality anthropologist **Stefano Boni** analyzes critically.

Given these factors, the acceptability of sufficiency as well as its desirability are conditioned as much by political and social considerations as by symbolism. In a quest to construct a positive image for sufficiency, **Nathan Ben Kemoun** and **Pauline Vigey** develop the notion of intensive sufficiency, not necessarily associated with renouncement and reduction of consumption, production, and so on, but rather with a form of extension and intensification of our relationships and lifestyles. Creating positive storytelling for sufficiency is thus one of the keys to consolidating its large-scale acceptability.

However, in addition to the symbolic and narrative challenges involved, implementing sufficiency also raises political and social questions, as underlined by **Mathieu Saujot** in the first part of this issue. How can we distinguish useful needs from superficial ones? How can we make sufficiency an acceptable prospect for the greatest possible number of people? How can we combine sufficiency with reducing inequalities? **Mary Lawhon** and **Tyler McCreary** offer us some answers as they present the conditions for success in a society centered on enoughness. In particular, they include the need to rethink the ways we consume as well as the role of work in our societies. Although these ideas do not provide all the answers to the challenges of sufficiency, they underscore the structural issues it raises when positioned as a new collective model.

Iris Levy
David Ménascé
Archipel&Co,
Issue coordinators



FROM SUFFICIENCY TO GREEN GROWTH: acting on what matters

Alessio Terzi

Economist at the European Commission and Lecturer (Sciences Po, HEC Paris)



Alessio Terzi is an economist working at the intersection of academia, policy and think-tanks. He is the author of *Growth for Good* (Harvard University Press), a Foreign Affairs Best Book of the Year, and a Financial Times summer reading favorite. He is an Economist at DG ECFIN of the European Commission, where he works on competitiveness, industrial policy, and the macroeconomics of the European Green Deal. Alessio is a Lecturer in Public Policy at Cambridge University, and an Adjunct Professor in Economics at Sciences Po and at HEC Paris. Prior to this, he was Affiliate Fellow at Bruegel, the leading European economics think-tank, and Fulbright Scholar at the Harvard Kennedy School. He has worked at the European Central Bank's EU institutions division and in sovereign risk analysis at BMI Research (Fitch Ratings). Alessio obtained a PhD from the Hertie School with a thesis on economic growth, under the supervision of Henrik Enderlein, Dani Rodrik, and Jean Pisani-Ferry. He holds an MPA in economic policy from the London School of Economics, and a BSc in international economics from Bocconi University. His policy work and commentaries have been featured in leading international media outlets.

Voluntary demand reduction (sufficiency) can help to decarbonize our economies before 2050. However, considering its limits, it is likely it will play only a minor role on our path to net zero, contrary to what is argued by eco-sufficiency and degrowth advocates. As argued by economist Alessio Terzi in this interview, several unwanted outcomes of degrowth are often neglected by its defenders. In the same light, we tend to forget the inherent link between growth, progress and innovation. In his perspective, our energies should be focused on shifting our growth towards greener solutions, while encouraging positive innovations to solve the challenges ahead.

As an economist, how do you analyze the concept of “sobriété” – frugality, sufficiency – and, more generally, the focus put on demand reduction as a way of fighting climate change?¹

Alessio Terzi: Let me first state the obvious: avoiding a climate catastrophe and environmental collapse is an immense challenge, and the progress we make towards this goal is slow. In this light, any way of achieving our economies' decarbonization by mid-century as well as overall reduction in material resource use should naturally be considered, including reducing demand. Three main approaches are usually presented by scenarios of emissions' reduction. First, there is a technological option – such as rolling out solar and wind –, which is likely to be long and costly. Second, an efficiency one: trying to do the same things while consuming less energy. And finally, a demand reduction option, which falls along the line of frugality, sufficiency or scarcity. Supporters of this last path argue that individual actions and decisions – avoiding taking planes, stopping beef consumption or lowering the temperature of our house, to name a few – would have an immediate positive impact on CO₂ emissions. Mathematically, this looks like a valid option: if people were not to desire these actions anymore, we could bring down emissions very rapidly and with zero investment. Thus, I completely understand why the IPCC and other international bodies include demand reduction in their scope of analysis – in a way, the more it happens, the better.

¹ Demand reduction is notably analyzed in Chapter V of the IPCC Sixth Assessment Report entitled “Demand, services and social aspects of mitigation.”, with a focus on three complementary alternatives regarding consumption: Avoid (planes, meat...), Shift (public transport instead of car, etc.), Improve (energy efficiency).



However, the point where I depart is the following: in my view, we should not expect too much from this channel of emissions' reduction. Frugality and *voluntary* demand reductions will always remain a minor phenomenon. Voluntary is the key word here. Voluntary demand reduction is sufficiency (*sobriété*), while involuntary one is simply poverty. Economically speaking, if someone forbids another person to fly, while this person wants to, then the first one is artificially generating poverty. To achieve voluntary sufficiency, a change in preferences is needed, but it is very difficult to engineer this, policy-wise.

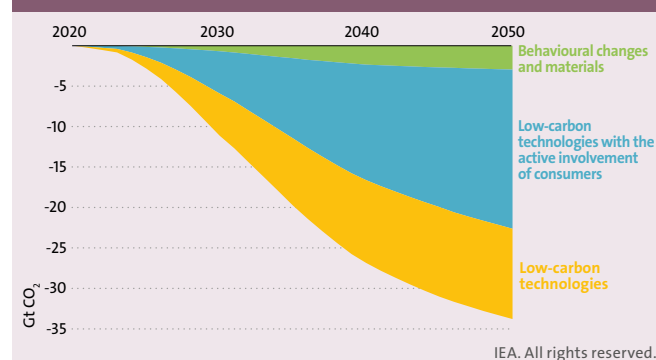
Indeed, many experiments have been trying to change preferences and behaviors lately, notably using insights from behavioral sciences. Nudge approaches gained a lot of attention in the past few years, but their efficiency to achieve long-term and mass changes in behaviors seems limited. Besides, another crucial point where I would disagree with degrowth / frugality narratives is that more often than not, self-styled frugals are *shifting* preferences, not reducing them in absolute terms. We tend to have an over-simplified archetypal image in mind, believing that if we prevent someone from taking a plane, this person will instead seat quietly at home, contemplating the universe. This is an over optimistic, and above all unrealistic view: more often, the person will likely use this time and money available differently, but they will consume either way. Similarly, today's young generations often do not wish to own a car, preferring to ride a bike to work, or perhaps occasionally rent one using a ride-sharing app. This does not equal degrowth: this is changing preferences. This distinction between avoiding, reducing, and shifting is very important to keep in mind. In my view, shifts are way more common than the two other options, and they happen all the time within our economic system.

In terms of emissions, projections made by the International Energy Agency (IEA) show that realistically, demand reduction can help achieve less than 5% of the reduction needed to reach net zero emissions by 2050. While it is clearly not insignificant, the bulk of emissions' reduction is expected to derive from new technologies and efficiency solutions. To a certain extent, the whole degrowth narrative is shifting the focus from this percentage, making it the core of the transformation. Its defenders argue that we should free ourselves from the obsession of consuming and that consequently we will achieve the transition, thus focusing primarily on changes in preferences, and perhaps using a bit of technology.

Beyond this quantitative dimension, another argument can also be brought up to challenge the assumptions of voluntary sufficiency. Authors advocating sufficiency and frugality argue that we should give up on many things we desire, to focus only on our *needs*, while, ideally, sharing the resources we have to fulfill the needs of the maximum amount of people. On an individual level, this sounds reasonable: in our daily life, we all seem to know easily what constitutes a real need or a want. But when we try to

draw a line, more scientifically, to separate the needs and wants, it gets very blurry. To give a simplified example, to fulfill the 2000 calories needed every day, one could eat the same things in quantity while the other would eat a variety of food, which is not strictly essential to survive, but is better for health. Therefore, is eating healthy a need or a want? The answer is unclear.

Role of technology and behavioral change in emissions reduction in the Net Zero Emissions (IEA²)



With this starting point, I argue in my work that separating essential needs from non-essential ones is a very static view of the world. Historically, needs and wants have always been shifting. Utilities we consider indispensable today – having heating, cooling, water, gas, electricity or internet – were nonexistent or viewed as luxurious a century ago. Things evolve even in a shorter length of time – considering for instance how smartphones became almost vital in just a few years. In short, what is possible determines what is demanded and what is demanded becomes widespread: needs are socially determined.

In your book, you explain that the negative consequences of degrowth are largely overlooked?

A.T.: Indeed, I think that if scaled, degrowth would be closer to a dystopian world than a green egalitarian utopia.

A remark first: it is interesting to see how this idea resonates depending on the geographic and cultural context. In the contemporary French intellectual debate, degrowth is discussed a lot, and derives from a tradition of anti-capitalist and technocriticism thinkers, dating back to the late 1990s and early 2000s. Indeed, the famous *Limits to Growth* report published in 1972 does not mention degrowth yet.

² IEA, *Net Zero by 2050, a roadmap for the Global Energy Sector*, https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf (p. 69).

In my view, frugality and voluntary demand reductions will always remain a minor phenomenon



The concept of degrowth (*décroissance*) is coined in France³, and progressively linked to a harsh criticism of capitalism. In Italy, as a comparison, degrowth never became a real topic – perhaps because the country experienced first-hand the negative effects of a long-lasting economic stagnation.

Coming back to the overlooked negative outcomes, the question can be tackled at multiple levels of depth.

The standard economist would argue that without growth, we would not be able to repay our public or private debt, which would lead to default and eventually to recession. The latter is obviously quite unlikely, as it fuels unemployment, unhappiness, high suicide rate, alcoholism and so on. Degrowth also means less resources to allocate to expenses necessary in healthcare, defense, digital, etc. One counterargument is that these consequences derive from the way our economic system is built, around the assumption of endless resources. I argue that this is only partially true, and that it misses a crucial point. Bringing down growth to an end means, more fundamentally, bringing the idea of progress to an end, and humans' responsibility for their own destiny. I think that this risk is particularly important to bear in mind.

Another argument made by degrowth supporters relates to inequalities. As the current level of inequalities is viewed – rightly so – as unacceptable, the economic system generating it should be changed towards more redistribution. It is worth recalling, however, that in an environment of limited resources, redistribution is harder: degrowth would automatically bring on new social tensions and fuel a “zero-sum” mindset: a gain for one is a loss for another (explaining why, for instance, lending money with interests was once prohibited: it was viewed as a theft, in a limited resource context). In this scheme, tensions would be exacerbated, as it did historically in periods where growth was limited (for instance during feudal Europe), which is the exact opposite of the harmonious social peace wished by supporters of degrowth. Overall, it is highly undesirable to shift into a capital-scarce environment, both at the individual and collective scales.

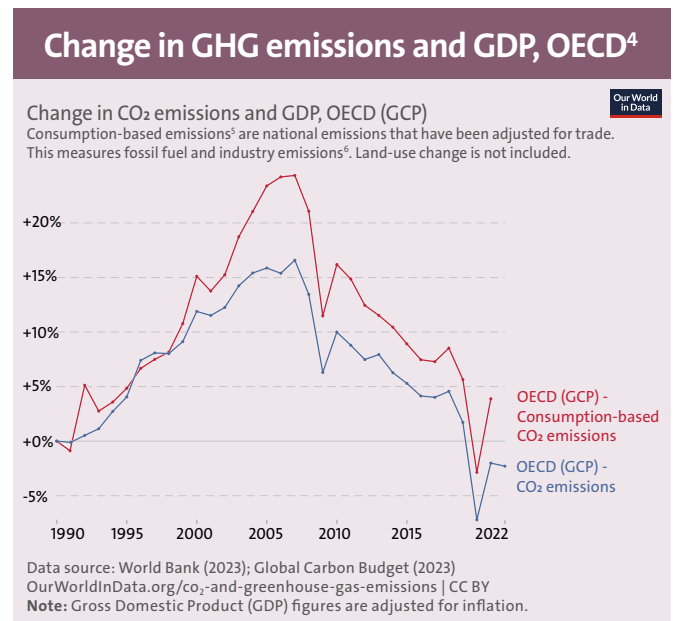
The bulk of emissions' reduction is expected to derive from new technologies and efficiency solutions

You argue that “growth for good” is a realistic outlook.

What is your rationale for this argument?

A.T.: The first argument to be recalled is that now, we do see a decoupling between CO₂ emissions and growth. For a long time, we only had a relative lowering of the emissions' intensity, but an increase on aggregate. Now, GDP is increasing in a set of developed countries, while CO₂ emissions are decreasing. This is the case even if we include carbon embedded in imports, meaning it is not just about shifting production to countries like China to benefit from cleaner air and less emissions. The big challenge remaining, of course, is that we are not seeing the same progress on material footprint.

Another more important point I make is that the secret of growth does not lie in carbon emissions. Growth did not start in the 1750s with burning fuels. Evidence comes from past civilizations, which did experience periods of economic growth, even though irregular, short-termed and slower than ours. This shows a crucial point: growth does not necessarily destroy the environment. The secret to growth is innovation and technology, not fossil fuels.



The very definition of a resource is what is available. Fossil fuels were available, and society needed more energy to power the industrial revolution, without environmental concerns. We now start to move away from this perspective, shifting towards other energies like solar and wind. This should be our goal for the upcoming decades: shifting our growth model towards greener options, not abolishing it.

This is even more necessary considering that innovation and economic growth are, in fact, inextricable. This does not mean that frugal or low-tech innovations are not useful nor inspiring. We need to learn new ways of innovating, consuming less resources, and sometimes we can draw inspiration from past solutions, mixing them with our own competencies. My only warning is not to idealize them, and to question the implicit perception that life was better in the past (implied by labels praising “traditional”

4 <https://ourworldindata.org/grapher/co2-emissions-and-gdp?country=~OECD+%28GCP%29>.

5 **Consumption-based emissions:** Consumption-based emissions are national or regional emissions that have been adjusted for trade. They are calculated as domestic (or ‘production-based’ emissions) emissions minus the emissions generated in the production of goods and services that are exported to other countries or regions, plus emissions from the production of goods and services that are imported. Consumption-based emissions = Production-based – Exported + Imported emissions.

6 **Fossil emissions:** Fossil emissions measure the quantity of carbon dioxide (CO₂) emitted from the burning of fossil fuels, and directly from industrial processes such as cement and steel production. Fossil CO₂ includes emissions from coal, oil, gas, flaring, cement, steel, and other industrial processes. Fossil emissions do not include land use change, deforestation, soils, or vegetation.

3 By philosophers such as André Gorz or Serge Latouche.



techniques opposed to “modern” ones). Past technologies and innovations faced their own limits – otherwise they wouldn’t have been replaced. One practical example is about the built environment, which contributes nearly 40% of overall global greenhouse gas emissions. Buildings and construction used to be made from soil of the land for many years. Many cultures also used soil for isolations purposes. Recently, engineers and architects have been combining that technique with 3D printing, and argue that we should encourage this way, as soil is widely available. This technique has its own limits, but it reminds us that innovation is always based on experimentation, imitation of more successful practices, combination with pre-existing local knowledge and adaptation to local context.

Separating essential needs from non-essential ones is a very static view of the world

What kind of responsibility do you see for governments and companies to accelerate green growth?

A.T.: Governments and companies alike have a key role to play to accelerate green growth. Regarding governments, I would name two: redistribution and regulation, to keep inequalities from rising. Indeed, like other analysts, I believe that we stand at a breakthrough momentum of technological revolution (coming from IA, automation, green technologies...), comparable to the industrial one. Like other revolutions, the green transition, as a structural

technological transition, will lead to further social divides and increased inequalities if we do not keep on maintaining safety nets – as did the welfare State born in the 1880s under Otto von Bismark. Governments and regulation, both at national and supranational levels (the European one, notably), play a key role in ensuring a just transition, while allowing innovations to thrive.

The private sector holds most of the societal and economic resources. This is where innovation happens. Of course, many actors are aware of the economic opportunities of a green growth transition, and it should not be seen as bad news. New technologies will become central, and some companies will be pioneers, hopefully designing new solutions which will help humanity for decades, in areas such as clean technologies, access to essential services... Ultimately, private actors are the ones fostering crucial breakthroughs.

I am adamant that the transition will happen – the key question is: how fast? Repercussions on the environment and on our societies are very different depending on the transition’s pace. Whether it is slow or fast, I remain confident that humanity and the planet will still exist in a few centuries – which would make me an “optimistic” compared to collapse theories! However, we are for sure entering into a more unstable environment, both climatically and geopolitically. The faster the transition towards sustainability will happen, the better. To do so, innovation and technology are humanity’s greatest assets.



INCONSPICUOUS CONSUMPTION, A NEW FORM OF SOCIAL DISTINCTION?

Article based on an interview with Dr. Elizabeth Currid-Halkett, written by Archipel&Co

Author, speaker, researcher, professor of Public Policy at the Price School, University of Southern California

NB : the content is the sole responsibility of Archipel&Co.



Author, speaker and researcher Elizabeth Currid-Halkett holds the James Irvine Chair in Urban and Regional Planning and is Professor of Public Policy at the Price School at the University of Southern California. A recipient of a 2023 Guggenheim Fellowship, she previously held the Kluge Chair in Modern Culture at the Library of Congress. Elizabeth's research focuses on the role of culture in society. She has studied the importance of the arts to urban economies, the American consumer economy and most recently the role of culture in geographic and class divides. Elizabeth is a member of the World Economic Forum's Expert Network and a former member of the WEF Global Future Councils and Industry Strategy Officers. She received her PhD from Columbia University.

Cultural capital plays a key role in defining and perpetuating class inequality in contemporary America. As demonstrated by Elizabeth Currid-Halkett in her work, the old leisure class has been replaced by a new elite, and conspicuous consumption is no longer the ultimate symbol of social distinction. Today, social distinction is achieved through immaterial investments in "small things": discreet, inconspicuous consumption, requiring a high amount of knowledge and education. Sustainable consumption, notably through food and clothing, is part of this new social distinction of the "aspirational class". To scale-up sustainable consumption, it is essential to make it more accessible to middle and lower-income groups.

The analysis of consumption is inseparable from a reflection on social class and distinction. Since the 19th century, numerous thinkers – historians, sociologists, and economists – have contemplated the evolution and reconfigurations of individuals' relationship with consumption, attempting to trace its underlying social motives. The desire for social distinction, analyzed for instance by sociologist Pierre Bourdieu (*La distinction*, 1963), materializes through a series of practices, behaviors, modes of being, and having, of which consumption is a key component. However, the links between consumption and distinction vary according to different eras and socio-cultural contexts. Moreover, as researcher Elizabeth Currid-Halkett demonstrates in her work, questioning the dominant norms of consumer society does not necessarily mean that the desire for distinction vanishes simultaneously. On the contrary, this questioning initiates a "reconfiguration" of social distinction, which manifests and is maintained through other means. Ultimately, deciphering the mechanisms of this phenomenon allows for a better understanding of the social and cultural drivers of sustainable consumption and the conditions for its continued development.

THE CONTEMPORARY FORMS OF SOCIAL DISTINCTION



Currid-Halkett's recent book "The Sum of Small Things: A Theory of the Aspirational Class"¹, based on work conducted in the United States using observations and data analysis from the Bureau of Labor Statistics, examines the new forms of social distinction and the consumption norms of the "aspirational class." The book focuses on the role of culture and knowledge within the contemporary American social elite.

1 Currid-Halkett, E. (2017). *The Sum of Small Things. A Theory of the Aspirational Class*, Oxford, Princeton University Press.



Over the past fifteen years, consumption and social distinction have changed dramatically. Historically, social status was derived through the consumption of certain kinds of material goods, as described by Thorstein Veblen (1857-1929) in his famous book “The Theory of the Leisure Class” (1899), where he highlights the social role played by conspicuous consumption. Unlike conventional conspicuous consumption, today’s elite, described as the “aspirational class” by Currid-Halkett, derives much of its status from “inconspicuous consumption”: expensive but largely intangible investments (“the sum of small things”).

An analysis of household budgets in the United States shows that, in relative terms, the wealthiest households are not the biggest spenders on material goods and have reduced their relative spend over time.

Conspicuous consumption to income ratio in 1996 and 2014 (selected items)²

	Overall		Clothing and accessories		Vehicles		TV and audio equipment	
	1996	2014	1996	2014	1996	2014	1996	2014
All households	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Top 1%	0.65	0.47	0.61	1.06	0.58	0.31	0.77	0.44
Top 5%	0.76	0.64	0.80	0.91	0.69	0.58	0.62	0.62
Top 10%	0.80	0.70	0.86	0.90	0.75	0.67	0.71	0.70
60th-89th percentile	0.99	1.03	0.97	0.97	0.98	1.04	1.01	0.95
40th-59th percentile	1.19	1.35	1.11	1.11	1.28	1.46	1.18	1.42
0-39th percentile	1.47	1.51	1.46	1.38	1.50	1.38	1.68	1.78

To understand this shift, one needs to look at the progressive democratization of material goods. Over the years, due to the rise of globalization and mass production, material goods have become cheaper and replicas or knockoffs of high-end goods more accessible. Fashion is a great example of this democratization. Manufacturers and retailers are able to reproduce and sell what they see on the fashion runways for a fraction of the price to consumers. You can get an imitation Louis Vuitton handbag, almost identical to the original, in local informal markets, at Zara, H&M or Forever 21, but at 2% of the cost. Another example is that the elite have reduced their use of plastic surgery, due to it becoming more widely accessible. Once something becomes commonplace, it loses its status as a differentiator.

The analysis of consumption is inseparable from a reflection on social class and distinction

As written by Dr. Elizabeth Currid-Halkett: “In *The Affluent Society*, J. K. Galbraith himself observed that because so many people could afford luxury expenditures, such goods were no longer a mark of distinction. In fact, the display of wealth was deemed “passé” to a point that conspicuous consumption was no longer associated with the very wealthy, but rather with everyone else. In *The Power Elite*, Galbraith’s contemporary C. Wright Mills observed that the absence of an American aristocracy means that possessors of money – “sheer, naked, vulgar” – were given entrance everywhere, thus forcing the truly elite to find more implicit marks of status than wealth and consumption habits.”³

The relationship between status and consumption has evolved substantially in recent times. Returning to fashion, over the last few years the concept of “quiet luxury” was developed to describe a tendency of the elite to set aside ostentatious brand displays, in favor of discreet and highly luxurious clothing. Increasingly, social distinction is also achieved through knowledge about wellness: what to eat, how to exercise, how to sleep, etc. All this falls into the category of “quiet luxury”. It is not associated with a brand name and is less obvious, but it requires a high degree of knowledge and cultural capital, largely restricted to certain social groups.

The upper classes are increasingly differentiating themselves through investment in cultural capital, education, health care, retirement and other “small things” rather than through conspicuous consumption. The rise of sustainability and environmental consciousness among the urban aspirational class in the United States (and other western countries) has contributed to reinforce this evolution. Caring about the environment and sustainability often translates directly into caring about one’s own wellness – what to buy, what to eat, how to consume, etc., ostensibly to do good for the planet but also to improve one’s health and general wellbeing. Making these “better choices” requires knowledge, and hence environmentalism provides a new form of social distinction. Oftentimes, these choices also have a price premium making

them less accessible to the general population and serving to reinforce the consumer’s social standing. One interesting example provided by cultural commentaries and media, as well as by Currid-Halkett⁴, has played out in American society. When one subscribes to the New Yorker they receive a free tote bag. To start with wearing the tote bag was

more than a fashion statement: it proved one’s belonging to the cultural elite, but then it became used to go to the grocery store, as a way for consumers to show they cared about limiting plastic bags. As a result, it has become a mark of social status, an identifying marker, and a sign of environmental consciousness. Shopping at local and organic shops, owning a Tesla, having a subscription to high-end literary and cultural affairs magazines: these are all status symbols which are “good” for the world and sustainable, too expensive for the middle-class, and that reflect well upon those who consume them.

² Bureau of Labor Statistics, figures presented in Currid-Halkett, E. *The Sum of Small Things. A Theory of the Aspirational Class*, op. cit, Chapter 2, “Conspicuous Consumption in the Twenty-First Century”, p.31 (e-book version). Comment: Low-income families spend 38% more than their income ratio would suggest, but 4 points less than they did in 1996.

³ Currid-Halkett, E. *The Sum of Small Things*, op. cit, Chapter 1, “The Twenty-first-Century “Leisure Class””, p.9 (e-book version).

⁴ During the interview realized with Archipel&Co.



Fashion and food are two sectors where these social reconfigurations are highly visible. Food culture has become a dominant sign of status. Going to certain restaurants, buying particular produce in grocery stores, adopting specific diets, caring about the origins of products and their modes of production; these behaviors are all signs of status. Political scientist Ronald Inglehart named this evolution “post-materialism”⁵: in times of relative peace and prosperity, many Western industrial societies worry less about war, about being drafted, and their basic material needs are satisfied. This leaves space to care about new needs and values, such as environmentalism, and allows for an individualistic “wellness culture” to rise. This evolution can be witnessed in many western countries, regardless of their cultural specificities. For example, analysis of the American “aspirational class” could equally be applied to the so-called “bobos” in France.

The practice of inconspicuous consumption does not necessarily mean that the desire to consume has been overridden in the elite, only how this desire is manifested. Many of the elite or the rising middle class, in both emerging and developed countries, still desire to consume goods traditionally, to buy cars, luxury handbags, go on expensive holidays, etc. However, behaviors are slowly evolving. The challenge is to make sustainable ways of consuming more attractive, desirable, and accessible to more people. This would support the move from caring about the environment, or being afraid of climate change, to actively adopting new behaviors.



⁵ The sociological theory of postmaterialism was developed in the 1970s by Ronald Inglehart in his book *The Silent Revolution* (1977). It describes the transformation of individual values from materialist, physical and economic needs to new individual values of autonomy and self-expression.



INCONSPICUOUS CONSUMPTION, A NEW SOCIAL NORM?

The consumption norms of the aspirational class carry an implicit moral judgment. Sustainable consumption is not only seen as better for the environment or for one's health, but also viewed as “morally higher”. There is a form of inherent pressure in these norms, both subtle and direct, to influence people to adopt certain practices and behaviors. It can manifest through seemingly naïve or insignificant questions, for instance regarding parental choices for one's children's nutrition and education, such as: “Did you breastfeed your child?”, “Are your children eating organic veggies?”, etc. The underlying implication being that if you have not made certain choices then you are a bad parent.

These remarks also imply that it is only a matter of choice to adopt these behaviors and consumption patterns. Choice in this regard is illusory as few middle-class individuals – let alone in lower income groups – can afford such consumption habits, as they lack time, money and sometimes the awareness of the choices available. The additional time and money required to invest in “inconspicuous consumption” habits puts them largely out of reach of most people.

GOING BEYOND THE ‘RURAL vs URBAN’ DIVIDE

Unraveling differences between rural and urban populations is essential to understand social dynamics. In *The Sum of small things*, Currid-Halkett analyzed the consumption



and lifestyles of members of the “aspirational” class, which are traditionally anchored in urban centers. However, the pandemic has changed some of the spatial equation. Many households moved out of cities, and have not returned, opting to remain outside of cities or to split their time when possible, taking advantage of the persistence of remote work beyond the pandemic. In parts of rural America this has had a direct impact on housing prices and costs of living. Nevertheless, the pull of city life remains a huge drawcard for many people, particularly wealthier segments of society.

It is also important to challenge the traditional opposition between cities and rural areas. In her most recent book, *The Overlooked Americans*⁶, Currid-Halkett demonstrates that rural and urban Americans, contrary to what we are led to believe by the media and politicians, share core values, from opposing racism and upholding environmentalism to believing in democracy. What differs is how these values are expressed. In cities, people tend to want to broadcast their environmental commitment, their social consciousness, and their views on politics or social justice. It is important for them to have a sign in the front yard, a bumper sticker, or to wear organic clothes. Many people in rural areas share the same environmental consciousness, but don't display it as much, or in the same way. Their sustainable practices are also different. For instance, they compost, they live off the land, they are active recyclers. However, these practices are not seen as a form of status or cultural capital as they might be in the city. It is just their way of life, and it is inherently sustainable in many ways. Status is contextual, it depends on where people live and how they interact.

Over the last few years the concept of “quiet luxury” was developed to describe a tendency of the elite to set aside ostentatious brand displays, in favor of discreet and highly luxurious clothing. Increasingly, social distinction is also achieved through knowledge about wellness

health- and food-related consumption habits as sustainable consumption is seen as providing direct positive individual impacts (notably regarding health). For this reason, it is unlikely to be abandoned by the cultural elite, although it will likely evolve to maintain some form of differentiation from more commonly available products.

For meaningful progress to be made towards environmental and sustainability goals it is necessary to increase access to sustainable goods, such as organic food and electric cars, and not limit them to the aspirational class. For this democratization to happen, it is important to bear in mind the role of public and private actors. Whilst individual actions to shift consumption behaviors are necessary to achieve positive change, it requires large scale systemic solutions to meet the ambitious climate goals facing the world. For sustainability to scale and to tackle the fundamental drivers of climate change, challenges should be tackled at the national level, by both public and private actors. How do we change our ways of producing? Of moving? Of recycling goods? These questions require large investment to find solutions combined with smart regulation to implement the solutions at scale and pace. For instance, subsidization of organic agriculture to support farmers' transition, as well as awareness-raising on the benefits of plant-based food. Whilst the aspirational class has set the trend, its time now to focus on making that trend available to everyone, through awareness building and supporting behavior change across the value chain from producers to consumers and each step in between.

CAN “INCONSPICUOUS CONSUMPTION” DRIVE THE SUSTAINABILITY AGENDA?

Whilst “inconspicuous consumption” is the purview of the elite it does not mean, however, that sustainable consumption cannot be democratized. As with material signifiers of wealth, improved means of production will bring down overall costs and enable increased volumes ultimately increasing accessibility for people at a lower price point. Organic food, which not long ago was only accessible through niche retailers, is now available in most western supermarkets. Whilst conventional agriculture remains the primary means of production, new models of food production are being developed and increasing their scale. Contrary to other previous forms of wealth signifiers, democratization is unlikely to devalue the status of



⁶ *The Overlooked Americans. The resilience of our rural towns and what it means for our country*, Basic Books, (2023).



THE ERA OF COMFORT, A THREAT TO SUFFICIENCY?

Stefano Boni

Anthropologist, University of Modena and Reggio Emilia



Stefano Boni is an Italian anthropologist, Associate Professor of Anthropology at the University of Modena and Reggio Emilia, in the Department of Language and Cultural Sciences. He notably works on power and its adaptation in institutions, questioning its links to hyper-technology, social movements, and mobilizations from below. His research journey began with research on a traditional kingdom in West Africa, followed by a study of consensus-building in socialist Venezuela. He graduated from the University of Siena and Oxford University, where he received his PhD at the Institute of Social and Cultural Anthropology, in 1999, under the direction of Paul Dresch. He notably published *Cultures and Powers* (*Culture et Poteri*, in Italian, 2011) as well as *Homo Comfort* (2014), questioning comfort from a phenomenological anthropology perspective, which was translated into French (*Homo Comfort*, 2022).

Comfort is an essential part of contemporary life. Born in the 19th century, comfort is now omnipresent in every sphere of our existence, and tends to drastically diminish our sensory experience. This reduction in our sensory experience has numerous consequences for our individual lives, our health, our relationship with nature and the environment, according to the author, – insofar as it stems from an industrial model with harmful consequences (pollution, global warming...). Re-evaluating our relationship with technology and comfort in the light of our real needs, on a community scale, and reinvesting in artisanal techniques, can be levers of emancipation according to the author.

In your book *Homo Comfort*¹ (2014), you write that “comfort is the dominant experiential dimension which has accompanied the rise of contemporary humanity”. Could you elaborate on this diagnosis?

Stefano Boni: To comprehend the ascendance of what I have termed "Homo Comfort," it is imperative to elucidate the essence of this concept and differentiate it from other closely related notions.

Comfort constitutes the experiential facet of our senses when they cease to be engaged in intricate, capricious, and taxing stimuli. Indeed, our interactions with the environment have become less intricate because we predominantly engage with objects and materials that transcend the unpredictability of the natural world. Our focus primarily gravitates toward activating our auditory and visual senses. Comfort acts as a shield, insulating our senses and bodily perception from the natural environment. While it does yield pleasurable effects, it is essential to contemplate its imperfections.

Well-being, on the other hand, diverges significantly: it signifies a state of equilibrium and harmony among our physical, emotional, and mental dimensions. It is not intrinsically linked to comfort. One may experience considerable comfort without experiencing well-being. If comfort were synonymous with well-being, it would be challenging to explain the widespread use of psychoactive drugs, such as antidepressants. Conversely, excessive comfort hampers well-being as it eliminates the challenges posed by stimulating interactions with the natural world.

¹ Boni, S. (2014). *Homo comfort. Le superamento tecnologico della fatica e le sue conseguenze*. Elèuthera. (2016), *Technologically-propelled comfort. Some theoretical implications of the contemporary overcoming of fatigue*, Antropologia.



Quality of life is synonymous with the services and daily routines that facilitate the attainment of well-being, such as leading a stress-free life enriched by beauty and the organic elements of nature.

Analyzing the evolution of our senses across historical, geographical, and cultural contexts, it becomes evident that comfort has steadily increased and proliferated across various strata of society since the 19th century, particularly in developed nations.

From a sensory perspective, this entails that our senses are progressively underutilized in interacting with the natural environment (rocks, trees, grass, earth, water...) and are instead becoming increasingly relaxed and disengaged. Interactions with the challenging and unpredictable aspects of our natural environment are becoming less integral to our daily experiences. This transformation underscores comfort as the predominant experiential dimension of contemporary humanity, though it is noteworthy that not all individuals within contemporary society experience the same degree of comfort.

An intriguing development is that comfort, which initially pertained to the simplification of material aspects (cleanliness, food preservation, heating, transportation, etc.), has extended its reach to other aspects of our lives, such as relationships and information. Information is now comfortably accessible, perpetually at our disposal. Online relationships are also becoming progressively comfortable, although it appears that this process has resulted in loneliness, disengagement from long-term commitments, and superficial consumption of others' presence. It can be argued that the ease of accessing information and forming and dissolving relationships has generated negative consequences, such as the proliferation of social networks or virtual love stories that lack face-to-face interaction.

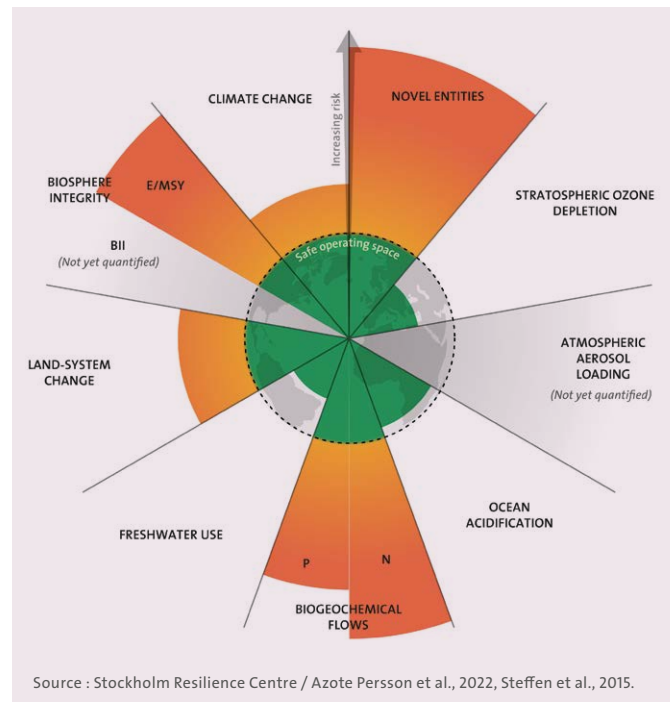
Indeed, comfort yields detrimental consequences in at least three distinct spheres:

- **Individual Health:** Comfort tends to alienate us from our natural physiological environment, rendering us more susceptible to harm. Some analyses suggest that our proclivity for excessive cleanliness contributes to the rise of autoimmune diseases. When we isolate our bodies and senses, they become less adept at recognizing and combatting invading pathogens, hindering the activation of our immune systems.
- **Autonomy:** In the past, many human cultures sustained themselves through social and communal networks, within defined territories, by passing down skills that allowed individuals to produce their necessities for living. This is no longer the prevailing paradigm; we have become reliant on external expertise and actors to fulfill our needs, making self-sufficiency a challenging goal to attain. From economic and ecological standpoints, individuals pay for increasing comfort by relinquishing autonomy and self-determination. Philosopher and advocate of degrowth, Serge Latouche,

Comfort acts as a shield, insulating our senses and bodily perception from the natural environment

aptly encapsulates this evolution by describing how "the useful becomes the ultimate criterion of the good, and the useful is perceived as material 'improvement.' We progressively transition from happiness to well-being, and from well-being to well-having"²

- **Our Environment:** Lastly, considering that comfort is intricately woven into the major industrial transformations of the past century, it exerts adverse effects on our environment, including pollution and the accumulation of toxic materials.



Paradoxically, despite the ubiquity of "green" initiatives in our society, our way of life has never been more disconnected from nature itself. Upon closer examination, our interactions and understanding of the fauna and flora in our vicinity are exceedingly limited. Instead, we tend to distance ourselves and employ screens (air conditioning, plastic gloves, etc.) as barriers from the natural elements and processes. For example, we willfully ignore and forget the conditions under which the animals we consume meet their demise.

Another salient point to bear in mind is that comfort enjoys a high degree of consensus: it is challenging to envision any political party or figure, regardless of their stance, openly criticizing comfort.

² Original quote in French : « L'utile devient le critère par excellence du bon, et l'utile est conçu comme « l'amélioration » matérielle. On glisse successivement du bonheur au bien-être, et du bien-être au bien-avoir. », in Latouche, S. (1995), *La mégamachine. Raison technoscientifique, raison économique et mythe du progrès* [The megamachine. Technoscientific reason, economic reason and the myth of progress], La Découverte, p.173.



Would there be a distinction to make between essential and non-essential needs for comfort?

S.B.: As an anthropologist, I believe that all requirements are shaped by cultural contexts. The assertion of the "original affluent society," as proposed in a paper authored by anthropologist Marshall Sahlins, stands that the existence of hunter-gatherer communities can be interpreted as encompassing a sufficient degree of material comfort and security to be deemed "prosperous." Residing within a culture characterized by limited desires, Sahlins contended that hunter-gatherers were capable of leading an "affluent" life through the relatively straightforward fulfillment of their material necessities. Reflecting upon more recent times, our perception of what constitutes a "necessity" in terms of comfort and technological support, to cite just one example, has undergone an extraordinary transformation over the past decade. Smartphones have transitioned from being a superfluous and flexible gadget to one of our utmost indispensable requirements in the present day.

Nevertheless, needs encompass more than just material aspects. As humans, we require social interactions, emotional experiences, a sense of belonging and purpose, challenges, unpredictability, and physical demands, to name but a few. These needs have, in my view, been partially eroded by the rationality of modernity, and we ought to redirect our focus towards them. Material needs can, in my perspective, serve as a diversion when compared to the more foundational human necessities such as relationships, emotions, and spirituality.

How do you view the idea of sufficiency considering these remarks?

S.B.: I believe the concept of sufficiency holds relevance when addressing contemporary challenges, as it entails both personal and collective awareness regarding patterns of consumption, prompting a critical examination thereof.

While opposing narratives continue to exert dominance, there is an observable shift in mindsets, with individuals beginning to recognize the shortcomings inherent in incessant economic and technological accelerations. A segment of humanity is of the opinion that we are, to some extent, on a trajectory toward a form of "collapse", which stands in stark contrast to the idea of sufficiency, and I tend to concur with this perspective.

I posit that a potential avenue for solutions lies in the refocusing on our communal needs and the rediscovery of simple artisanal skills and practices. Examples include crafting wooden furniture, cultivating family and neighborhood gardens, or promoting decentralized bread production. Such small-scale initiatives can instill within us a sense of agency and capability, countering the feeling of helplessness. The profound sense of meaning, purpose, and fulfillment derived from witnessing the direct results of one's actions is immensely potent. In a way, this stands in stark contrast to the sentiments expressed by David Graeber (1961-2020) in his renowned work on "Bullshit Jobs" (2018). An intriguing trend is emerging, where in several European countries, well-educated young individuals are choosing to pursue careers in farming. Similarly, engaging in activities like long-distance walking or bicycling can reconnect us with nature and yield spontaneous and gratifying effects. The challenge lies in transforming these isolated behaviors into societal norms.

Despite the ubiquity of "green" initiatives in our society, our way of life has never been more disconnected from nature itself

Sufficiency serves as a criterion to guide us in determining which technologies are genuinely essential. As previously mentioned, I hold that a pivotal dimension involves shifting our perspective from global corporate entities to decentralized production. Simple technologies tailored to the needs of local communities can prove more beneficial than large-scale industrial counterparts when prioritizing sufficiency and ecological stability.

Global awareness regarding sufficiency and the imperative to restrict excessive consumption remains relatively limited, although there are promising emerging trends. We find ourselves at a crossroads, where we must decide whether to continue down a path that risks dehumanizing humanity, eroding its autonomy, sensorial richness, and self-determination. Developed societies, logically, should be the first to relinquish what is often referred to as the "western way of life," characterized by an excessive pursuit of comfort when compared to developing nations. Without introspection and transformation of our production and consumption models, we are ill-positioned to offer lessons on sufficiency and the reduction of needs to countries in Africa or Asia. This is particularly crucial, considering that the universal adoption of our lifestyle could precipitate an environmental catastrophe.

As previously mentioned, we stand at a pivotal juncture, and it remains within our capacity to reverse prevailing trends and take meaningful action. In this regard, I hold the belief that social movements and heightened awareness stemming from individuals can exert more potent influence than top-down approaches. The ongoing climate crisis underscores the limitations of state-led transitions.



Does anthropology have a specific view to bring to current debates on transition?

S.B.: I believe that it indeed does, as anthropology fundamentally serves as a discipline that engenders a sense of potentiality.

The primary endeavor of anthropology is to comprehend and portray the diversity of human forms and experiences, all of which are subject to transformation over time. In numerous cultures, their unique way of existence is perceived as the optimal mode of living. Anthropology, in contrast, adopts an inverted perspective, scrutinizing how various historical, cultural, geographical, and contextual factors contribute to diverse human configurations. Much like other social science disciplines, anthropology elucidates the possibility of change. Furthermore, in conjunction with anthropology, phenomenological approaches and studies focused on the evolution of our physical senses play a pivotal role in unraveling concepts such as comfort and deciphering the ramifications of our modernity.

*Sufficiency serves
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This process of "de-naturalization" of our current way of life is more imperative now than ever before. Our manner of living is by no means immutable, and we have the potential, and perhaps even the obligation, to draw inspiration from other human cultures that prioritize sufficiency and embrace a simpler material existence. For instance, what is commonly referred to as "indigenous people" are frequently lauded for their pioneering efforts in the preservation of nature and biodiversity, even acknowledged by international organizations such as the United Nations. However, the territories they have been permitted to inhabit have been steadily diminishing for centuries, and this trend persists. This sense of possibility is of paramount importance, serving as an indispensable prerequisite. Fostering an appreciation for sufficiency could offer a path

to dispel the notion that the present world represents the pinnacle of human existence.



ECOLOGICAL REDIRECTION AND INTENSIVE SUFFICIENCY: which forms of coexistence should we embrace?

Nathan Ben Kemoun
Doctor in Management Sciences
and teacher and researcher
at ESC Clermont Business School

Pauline Vigey
Trained economist who studied
at CERDI (research center
on international development)
and Clermont Auvergne University



Nathan Ben Kemoun is a doctor in Management Sciences and a teacher and researcher at ESC Clermont Business School. His publications examine the conditions for possible policies of sufficiency that respect planetary boundaries. He is a member of research laboratory Origens Media Lab, CleRMA and MOST – Critical Management Studies.

Pauline Vigey is a trained economist who studied at CERDI (research center on international development) and Clermont Auvergne University. She has spent close to 10 years working with Que Fleurisse Ton Œil, exploring the themes of production and mediation in art.

Sufficiency is a feature of most scenarios put forward by energy management bodies in France and would appear essential to us all, in terms of both production and consumption. The concept of sufficiency is applied in countless fields, from architecture to digital to textiles and fashion. Nonetheless, it struggles to make the possible transformations of our environments and lifestyles tangible. In this paper, the authors propose two possible complementary ways to envision sufficiency: in an extensive form, via the adjustments and renunciations it requires, and an intensive form, via the multiplication of activities linked to infrastructures that are less environmentally burdensome, or not as numerous. Within this new framework, a distinction is no longer made between moderation and excess at the individual level, but instead involves identifying the substitution of existing attachments or their displacement to sustainable lifestyles and learning environments by means of surveys and democratic protocols. We use the term intensive sufficiency to describe this perspective for practical thinking. In contrast to the principle of voluntary restraint, or to climate emergency responses that are strictly technological, including eco-technological, this perspective paves the way to activities and forms of existence and coexistence likely to reconcile a smaller environmental footprint with existential and social benefits to be redefined and fostered.

Where it concerns lifestyles and individual consumption, sufficiency has often been described as individual and collective efforts in favor of self-limitation and reduction, such as heating your apartment in winter at 18°C rather than 20°C.

We consider this media-led definition of sufficiency to present two major limits: firstly, the focus on the domestic space, without consideration for the leisure activities, events and practices that people engage in outside their homes (free time that amounts to an average of five hours per day per person according to INSEE, the French national statistics bureau); and secondly, because of the emphasis placed on personal reduction efforts, ignoring our need to make our lives more wide-ranging, freer, and more meaningful.

In the words of philosopher Michaël Foessel, “calls for collective salvation via individual sufficiency render politics subordinate to morality [...]. Apologies for healthy living, an obsession with hygiene, and the hypertrophy of the concept of ‘safety’ became the shared spaces of public morality well before head-spinning rises in temperatures and mass extinctions of species reminded humanity of its base turpitudes. To live in a “sober” way, for instance without excessive use of tobacco or alcohol, was the watchword of paternalistic capitalism, the same hegemonic system in place since the dawn of the industrial age, has contributed hugely to the destruction of the ecosystems compatible with human life [...]. Given this context, is it incumbent on us to become sufficient? Maybe it is, at least if sufficiency is practiced with immoderation and not as yet another variant of the ascetic ideal.”¹

¹ See Foessel, M. (2022). *Eloge de la démesure [In praise of excess]*, in *Philosophie magazine*, <https://www.philomag.com/articles/michael-foessel-elogue-de-la-demesure>.



We feel that practicing sufficiency immoderately, as envisioned by Michaël Foessel in this extract, could be a path to other strategic approaches, fine-tuned to reflect the far-reaching changes to the climate and human societies. But it remains important to identify what form of immoderation to seek, its material foundations, and the lifestyles it concerns. Which spaces of immoderation should be defended or amplified against a background of depletion of energy and material resources, geological changes, and the widespread deterioration of living environments? It is in this sense that the concept of the Anthropocene, introduced in 2000 by atmospheric chemist Paul Crutzen, refers both to a new geological era and an existential and political expanse.²

With the acceleration of the climate emergency and the now tangible threat of a “crumbling of the world, a world made of pieces and, sometimes, in pieces,” that is no longer “complete, interconnected, ontologically whole, continuous and, therefore, accessible in all its fullness,”³ the problem of lifestyles is not only a question morals, asceticism or personal ethics, but a political expanse that impacts the worlds, facilities, and personal or collective experiences they shape or weaken.

More than a generic incitement to moderate our behavior, the politicization of sufficiency is also in part a call for reinvention, as much economic as material and social, of the ways we use the world.

In this sense the question is almost ingenuous: how can we foster the emergence of new relationships and invent new regimes of coexistence with the world’s material entities as well as for human beings with each other?

TOWARDS INTENSIVE SUFFICIENCY

Alongside approaches inspired by extensive sufficiency aiming for arbitration and, in some cases, the complete renouncement of certain activities or uses, collective conditions for fulfillment, learning and freedom could be defined, set in place and financed with the idea of seeking intensive sufficiency, as a complementary mirror image of the general economy of sufficiency.

Inspired in part by the work of Brazilian ethnologist Eduardo Viveiros de Castro, the concept of intensive sufficiency describes the acquisition and intensification of actions that can be endlessly undertaken with facilities that require very little energy.⁴ Amateur musical practices, where musical instruments age to the rhythm of musicians’ sound experiments, are a good example. Another is the ensemble of practices that call on our faculties and where we forge accomplishments, promises of the act of establishment that illustrate “the ways we have of endowing our own presence with a certain quality.”⁵

More than a generic incitement to moderate our behavior, the politicization of sufficiency is also in part a call for reinvention, as much economic as material and social, of the ways we use the world

Reappraising actions could then amplify the attention paid to the quality of the transformations they promote. As philosopher David Lapoujade remarks: “Being are not closed off, retreating into an inaccessible inner self, but are constantly opened up by the perspectives they create. [...] It is not about being such and such a thing, but about conquering new ways of being, like myriad dimensions of the self.”⁶

THE CONDITIONS OF INTENSIVE SUFFICIENCY

Consequently, the concept of intensive sufficiency also sets out the political conditions required for the establishment of shared worlds – places, forms of existence and coexistence – within which the acts of each person can participate in the emergence of a reality that is more animated or meaningful for others.

For instance, in response to philosopher Tristan Garcia, researchers Pauline Hachette and Romain Huët ask the following question: “When we refer to intensity, it may involve a quest to intensify life wherein an individual, in their ordinary life, could seek a way of experiencing the affective quality of their actions. [...] In short, how do we invest ourselves in

daily life? Does it offer us the opportunity to experience the quality of our being or are we condemned to remain totally out of touch with ourselves, or even mired in alienation toward what we are ‘meant’ to do? Could it also be the idea behind ‘intensity’, the search for an expressive life adjoining other lives? On the one hand, then, is a form of intensity attainable by going, for example, to an amusement park. And on the other hand is a quest for intensification rooted less in something ephemeral and more in a relationship to consistency: the consistency of the relationship to our daily actions or the moments we are in the processing of constructing.”⁷

The Anthropocene is questioning, on an unprecedented scale, the value we place on our life experiences and the technical mechanisms they depend on. Shifting our view of infrastructures as a whole as self-evident, active entities, ostentatious and fully sustainable, would also make it possible to subject this framework to new assessments, new approaches to discernment and orientation.

For example, the research program Ecological Redirection of Sports Facilities⁸ run by Origens Media Lab questions municipalities and elected representatives who do not always know what to do with the numerous, complex and fragile infrastructures which have sometimes become too costly in terms of fluids (gas, heating, electricity, water, etc.) as well as repair and maintenance, if not renovation, in a geological and political context marked by periods of major water stress and a substantial rise in the cost of the energy needed to keep all these facilities up and running.

2 The scientific validity of the Anthropocene era has been questioned. In March 2024, a commission of the International Union of Geological Sciences rejected the geological validity of the period.

3 Landivar, D. & Monnin, A., (2022). *La dignité de l’objet face à l’arrêt du monde. Entre décloison et forclusion, instauration et destitution* [The dignity of the object when the world comes to a standstill. Between decloison and foreclusion, instauration and destitution], in: Haeringer Anne-Sophie & Tornatore Jean-Louis (dirs), *Héritage et anthropocène. En finir avec le patrimoine* [Heritage and Anthropocene. Doing away with heritage], chap. 6 p. 167-176, Éditions L’Arbre Bleu.

4 Monnin A., Ben Kemoun N., (2022). *La sobriété comme suffisance intensive. L’exemple de la musique* [Frugality as intensive sufficiency. The example of music] in: *La musique en mouvements* [Music in movements], Centre National de la Musique.

5 Macé, M. (2011). *Façons de lire, manières d’être*, Paris, Gallimard, NRF Essais, p.207. Macé, M., & Jones, M. (2013). *Ways of Reading, Modes of Being*. New Literary History, 44(2), 213–229.

6 Lapoujade, D. 2017. *Les existences moindres* [Lesser existences], Paris, Éditions de Minuit, pp.45-49.

7 Garcia, T., Hachette, P., and Huët, R. (2021). Produire des subjectivités résistantes [Producing resistant subjectivities], in *Socio-anthropologie* [online], 44 | online since November 30, 2021. URL: <http://journals.openedition.org/socio-anthropologie/10955>.

8 Research program La redirection écologique des équipements sportifs [Ecological Redirection of Sports Facilities], Origens Media Lab (2019-2023). See: <https://origensmedialab.org/closing-worlds>.





The survey protocol used in the study is designed in particular to question people's attachment to these infrastructures: "Who are the people attached to and dependent on these facilities? For what reasons? Which values do they associate with the swimming pool? And what form does their dependency take? Are the attachments linked to the infrastructure itself or its attributes?"

If the attachment is to its attributes, how can they be maintained while abandoning the infrastructure in question?"⁹

According to anthropologist Diego Landivar, "the political moment of the Anthropocene is seen in play precisely in these micro-cases, these insignificant projects that straddle the line between biosphere and technosphere." In response to these cases that are currently multiplying, we could come up with, among other solutions, new democratic inquiry and arbitration bodies in charge of "determining which activities, facilities, sacrosanct technical systems (should be retained and sustained) and which should not. But, above all, which attachments should be protected or reallocated in order to also make sacrosanct the support for actors affected by the process of closure."¹⁰

SUPPORTING PRACTICES BOTH SUFFICIENT AND INTENSE

Supporting certain practices takes on even more important role once certain activities, mechanisms or implementation methods are abandoned in favor of other realities. The Anthropocene obliges us to think about what we value as much as about what we could renounce.

According to Vincent Rigoulet and Alexandra Bidet, one approach could be to support "activities that have a minimal negative effect on the biosphere, and maximum positive internal effects on/within each human being and the group they form with their fellow humans (...). Because disaffection and the necessary abandonment of objects and activities we are still attached to can only succeed in the long term when accompanied by a process of substitution, if the activities that are harmful for humans and other living creatures are replaced by different activities, ongoing sources of even greater fulfilment."¹¹

The digitalization of the world and acceleration of how time is used have impoverished the status, importance, sharing of and access to numerous practices which have low environmental impact and strong potential for achievement.¹² This regrettable diminishment is also an endless source of realities, plans and prospects to be unpacked. Fostering a form of "ontological pluralism", as advocated by a large section of contemporary social sciences, could then consist of amplifying, funding or prioritizing the democratization of these learnings, which constitute experiences where know-how, social skills, aptitudes and sensibilities come into play, to be experienced and cultivated.

RETHINKING OUR RELATIONSHIPS TO OTHERS

The climate emergency we are tackling accentuates the question of the relational arrangements we rely on to make us capable of resisting the absence of horizon – social, existential and political – and of creating new centers of invention, not only in heterotopias, alternative universes or new communities, but embedded in qualitatively different living practices, including in highly urbanized spaces that do not correspond to the usual perception of ecological lifestyles.

The concept of intensive sufficiency describes the acquisition and intensification of actions that can be endlessly undertaken with facilities that require very little energy

Asking ourselves "what forms of coexistence should we invent, support and ramp up now" would serve to highlight the ties between types of life, claims to life and justifications for existence. As illustrated by numerous studies, interpersonal relationships can foster the desire to learn, to live life at more substantive levels of being. Certain relational arrangements encourage the construction of an ethic: forms of relationship to the self which would be more difficult or hesitant without

them. These relationships are likely to bring more reality, weight or value to the various ways we experience the world. Friendship, an experience of love or voluntary work, and participation in a collective engaged with investigation or creation are in this category when they operate at high levels of affective, ontological or political existence. They are sometimes similar to "epistemic societies", which generate knowledge and prepare the future, and where alternative versions of ourselves and other lifestyles are tested out.

⁹ Landivar, D. (2022). How to Close a Modern Parenthesis: the Case of Swimming Pools. *Multitudes*, 89, 200-203. https://www.cairn-int.info/article.php?ID_ARTICLE=E_MULT_089_0200.

¹⁰ Idem.

¹¹ Rigoulet, V. and Bidet, A. (2023). *Vivre sans produire. L'insoutenable légèreté des penseurs du vivant [Living without producing. The unbearable lightness of life's thinkers]*. Éditions du Croquant, p.124-125..

¹² Ben Kemoun, N. (2022). *La dépossession matérielle comme espace de convalescence [Voluntary dispossession as a recovery time]*. Doctoral thesis. Université Paris-Dauphine. <https://www.theses.fr/2022UPSLD026>.



PROMOTING COLLECTIVE EXPERIMENTATION PLACES

When we think about it, many places and mechanisms which do not require much in the way of energy and materials already take part in a sustainable intensification of the ways we use the world.

For instance, a number of art centers, writing, music and drawing workshops, cafés and non-profits, medical establishments and hospitality venues serve as places where people can gather to boost or shift the practice, knowledge and creations they support and socialize.

As French poet Jean-Pierre Rosnay suggests, going to listen or recite poetry in a café open to this agenda is not about promoting an established and unbending idea of poetry but quite the opposite: bringing “contagious and inevitable”¹³ words to life, as he describes it, and giving a bigger stage to all the poems and authors who thus benefit from greater presence, reach and status in terms of social reality, learning to “contend with the non-individual there is inside us, with the community that passes through us, shapes us and binds us,”¹⁴ “language that emerges counter to the development of ‘ghostly relations between people’ and the kind of life (rooted in individuality, in community) that opens up with them.”¹⁵

In reality there exists a broad variety of ways to bring these forms to life, to promote their existence, to make them more real by socializing them. When they necessitate moderate dependency and lasting infrastructure, they are, in particular, opportunities for an encounter between creations, practices and lifestyles that we could foster.

Moreover, most places dedicated to these types of encounters in France cannot avoid the disorientation introduced by the climate emergency. Entire swathes of these worlds and their activities appear to be both permeated by this question and at the heart of forms of coexistence that foreshadow alternative conceptions of the future and different possible ways of living life.

In the context we have described, we could reflect on mechanisms, particularly economic, for developing places experimenting with forms of coexistence that are more open and intensive, less dependent on resources and materials. In practical terms, the Anthropocene implies new distribution mechanisms for strategic, organizational and political alignments better suited to the coming age.

Questions exploring the future of art are emblematic of this need. As the survey we launched in early February 2022¹⁶ suggests, certain spaces and art centers appear to herald the social relations we need to cultivate within and without these places.

Some of these places occasionally find themselves on the front line of changes affecting ways of living, artistic practices, and the various activities and professions underpinning their existence.

Other ways of living and collaborating could be pinpointed and tested out based on these situations if we learn to consider these places, the people who work there and the people who depend on them as ideal allies on the journey into the unknown.

The exploration and discussion of new ways to use the world – leisure activities, free time and ways of creating – could take lasting forms of sociability capable of rooting us indefinitely in modest and sufficient material foundations and transform them into actions. The success of these adjustments would depend on the extent of their openness, inclusivity, reciprocity and social justice.

CONCLUSION

As a general rule, extensive and intensive sufficiency cannot be imposed but require thoughtfully designed surveys, democratic protocols and joint choices concerning renunciation and amplification. As Alexandre Monnin and Diego Landivar note, “the inconstructibility of the world is not a given, but takes shape in all the diplomatic chinks between different versions of the world.”¹⁷

In this article, we wanted to demonstrate that a general economy of sufficiency could combine *extensive* choices (implying protocols for renouncement, abandoning certain projects, certain agendas and certain ways of envisaging the future) with *intensive* choices seeking to guide the public and their attachments toward less numerous and lasting infrastructures; and could multiply learnings inhabited by affects, narratives and actions, “since a society of abundance is both within and without the bounds of necessity – sufficiency and extravagance reinforce each other.”¹⁸

The situation the planet, climate and society find themselves in today invites us to apply ourselves to the major questions of democracy, particularly the issues of organizational strategies and public policies.

Which worlds and which facilities should we maintain? Which experiences should we protect or even make sacrosanct? How do we go about restraining forms of dependency and the environmental pressures associated with them?

Equally, how do we promote the learnings, practices and actions likely to improve the existential quality of our relationship with the world, while reducing the use of energy and without introducing new forms of dependency? Which forms of coexistence should we look to for inspiration and how do we pay attention to the places where a lasting intensification of our participation in the world is protected and ventured?

Which places, which forms of relationship and which horizons should we opt for to ensure that sufficiency does not remain contingent on the pivotal and implicit parameter of political decisions that are heedless, cold and authoritarian, or exclusively technical and centered on engineering? How do we simultaneously develop practices, policies and an arbitration technique that apply to and multiply in a large number of territories?

In this uncertain, vulnerable and hesitant period, which relational arrangements should we introduce and which alliances should we cultivate to resist the dwindling of our realistic and sustainable potential for coexistence?

¹³ <http://jean-pierre-rosnay.org/>.

¹⁴ Macé, M. (2011). *Façons de lire, manières d'être*, Paris, Gallimard, NRF Essais, p.217. Macé, M., & Jones, M. (2013). *Ways of Reading, Modes of Being*. *New Literary History*, 44(2), 213–229.

¹⁵ Idem. p.244.

¹⁶ In partnership with art center 3bisF, research program *Art, soin, citoyenneté* [Art, Care, Citizenship].

¹⁷ Landivar, D. & Monnin, A., (2022). *La dignité de l'objet face à l'arrêt du monde. Entre décloison et forclusion, instauration et destitution* [The dignity of the object when the world comes to a standstill. Between decloison and foreclosure, instauration and destitution], in: Haeringer Anne-Sophie & Tornatore Jean-Louis (dirs), *Héritage et anthropocène. En finir avec le patrimoine* [Heritage and Anthropocene. Doing away with heritage], chap. 6 p. 167-176, Éditions L'Arbre Bleu.

¹⁸ Viveiros de Castro, E. 2019. *Politique des multiplicités. Pierre Clastres face à l'État* [Politics of Multiplicities: Pierre Clastres versus the State]. Éditions Dehors, p.84.



'ENOUGH' AS NEITHER MORE OR LESS, BUT BETTER!

Mary Lawhon
Senior Lecturer of Human
Geography at University
of Edinburgh

Tyler McCreary
Associate professor
in the Department of Geography
at Florida State University



Mary Lawhon is a Senior Lecturer of Human Geography at the University of Edinburgh. Her field of research comprises urban political ecology and theorizing from cities in the global South. She is a geographer and political ecologist with an empirical focus on urban environmental policies and processes on Sub-Saharan Africa. Mary is currently focusing on heterogeneous infrastructure configurations of waste and sanitation and on politics of work and distribution in the context of green transitions and high unemployment. Mary wrote *Making Urban Theory* in 2020 which addresses debates of the past fifty years regarding whether and why scholars should conceptualize southern cities as different and argues for the continued importance of unlearning existing theory.

Tyler McCreary is an Associate Professor in the Department of Geography at Florida State University. He is also affiliated to the Native American and Indigenous Studies Center, African American Studies Program, and Honors Program at FSU. His research examines how settler colonialism and racial capitalism inflect processes of environmental, labor, and community governance in North America. His research has analyzed themes such as how North American environmental governance processes relate to the historic marginalization of Indigenous and Black families living in towns and cities. His most recent book *Indigenous Legacies, Pipeline Viscosities: Colonial Extractivism and Wet'suwet'en Resistance* will be published in 2024 and shows how colonial governments and corporations seek to control Indigenous claims and how Wet'suwet'en resist.

The two authors cowrote a book called *Enough!* in 2023 claiming that our future is not about producing more neither living with less.

Thinking about 'enough' can help us structure our thoughts about sufficiency and sustainability. Authors offer several ways a word of enough can materialize. A Universal Basic Income can prove to be a solution to both crisis of unemployment and unsustainability. Consuming in a world of enough would be shifting from the quantity that we consume to the quality of life we experience. Those solutions would require changing the systems toward embedding markets and more diverse economies, allowing for new forms of organizations to appear.

INTRODUCTION

We live in a world caught between twinned narratives. One is that people are insatiable consumers, always wanting more. Capitalism and modernity presume that human history is a journey of continual progress, where we are always improving and heading 'forward' towards a higher quality of life with ever greater quantities of stuff. The other narrative is that of ecological limits. Here, the story is one of the failings and fall of humanity, as human action pushes up against, and at times beyond, the limits of a finite planet. This is a moral clarion that humans need to make sacrifices and consume less.

What if both of these narratives are wrong? What if the human drive to more is neither innate nor necessary to counter with moral prescriptions for less? What if thinking differently opened political and economic possibilities to build a world that was both improved and sustainable? What if we started with a society structured on sufficiency?

How might thinking about 'enough' change how we see and live in the world?

Enough is an amount or particular quantity, but its meaning is also qualitative. Invoking a classic children's tale, Goldilocks found one dish excessively hot and another too cold, but the middle ground was just right. Similarly, having enough food is better for us than consuming either excessive or inadequate amounts. Sufficiency is the sweet spot, better than the excess of more or the inadequacy of less.

Just saying 'we should aspire to enough' is a nice sentiment. But our world is built on narratives of more and less; the economic, political, and ecological systems we have tend to focus on and incentivize more and less. Trying to get beyond this binary is difficult, requiring a complex mix of broad ideas and concrete interventions to shift systems, thinking, and practise from the logic of more and less to that of sufficiency. Beginning to untangle this knot and tease out some key threads, we wrote a book, aptly titled *Enough!*¹

It is a big picture argument with a lot of pieces, to be sure! Certainly, we cannot cover every detail nor make our fullest case in this short piece. Instead, in this brief provocation, we hope to grab your attention and inspire you to think more about 'enough'.

¹ Lawhon, M. and McCreary, T. (2023). *Enough! A Modest Political Ecology for an Uncertain Future*. Agenda Publishing.





WORKING IN A WORLD OF ENOUGH

Work might seem like a strange place to start a conversation about sufficiency, but for ordinary people as well as public discourse about ‘the economy’, work is so very important. As long as livelihoods are tied to work, people need jobs to provide for themselves and their families. A lack of jobs is conventionally a crisis, personally, regionally, nationally, or globally. However, the abundance of work and productivity has also long been a problem for people interested in sustainability. Simply expressed, producing and consuming ever greater quantities of goods presents an ecological crisis.

Plus, the last few decades – and even the last few months with the arrival of new forms of AI – have made clear we have entered a new phase of the automation of work: the world simply does not need the labour of everyone to produce enough for everyone.

Without some creative thinking, this is a problem for everyone. It is obviously a problem for those without work. But it is also a problem for those with work: as radical inequality creates highly unstable societies, inequality is worse for everyone.²

Some have suggested the resolution is green jobs. They insist that a green transition will produce jobs, and there is truth to this. But the jobs associated with building things are necessarily always temporary. And sustainability

means both making fewer things, and producing things that will last longer. Thus, longer-term questions about sustainability remain unresolved.

But, perhaps, the seemingly separate looming crises of unemployment and unsustainability might be redressed, in part, through a common political solution.

Specifically, we suggest that a Universal Basic Income (UBI) may be key to addressing both. The idea of UBI is old, but it is taking on renewed urgency in light of concerns about automation and sustainability.

There are clear reasons to think UBI might help us address our quagmire. To be clear, this is not to say it *will*. Social scientists have time and again insisted that there is a politics to social and environmental change: political and economic structures organise how change unfolds and cultural narratives shape how we interpret change. Effective change requires altering structures and rewriting our stories. But this does not make change impossible; it means we have to think about what stories we tell.

UBI advocates have long argued that such income would create greater economic stability. It would help address the problem of surplus labour. Simply put, UBI would delink our livelihoods from paid work, and thereby resolve the issue that there are more workers than jobs.³

*We need to shift
the conversation from
the quantity that
we consume to the quality
of life that we experience*

² Pickett, K. and Wilkinson, R. (2010). *The spirit level: Why equality is better for everyone*. Penguin UK.

³ Stern, A. with Kravitz, L. (2016). *Raising the Floor – How a Universal Basic Income Can Renew our Economy and Rebuild the American Dream*, PublicAffairs, New York.

But why might a UBI help with sustainability?

We suggest two reasons it might. First, it could rupture dominant ideas about our personal responsibility to work hard. In a world that is stressful and uncertain, people are driven to work and to consume. Simply stated, when people work hard, they often are stressed! Consumption relieves some of this stress, albeit temporarily. Uncertainty is also very important here. It makes us more competitive with each other. When not everyone can succeed, it raises the stakes to be among those that do. Moreover, associating moral value with economic success means that those who fail deserve their fate. In a world of inequality, we want to be among those with more. Many people work far beyond what is needed to provide for themselves, to build savings and ward off future risks, as well as to achieve status and prove their moral worth.

Economic security – which could be provided through a genuine UBI – is key to reducing stress and uncertainty. The many ongoing UBI experiments show what a difference even a small, regular cash transfer makes for people.⁴ Providing a UBI is also a way of changing the moral story: it says that all people deserve a livelihood, even if they do not

work for an income.⁵ This does not write off the possibility that some people, and perhaps most, will work! UBI trials have indeed made the counterpoint, showing people get work skills and education with UBI. Having economic security actually enables people to be better prepared to do the work they want to do (whether the work is paid, or not).

*Thinking about sustainability
in more open-ended ways
means moving past
a story of sustainability
as sacrifice, towards thinking
sustainability as 'living better'*

The second reason why a UBI might support sustainability is that it enables us to build the economy differently. At present, the demand for jobs creates pressures for economic development, making it hard for governments and voters to say 'no' to any proposed project. Greater economic security for everyone would make it easier to say 'no' to unsustainable development.

It also makes it easier to invest in, and support, businesses that have a sustainable ethos.⁶ Again, ongoing UBI experiments here cannot be read as definitive, but already indicate that people spend money differently with small, regular cash transfers, than, for example, if their salaries were raised. Not all incomes – even incomes of the same amount – are spent the same.

⁴ Wilson, N. and McDavid, S. (2021). *The Mental Health Effects of a Universal Basic Income*. Glasgow: The Mental Health Foundation.

⁵ Hanlon, J., Barrientos, A. and Hulme, D. (2010). *Just Give Money to the Poor: The Development Revolution from the Global South*, Kumarian Press.

⁶ Lawhon, M. and McCreary, T. (2020). Beyond jobs vs environment: on the potential of universal basic income to reconfigure environmental politics. *Antipode* 52, no. 2: 452-474.



CONSUMING IN A WORLD OF ENOUGH

What would it mean to rethink 'limits' and abandon the idea that we should pursue sustainability by consuming less? Limits are, of course, shorthand in environmental thought for a wide set of ideas that pushed against the presumption of progress – the expectation that the world would always get better and that nature could always produce more. Many environmentalists have long insisted that the way to be sustainable is by living with less. Environmentalism has long been associated with a romanticization of low tech lives close to nature and a fundamental challenge to cultural narratives that technology needed to improve.

However, many environmentalists have also begun to realise that this vision of less has limited appeal. Further, thinking about sustainability in more open-ended ways meant moving past a story of sustainability as sacrifice, towards thinking sustainability could also mean 'living better'.⁷

This means asking what sustainability would *feel like* for most people. Here the point is not that technology will solve our problems and allow us to live the same way, only with electric cars and organic vegan burgers. The point is that a sustainable world will *feel* more safe, secure and materially comfortable than the world we have today. We need to shift the conversation from the quantity that we consume to the quality of life that we experience.

This narrative flips classic environmentalism on its head. Instead of making individual sacrifices, we can pursue sustainability by creating systems that enable us all to live well. For example, we know that *everyone* would be able to get around the city more quickly and efficiently if we had good mass transit; reducing traffic would increase average speeds, allowing people to move faster than cars do on clogged roads. It would also increase urban density by reducing the need for parking.

Environmental economists have repeatedly shown that a green transition makes economic sense. For instance, the costs of lead exposures to society are higher than the cost of removing lead from urban environments. Similarly, fossil fuels and climate crises do not come cheap. We collectively subsidise fossil fuels with billions of dollars a year, while trillions more are spent in disaster recoveries with intensifying storms, floods, and fires. This is money that could be used in all kinds of ways to fund cheaper, greener sources of energy.

For many of us, making changes like this would mean that we have fewer materials flowing in and out of our day to day lives. We would have fewer items which would last longer, we would share more and perhaps individually own less. These changes are big. But it matters, in terms of how we think about building sustainable futures, to grapple with both what we would lose – and crucially, shed light on the many, many things we would gain.

CHANGING THE SYSTEMS FOR A WORLD OF ENOUGH

The kinds of changes described above cannot be achieved through changes to individual consumption. Businesses can play a role, but there is a need to shift wider systems to enable pressures and outcomes to better match. Making these kinds of changes happen requires us to take a different approach to the economy, to focus on the question of distribution. Old distinctions that focus on capitalism, socialism, growth and inequality matter, but may be less important than whether everyone has enough. Again, this is not a moral call for us to be more virtuous and self-sacrificing. It is a call for us to follow our collective self-interest by changing systems to make it so that we, together, do the things that make the world better.

Some argue that enough for all might be best pursued through a big state that owns and distributes things; enough for all could be centrally provided. Yet the histories of big states give us reason to be cautious here.⁸ Instead, there is reason to consider *embedding* markets and creating *more diverse* economies, while also increasing redistribution through taxes, as a strategy to create enough for all. Diversity enables experimentation in ways that are difficult to achieve through centralised authorities. Rather than asking shareholders to value things other than profits, we need a system that re-embeds economic activities in social relationships. Companies need to be subject to social pressure and government regulation, and there needs to be greater possibilities for other kinds of enterprise, from co-operatives to small entrepreneurs. Redistribution of income allows people greater control over the economy. A UBI can be an important piece of the puzzle here, even if it, alone, will not directly create all of the desired changes.⁹

CONCLUSION

Words and narratives matter, and so do systems. The last forty years have shown us that sustainability requires more than tweaks to the world we have. Advances in recent years have also shown us that sustainability is not centrally about individual sacrifice, but about collective improvement. Sustainability is in line with some parts of our long history of a collective narrative of progress, but also a break in our understanding of what progress means and how it can be achieved. It means working together, but not necessarily centralising power and authority over the economy. It means redistribution and embedding the economy, creating systems that make it serve people, and enable a world of enough for all.

⁷ Schor, J. (2010). *Plentitude*.

⁸ Lawhon, M. and McCreary, T. (2023).

⁹ Lawhon, M. and McCreary, T. (2023). Making UBI radical: On the potential for a universal basic income to underwrite transformative and anti-kyriarchal change. *Economy and Society* 52, no. 2: 349-372.



3. SUFFICIENCY IN ACTION: VARIANTS, OPERATIONALIZATIONS, HYBRIDIZATIONS



*Sufficiency is often coupled with value-creation models,
inviting us to see sufficiency and performance as a complementary pairing rather
than mutually exclusive alternatives*

How is sufficiency to be implemented? Mirroring the concept's theoretical malleability, sufficiency-centric solutions are equally heterogeneous – in terms of goals as well as concrete operationalization mechanisms. Additionally, the solutions necessarily vary according to the actors and sectors concerned, with each facing certain specific issues and challenges.

Laurence Lehmann-Ortega analyzes the underpinnings of sustainable business models and variants of frugal approaches. These approaches can be seen as strategies involving a greater or less degree of renouncement, from energy efficiency solutions to circular economy and functional economy models and including models with a more explicit focus on renouncement. A key element in the different factors for the success of these approaches is the invention of new governance and value-sharing models, along with the juxtaposition, or hybridization, of different paradigms.

Analysis of solutions related to operational sufficiency highlights a more nuanced vision of the concept, indicating that in the real world it is often coupled with value-creation models, inviting us to see sufficiency/performance as a complementary pairing rather than mutually exclusive alternatives. The success story of the leboncoin online sales platform, described by **Amandine de Souza**, illustrates the relevance of an approach that does not explicitly invoke sufficiency, based on buying and selling of secondhand goods. These activities are driven by a range of diverse and ambivalent motivations that depend on the buyers' profiles: environmental awareness, limited spending power, desire to treat themselves, etc. As a key actor in the democratization and destigmatization of secondhand, leboncoin is an instructive example of positive sufficiency. Echoing this evolution, **Stéphanie Calvino** looks at the gradual transformation of the fashion industry and the central role the sector plays in shifting representations and perceptions.

In towns and cities sufficiency is applied to different remits: urban planning, managing transport flows, and optimizing access to essential goods and services. **Charlotte Halpern** points out that the North-South divide does not come into play in this domain, underlining the diverse array of approaches adopted in various large. **Jean-François Nogrette** explores the relevance for Veolia of certain solutions inspired by sufficiency, such as supporting individual behavioral changes and inventing new economic models for water distribution in a context marked by heightened water stress. However, sufficiency does not offer a one-size-fits-all response and must go hand in hand with solutions based on innovation and circularity.

In this context and in the face of the diversity of approaches, which key factors for success can be identified? Two answers suggest themselves. Firstly, the need to anchor policies for behavioral change in a realistic and nuanced understanding of human behavior, as behavioral psychology researcher **Xavier Brisbois** reminds us. Secondly, as discussed throughout the issue, it is also important to look beyond the individual prism to create the conditions for transforming society and organizations on a far larger scale. Within this perspective, **Philippe Bihouix** calls for systemic sufficiency hand in hand with ambitious public policies working to transform uses and practices as well as infrastructure.

Iris Levy
David Ménascé
Archipel&Co,
Issue coordinators



FROM EFFICIENCY TO RENOUNCEMENT: toward the emergence of new business models

Laurence Lehmann Ortega
Professor of Strategy and Business Policy, HEC Paris



After graduating from HEC (1993), Laurence Lehmann-Ortega began her career as a strategy consultant before transitioning to academia. She specializes in disruptive strategies and strategic innovation, defined as radical business model innovations, particularly within established businesses. Laurence's research centers on strategic innovations aimed at addressing the challenges of sustainable development, what are termed societal innovations. Her work has featured in publications such as *Long Range Planning*, *M@n@gement*, and *Revue Française de Gestion*. She is the coordinator and co-author of *Strategor*, a leading manual on strategy. She co-developed *Odyssey 3.14 - (Re)invent your business model*, an approach adapted into a book published by Dunod (3rd edition, 2023) and as a MOOC (Business Model Innovation, Coursera). Before joining HEC, she was an associate professor at Montpellier Business School and earned her PhD at IAE Aix-en-Provence. Currently an Education Track professor with the Strategy and Business Policy department at HEC Paris, she teaches strategy and business model innovation in the MBA and EMBA programs and in executive education. She is also Academic Director for the Master Strategic Management, the Trium EMBA, and several customized programs at HEC Executive Education. She received the Vernimmen - BNP Paribas Best HEC Affiliated Professor Award in 2014 and 2016.

Faced with the challenge of planetary boundaries, today's private sector actors have to confront the need to innovate in ways that are sustainable. Given this reality, business model innovations are particularly valuable tools for strategic thinking. The transition to business models that are more sustainable can take a number of forms, involving varying degrees of renouncement and sufficiency. This article examines three broad options: efficiency, the circular or functional economy, and renouncement. These approaches are non-exclusive and can overlap and complement each other. Ultimately, inventing new governance and value-creation models is one of the central keys to ensuring a long-term future.

Actors from the private sector are increasingly required to examine their footprint, their business model's long-term durability and, in a more general sense, the contributions they make to all their stakeholders. In France, this process is embodied via new mechanisms for "purpose-driven companies" and the corporate "purpose", both of which seek to make a business' overarching purpose central to its strategic thinking. Regulatory requirements covering non-financial reporting are also evolving, as illustrated by Europe's CSRD directive, and obliging businesses, at a minimum, to act with greater transparency.

Against a background of global warming and planetary boundaries being exceeded, certain industries also have to address the finiteness of resources more directly. Pressure on some raw materials calls into question the long-term future of their activities and can force them to drastically reinvent their business models. In recent years, the scarcity of rare materials — particularly copper, nickel and rare-earth elements — that are indispensable to energy transition has obliged several groups, primarily in the automotive, digital and energy industries, to rethink their models. Nexans, a global player in cables and cable systems, decided to withdraw from a number of activities and incrementally introduced recycled copper into its finished products to shrink its environmental footprint and safeguard itself against a seemingly inevitable shortage of copper. Automakers Stellantis and BYD have invested in factories to manufacture electric vehicle batteries for integration into their value chain, thus forestalling the risk of shortages.

While taking action involves countless incentives and constraints, reinventing a business model and innovating sustainably is a deeply complex challenge. This complexity lies in the universal target for decarbonizing our economies by 2050, an objective far beyond the capacities of individual private sector actors. By definition, the challenge of reducing greenhouse gas emissions has to be approached on a global scale. This is exactly what Veolia CEO, Estelle Brachlianoff, means when she reminds us that the objective is not stripping out carbon from the corporate balance sheet but decarbonizing the entire planet, including via investments in polluting activities to transform them rather than simply selling the most polluting assets to other actors.



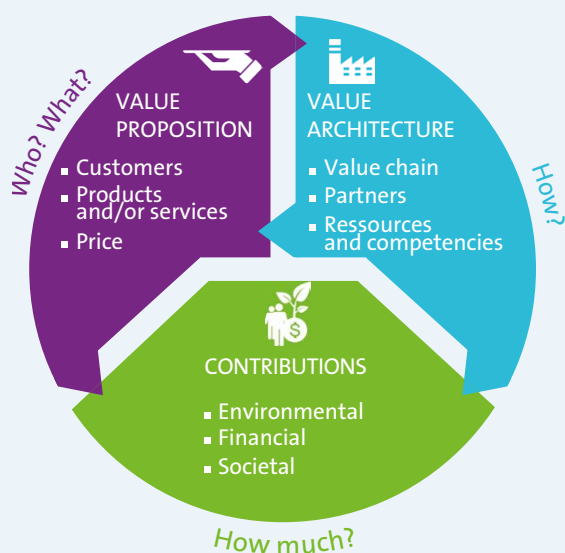
With this in mind, it seems useful and necessary to look at the mechanisms available to businesses for innovating and reinventing their business models. A specific form of innovation, business model innovation is particularly interesting to analyze because it involves rethinking mechanisms at the root of how a business performs, introducing a radically different value proposition and/or architecture. This makes the business model a valuable strategic tool for innovating, reinventing and responding, albeit partially, to the challenge of planetary boundaries.

Business model: a definition¹

There have been many attempts at defining what constitutes a business model. For the purposes of this article we will use a definition that lies at the intersection of three key pillars:

1. Value proposition, which describes the customer offer (the "what", "who", price and manner in which the customer is invoiced for the product or service);
2. Value architecture, which concerns the "how", i.e., the way a business creates and delivers its value proposition (value chain, relationships with suppliers and partners, resources, key skills);
3. Contributions, which decipher the performance of the business model stemming from the unique combination of value proposition and value architecture. Performance is financial (profit) as well as environmental and societal (externalities).

Business model that helps companies stay within planetary boundaries



THE EFFICIENCY PATHWAY: CREATING SHARED VALUE AND OPTIMIZING PERFORMANCE

A first set of solutions consists of optimizing value creation by leveraging energy efficiency mechanisms in combination with new methods of remuneration – an essential component. Investments in energy savings would appear to be one of the most efficient means of reducing energy costs and emissions. However, businesses sometimes hesitate to allocate resources to these initiatives because it takes several years before the investments generate a profit. This situation complicates the task facing equipment manufacturers which struggle to sell products that focus on energy efficiency. Companies like Schneider Electric have developed energy efficiency contracts to allow customers to avoid this upfront investment.

SCHNEIDER ELECTRIC: EARNINGS FROM SAVINGS

Schneider Electric (SE) has developed energy efficiency contracts in recent years. With these contracts, SE undertakes to renovate installations at no cost to its customers. SE finances the investment and pays itself from the energy savings generated by the equipment over a predetermined period. Once this period elapses, the equipment becomes the property of the client company, which then reaps the full benefit of the energy savings. This approach was pioneered in the USA by manufacturers such as General Electric and is starting to be developed in Europe, particularly France. The growing interest in energy savings shown by businesses and governments, combined with greater clarity about the legal status of these contracts, is driving growth in this market, and SE's energy performance models are now a feature of its growth plans.

¹ The definition and examples cited in the article are explained in greater detail in: Lehmann-Ortega, L., Musikas, H. and Schoettl, J.-M. (2024). *Odyssey 3.14 - (Re)invent your business model*, (3rd edition), Dunod.





Rewarding customers for saving energy: the example of French startup Octopus energy

A MORE COMPLEX MECHANISM: THE CIRCULAR ECONOMY AND FUNCTIONAL ECONOMY MODELS

CIRCULAR ECONOMY MODELS

The circular economy, which involves decoupling production from emissions, is one of the most mature approaches in terms of sustainability. It is a more costly and complex approach than efficiency alone since it requires rethinking business models to incorporate constraints involving recycling raw materials and shrinking the material footprint.

DESSO: FOREVER CARPET

Resource scarcity and raw material price volatility are factors that encourage businesses to think afresh about how they see their activities. In the carpet industry, traditionally a very large user of petroleum products, a few actors have seized this opportunity.

One standout example, thanks mainly to the longstanding nature of its initiative, is Desso, a carpet maker founded in the Netherlands in 1930, which now offers carpet that is almost 100% recyclable for use predominantly in business premises. Desso has operated a circular value chain since 2007, using only raw materials that can be upcycled to create more value.

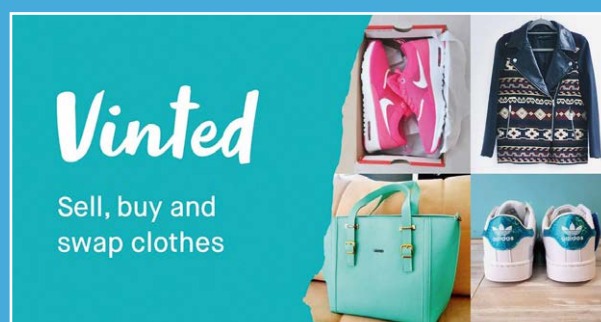
Between 2006 and 2010, Desso grew its profitability from 1% to 9.2%. The company's market share in Europe grew from 8% to 23% over the same period, and in 2021 it recorded turnover of €202 million. However, approaches rooted in the circular economy also mean renouncing immediate profitability. In Desso's case, it took seven years before the model achieved profitability.

Circular economy models are not necessarily inspired by forms of sufficiency in the strictest sense. The eye-catching success of Vinted, the platform for buying and selling secondhand items, can be interpreted as an expression of consumers' desire to be more canny in their buying habits by saving money — spending the same amount overall but buying more — rather than any desire for sufficiency or sustainable consumption.

THE SUCCESS OF MODELS FOR BUYING AND SELLING SECONDHAND: THE VINTED EXAMPLE

Founded in Lithuania in 2008, Vinted is an online platform for buying and selling secondhand clothing and other items. What makes Vinted stand out is that buyers not sellers are charged for transactions, an arrangement designed to encourage sellers to put items up for sale.

Although yet to post a profit, Vinted now counts over 30 million users in Europe and successfully raised 250 million euros in capital in 2021.



FUNCTIONAL ECONOMY MODELS

Taking things a step further than circularity, the functional economy replaces the sale of a good with the sale of its use, effectively decoupling added value from energy and raw material consumption.

It is thus synonymous with a paradigm shift and, in principle, the antithesis of the planned obsolescence concept. Producing goods that are as sustainable as possible to maximize earnings gained from their usage helps to grow the amount of value created. For the business, the complexity lies in the need to reinvent the services proposed to customers and make them more attractive than its competitors.

MICHELIN, A FUNCTIONAL ECONOMY TRAILBLAZER

Michelin is a well-known textbook example of this approach. Although Michelin's market approach and business model have never focused on product economy alone and it has offered complementary services since it was first founded, the early 2000s saw it pivot toward the functional economy. This strategic pivot was initially a response to an economic challenge, with improved technologies making it possible to market tires that worked better and lasted longer, but without the option of raising retail prices sufficiently to fully reflect the higher quality. The challenge was how to create as much value as possible for customers and for Michelin. The offer most emblematic of Michelin's functional economy positioning is Michelin Fleet Solutions, a dedicated service for heavy truck and passenger transport fleets. It includes fleet management, driver training, optimization of running gear and tire pressures, with different commitments and options available, and Michelin remaining the tires' owner. Michelin's offer is also built around a guaranteed price per kilometer, with various services included.

DECATHLON: EMBODYING THE BRAND'S PURPOSE BY SHIFTING TOWARD HIRE

More recently, in 2022 Decathlon launched a long-term hire service for several of its products (cycles, workout benches, golf clubs, rackets, etc.) and associated services. This shift is presented as a way for the brand to live up to its purpose of "moving people through the wonders of sports" while limiting the production of new products.

The changes involved begin at the product design stage as the idea is to maximize product life, particularly by making maintenance easier. As well as repairs, this shift also provides products for recycling and resale. One of the brand's challenges lies in training its staff in the new approach.

Launched at scale in France and Belgium in 2022, Decathlon's long-term hire offer was rolled out to several more countries in 2023. Several thousand hire contracts have been signed in less than a year, and in time Decathlon aims to see second-life products and long-term hire contracts each deliver 5% of total turnover.



Discover subscription-based rental of children's bikes



Rent, sail, start again

The more established models in the B2C sharing economy have also proved successful and Blablacar, for example, boasts over 100 million users. Although not strictly part of the functional economy, these models nonetheless help accelerate the paradigm shift from buying a good to paying for a service.



In the case of Blablacar, financial considerations (sharing fuel costs, last-minute travel cheaper than rail) had a major impact in driving the platform's success. It is now Europe's leading ride-sharing website.

The growth in online platforms offering mobility-as-a-service (MaaS) illustrates the increasing rejection of a model centered on private car ownership. To stimulate supply (and demand), MaaS models can turn to more attractive pricing systems such as pay-as-you-go. The Kenyan electric bus company BasiGo has taken this on board, offering electric bus drivers a pay-as-you-drive lease model: owners acquire a bus for a minimal initial outlay and then pay a fee according to how much they use the bus. It is important to note, however, that these models require significant upfront investment, especially in places where there is limited public investment.

The business model is a valuable strategic tool for innovating, reinventing and responding, albeit partially, to the challenge of planetary boundaries

RENOUNCEMENT, THE MOST RADICAL INNOVATION

Renouncement would seem to be the most ambitious approach to sufficiency. As yet relatively uncommon, renouncement can take different forms that are more or less complex and costly for businesses: renouncement of certain permanent or one-off offers, such as renouncing Black Friday reductions, or of certain suppliers and even certain clients.

In France, the approach taken by CAMIF² is a good example of positioning rooted in renouncement. Starting in 2021, as part of its commitments as a purpose-driven company, CAMIF elected to renounce imports from outside Europe, resulting in a 7% reduction in its line-up, equivalent at the time to around 5% of turnover. Today, 75% of its products are made in France, and 100% of them in Europe. This change of focus involved relocalizing a portion of its production, forging new partnerships with suppliers committed to respecting its new requirements, training its teams in the new product line-up, and having sufficiently stable financial resources to allow it to absorb the short-term fall in turnover.



54% of a company's carbon footprint is due to import emissions so CAMIF says stop to imports

More directly, renouncement can also mean halting certain activities that are judged too difficult to convert to sustainability. Over the past few years, leading electric cable manufacturer Nexans has engineered a radical simplification of its business portfolio, with swingeing cuts in the number of its clients in the oil and gas sector. The group now has around 4,000 clients, down from 17,000 in 2018, and has narrowed the catalogue of products it manufactures by 30%. It also worked on reducing product complexity and pooling production. This approach has paid off: in four years, Nexans has doubled its profitability and seen a fourfold rise in its market capitalization.³

Alongside these uncompromising forms of renouncement that involve making choices with far-reaching implications for business portfolios, some brands are also changing their messaging to call for a form of renouncement, or at least questioning the necessity or usefulness of a purchase. This is a gentler type of renouncement, focused more on changing how individuals behave. Notable examples of this approach include Patagonia's *Don't Buy This Jacket* advertisement, and recent campaigns from Levi's.



² French online furniture store.

³ <https://www.maddynews.com/2023/07/21/modele-e3-christopher-guerin-nexans/>.



A CENTRAL CHALLENGE: RETHINKING THE MODEL BASED ON CREATING SHAREHOLDER VALUE

Of all the many challenges and the complexity raised by the three main approaches mentioned, the question of value creation is central. By calling into question the equation that ties production to profit, sustainable new business models, particularly those that explicitly claim to embrace sufficiency, require a root and branch rethink of how value is created and a shift away from the dominant mindset in this domain.

This challenge is particularly problematic given that sustainable models tend to be synonymous, at least during the experimental first years, with profitability and earnings arrangements that offer fewer guarantees and require a longer timeframe. This makes them incompatible with the shareholder model operated by major corporations that focuses on maximizing short- and medium-term earnings at all costs, not on making investments that will only start paying off in the distant future. Furthermore, some studies point to the greater financial risks that come with investments to improve sustainability as they are more likely to be targeted by activist hedge funds.⁴

In this context, there are initiatives that attempt to rethink incentives and earnings models, but they remain a minority:

- **non-financial incentives.** Several major groups, including BNP Paribas, Crédit Agricole and Schneider Electric, are starting to peg a portion of the variable, or even the fixed, elements of senior executive pay packages to success in meeting non-financial performance targets;
- **new value-creation models.** These are mainly models centered on energy performance and the incorporation of bonus and penalty payment systems linked to excessive consumption of resources.

Ultimately, this approach demands a rethink of corporate governance models and purposes as well as the nature of an organization's long-term horizons. The Patagonia example is an interesting illustration. Spurred on by its founder Yvon Chouinard, Patagonia set up a unique governance structure based on two separate entities: a trust fund holds 100% of the company's voting stock (2% of all shares), with the remaining 98% of ordinary shares transferred to a nonprofit. When he stepped down in 2022, he decided to donate all ordinary shares in the company to the Holdfast Collective, a nonprofit dedicated to fighting the environmental crisis and defending nature.⁵

CONCLUSION

A number of cross-cutting conclusions can be learned from the overview presented here. The first is the complexity inherent in any transformation of business models. A complexity stemming from the fact that transitioning to the circular or functional economies, or to a renouncement model, almost always entails rethinking the entire business model, applying systemic innovations to everything from reconfiguring the value chain to staff training and engagement. This systemic aspect also requires a shift from a competition-based mindset to one inspired

by cooperation and ecosystems, with the obligation to cooperate with actors who were previously competitors. Implementing this paradigm shift is made yet more complex by the interlocking nature of value chains, their disaggregation, and the ever-growing distance between consumers and producers. All of this makes it more complex to put in place shared responsibility mechanisms.

This complexity also reflects the difficulty organizations face in trying to adopt a holistic vision of the challenges that sustainability poses. A situation that equally applies to how academic insights about sustainability are structured, as they remain relatively compartmentalized.

Desirability is yet another challenge, particularly for B2C models. How can adopting modes of consumption that are more sustainable, or even forms of renouncement, be made to seem desirable? This is an issue many actors are currently grappling with, starting from the idea that acceptability alone is not enough to trigger changes in behavior. Evolving regulations clearly also play a role in accelerating changes in individual and business practices. In France, government financial incentives have helped support the creation of recycling networks. Since 1992, businesses marketing packaged products are required to pay a levy to CITEO, created following the 2017 merger of Eco-Emballages and Ecofolio. The sums collected are used to finance campaigns to educate people in France about selective waste sorting and to promote networks that recycle waste, in line with the concept of extended producer responsibility. Although they do not go far enough, changes in regulations seem to be key to supporting and accelerating the process of voluntary engagement by businesses.

The shift toward more sustainable business models is a "mandatory revolution" imposed above all else by the finiteness of resources and looming planetary boundaries. Just as with frugal innovation, born in response to limited means in emerging nations, we can hope that environmental constraints will help drive the emergence of new models that are sustainable, durable – and desirable.

Sustainable new business models, particularly those that explicitly claim to embrace sufficiency, require a root and branch rethink of how value is created and a shift away from the dominant mindset in this domain

⁴ Desjardine, M., Durand, R. (2021). *Why Activist Hedge Funds Target Socially Responsible Firms, and How Executives and Investors Can Counteract Them.*

⁵ Read the announcement: *Earth is now our only shareholder*, by Yvon Chouinard.



LEBONCOIN: A SUFFICIENCY SUCCESS STORY?

Interview with Amandine de Souza
General Manager of leboncoin



After graduating from the ESCP Business School, Amandine de Souza began her career in 2005 with the Bain & Company consultancy, splitting her time between France and Singapore and focusing on consumer goods and retail. In 2009, she decided to add an operational component to her strategic experience and joined the Casino supermarket group, initially as head of the homeware division before adding all non-food categories to her remit.

In 2015, she was appointed CEO of Westwing France, an e-commerce business selling home & living products. Three years later she jumped at the chance to become the head of the BHV Marais department store and take charge of home, DIY and leisure purchasing for the Galeries Lafayette group, where she also launched a vintage collection. A year later she added food and catering to her responsibilities as she took the helm of Eataly Paris Marais, a Galeries Lafayette group franchise, and joined the group's executive committee.

Since April, 2023 Amandine de Souza has been the General Manager of leboncoin, a very successful French secondhand platform.

Alongside her corporate career, she also co-founded Le Retail Club, a network for women leaders in retail, and in 2022 she joined Leia Capital, an all-women group of business angels that invests in female-led businesses. She is also an independent director of Carbios, a biotech providing enzymatic solutions for recycling plastic.

With over 28 million monthly users, leboncoin has emerged as one of the most successful incarnations of the circular economy. By enabling secondhand goods to become more widely used and more accessible, leboncoin encourages a form of sufficiency. However, as leboncoin's General Manager Amandine de Souza points out in this interview, it is a spontaneous, non-explicit form of sufficiency that coexists alongside other consumer aspirations such as people's desire to treat themselves, make a 'smart' purchase, unearth something unique, and limit their environmental footprint, as well as to regain the power to act and to control their consumption in an uncertain world. Ultimately, the success of leboncoin reflects the multiple facets, nuances and complexities of sufficiency that must be taken into account now more than ever if it is to become a desirable prospect for the greatest possible number of people.

With over 28 million monthly users, leboncoin is France's number one e-commerce website and an outstanding example of the circular economy in action. Would you say that leboncoin helps to encourage a form of sufficiency?

Amandine de Souza: Of course! The millions of secondhand items purchased, sold and donated every year via leboncoin undeniably encourage a form of sufficiency. But I would put it another way. Sufficiency is, for various reasons, not a concept we refer to spontaneously. Firstly because we do not set out to dictate what any particular consumer norm should be. The history of leboncoin is built first and foremost on people's real-life daily uses and habits. Their aspirations and desires are what shape the platform's categories. When leboncoin was first created 18 years ago, we would never have dreamt that categories such as job offers and property sales would take on such an important role. Today, leboncoin is the third most-consulted website for private sector job offers and is by far and away the leading website for property sales and rentals, with over a million advertisements permanently on the platform. This type of self-organization, the way that users collectively redefine leboncoin's social utility in response to the problems they encounter on a day-to-day basis, is one of the key features that sets us apart.





This is important as it reflects one of leboncoin's great strengths: it gives everybody a certain ability to act at the individual level. The individual's experience is, first of all, about (re)discovering their power to act, a form of control over their consumption and thus, to an extent, over their lives. One of the features most appreciated by the users we poll every year as part of our economic and societal impact study is this capacity to self-organize without intermediaries. This form of empowerment is all the more precious at a time when many people feel they have less and less control over their lives and the world they live in, particularly as a result of a climate emergency which can seem overwhelming due to its scale and systemic nature.

This power to act at the individual level has very concrete effects and explains why leboncoin has become so embedded in daily life and adopted in so many different ways: the ability to make smart purchases every day, to easily reconcile the affordable and desirable, to keep up appearances in a consumer society that is so excluding, to make a little extra income at a time when purchasing power is falling, and so on, all while meeting individual needs without any nudges from the outside. So if we can say that sufficiency does exist on leboncoin, it is spontaneous rather than conceptual, a sufficiency that is very real even if it remains unspoken.

One of the challenges to sufficiency centers on being seen as desirable by as many people as possible, a prospect that remains a long way off.

By making secondhand part of everyday life, leboncoin seems to have partly solved this quandary. What is your view?

AdS: The challenges of perception and desirability are central to ensuring that the transition is acceptable to as many people as possible.

I believe leboncoin has helped accelerate new social norms and collective values, and has redefined the image people have of secondhand by making it normal. Buying secondhand was certainly not seen in such a good light a few years ago! Today, with the purchasing power restrictions along with a genuine shift in attitudes, secondhand is no longer taboo. One of many examples is the rise in secondhand gifting at Christmas. A recent survey we conducted with Ifop¹ showed that 4 out of 5 people in France believe it is the thought that counts at Christmas, irrespective of whether the gift is new or secondhand. A striking fact is that the proportion of people who have already given or received a secondhand gift is significantly higher among younger generations than older age groups.

¹ Ifop survey for leboncoin: Survey of purchases of secondhand gifts in France, November 2023.

The fact that leboncoin is a good example of the interconnection of sustainability and desirability stems from its universal character. Our surveys show that leboncoin is a faithful mirror of France: at a time when French society is becoming fragmented and some platforms are targeting specific communities, leboncoin really is a universal platform. leboncoin is useful to everybody no matter their gender, age – with a slightly larger number of users in the 25-50 age group – or income. It is also useful in every part of the country: small and large towns, semi-urban localities, the biggest cities as well as the countryside. And what applies to private individuals applies to professionals too: 75% of companies using leboncoin are SMEs with fewer than 10 employees, an accurate reflection of the French business landscape.

Our users tell us that this universal character, making it possible to create shared aspirations, goes hand in hand with their desire to restore meaning to the act of consumption. Our surveys bear this out, showing that the site shapes new norms for making more ecologically respectful purchases. Secondhand has become a normal part of daily life, making everybody a “discreet hero of ecological transition” in the words of Antoine Jouteau, my predecessor as general manager.

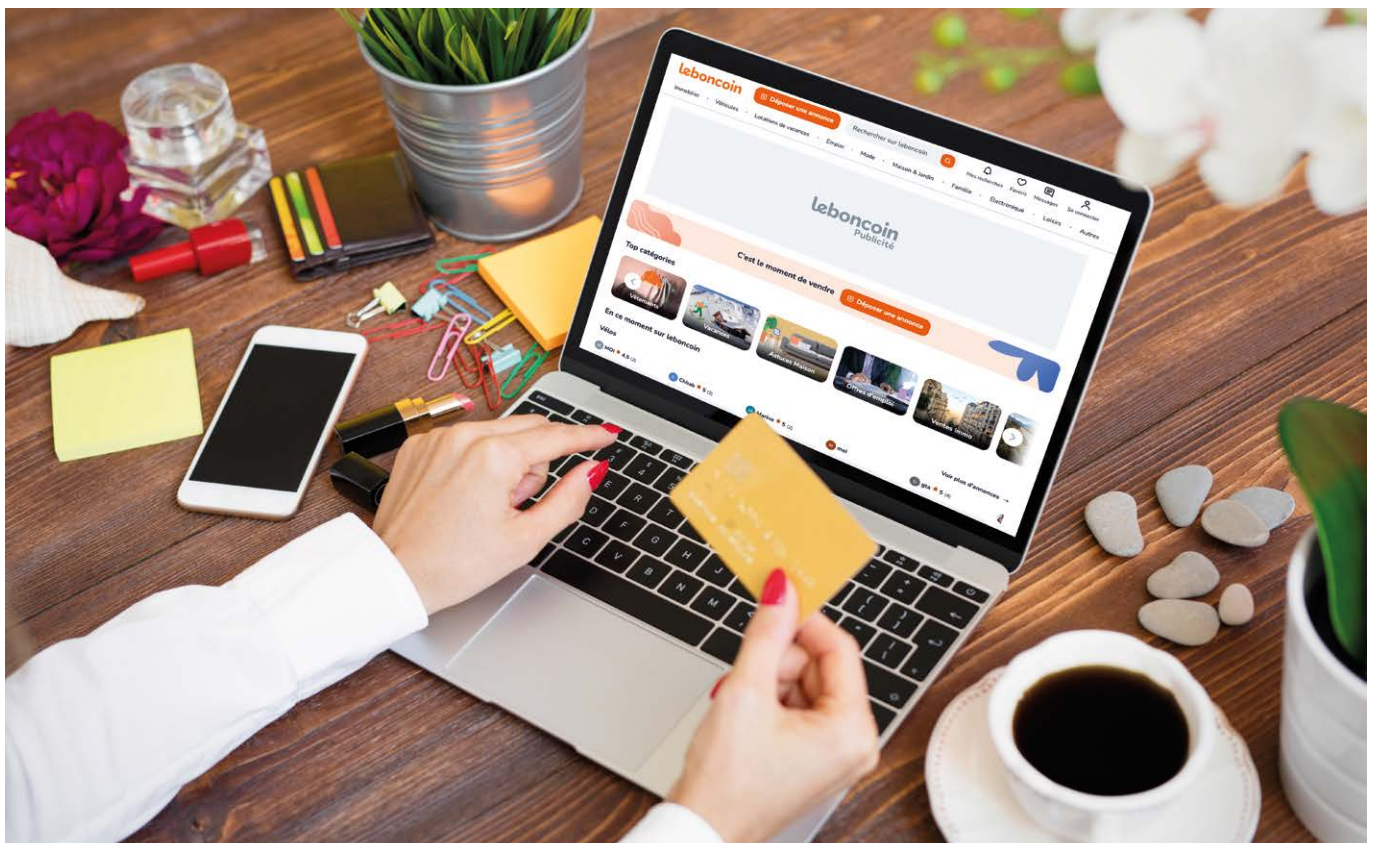
Finally, a word about desirability. leboncoin opens the door to purchases that are not just about finding bargains and low prices. It also gives everybody access to unique objects, items that bring joy as well as being useful. This is an

angle we highlight extensively in our communications and collaborations, this accessibility to items that are beautiful, fun or amusing, for example; basically everything that helps make life more pleasant. This is one of the keys to happy and desirable sufficiency, something people want to buy into rather than something imposed: we feel that guilt-laden messaging focused on self-imposed restrictions is an ineffective way to rally as many people as possible.

The success of leboncoin also resides in the success of digital technologies. Do you believe that digital has a specific role to play in encouraging the emergence of more sustainable consumer behaviors?

AdS: The success of leboncoin is certainly underpinned by two highly decisive developments: the digitalization of lifestyles, further accentuated by the Covid crisis, and the collapse in the attractiveness of rampant consumerist values.

Digital is a powerful accelerator that makes it possible to benefit from the potential of collective actions on a very large scale. In this case it has made possible the emergence of a true market for secondhand items that is easily accessible to all, with no entry barriers. When it was set up in 2006, the site's success was driven by the spread of home internet access.





Another point we feel to be key is making sure the customer experience remains as simple as possible. It is something we have never lost sight of, despite all the changes leboncoin has gone through since launch. leboncoin is a massive machine with millions of daily connections and almost as many online advertisements in 80 million permanent ads. 1,500 employees keep it going, over a third of them involved on the technical side. And despite all this, the site is simple to use for people who are not at ease with digital or the French language. You could say it is a bit like classical dance: there's a lot of work and effort but you have to leave all that behind the scenes when you go out to face the public!

This easy access to a more responsible form of consumption is crucial: among the multiple brakes preventing people from adopting behaviors more closely aligned with sufficiency, complexity and the commitment demanded – for example only buying local products – undeniably play a role. On the other hand, our ease of use allows us to aggregate people's practices and, ultimately, has a real impact in terms of the circular economy. Price clearly plays a part too. Even today, most so-called sustainable goods, for example many foods or clothes, are synonymous with significantly higher prices making them unaffordable to a large majority of households. Secondhand offers a chance to square this circle.

leboncoin – and this is both central and unique to our DNA – is a powerful illustration of how digital technologies can contribute to real-world social ties. This is the power of what sociologist Mark Granovetter termed the “strength of weak ties”: the multiplication of interpersonal relationships,

no matter how brief, contributes to recreating trust and grows people's social capital. As a digital platform as well as a physical intermediary, leboncoin is a genuine accelerator for social ties, with almost 31 million occasional meet-ups arranged via the site in France every year. It has even led to a few marriages!

Any closing remarks?

AdS: As we mentioned at the start of our conversation, leboncoin is interesting in that it is rooted in a principle as old as the world – buying secondhand – while being perfectly aligned with modern-day consumer trends. It provides an answer to people's limited budgets – purchasing power is invariably the biggest motivation driving users – as well as to their environmental ambitions. Its no-frills interface is resolutely functional but the goods traded on the platform create emotions, whether for the buyer personally or as treats for friends and families. It is digital, which makes it fundamentally fairly cold, but is warmed by the 28 million people who connect each month, who meet up and, sometimes, become friends. People's motivations are not always the

same, they can be contradictory from one day to the next, even for the same person.

But this multiplicity is what gives our platform its strength. It shines a light on the “fifty shades” of sufficiency that currently coexist within our society, all of them certainly to be encouraged and nurtured. We hope to contribute to this process as best we can.

The multiplicity of motivations that drive users to visit leboncoin shines a light on the fifty shades of sufficiency that currently coexist within our society, all of them certainly to be encouraged and sustained. We hope to contribute to this process as best we can



FASHION AND THE SUFFICIENCY CHALLENGE

Interview with Stéphanie Calvino
Designer and founder of the Anti_Fashion Project



Stéphanie Calvino and Li Edelkoort. @Anne Loubet

Stéphanie Calvino is a maverick who studied applied arts, art history and product design before starting her career with a number of graphic design and communications agencies in the French city of Marseille. During the years 2009 to 2015 she worked for La Maison Méditerranéenne des Métiers de la Mode, where her activities centered on helping young brands to develop. Looking for a greater sense of purpose, in 2016 she started the Anti_Fashion meetings, in partnership with Lidewij Edelkoort. It was the first international conference in France attended by academics and industry figures who came to talk about new societal trends and new, more virtuous, economic models in the fashion industry. As well as face-to-face Anti_Fashion events, in 2017 she worked with Veja co-founder Sébastien Kopp to develop a mentoring program using fashion and culture to help young people from deprived urban areas in the 18-to-30 age group who are very distanced from the labor market to re-engage with society. Over the following five years, Anti_Fashion emerged as a leading name in the drive for socially aware circular fashion. She continues to speak all over France, striving to educate people and promote more virtuous forms of production and more responsible forms of consumption. During the COVID pandemic, she helped set up a workshop in Roubaix called Résilience, which employed over 200 people facing difficulties by using the following concept: one skilled person for every two leaners.

The Anti_Fashion Project, presented by founder Stéphanie Calvino, exists to advocate sustainable models and values, with social impact at the center of its approach. With its origins in the Anti-Fashion manifesto published in 2015 by influencer Lidewij Edelkoort, the Anti_Fashion Project works with marginalized young people, supporting them toward social insertion. In this interview, she reflects on the resonance of the sufficiency concept in the fashion world, and reminds us of the importance of perceptions and critical questioning as drivers for changing behaviors, particularly among young people.

The Anti_Fashion Project, an initiative you set up in 2016, embodies a paradox, the desire to bring greater sufficiency to fashion: two concepts seemingly very far apart. What do you think of this apparent paradox, and the concept of sufficiency?

Stéphanie Calvino: We need to make a distinction between two linked concepts that make it seem that fashion is very distanced from sufficiency. Fashion and clothing, as items we care for and about, can appear superfluous compared to other more essential needs, which sufficiency demands are met as a priority. And fashion is frequently associated with ostentation and bling, again very far from sufficiency.

In reality, there are ways to respond to this. Let's begin by remembering that the need to clothe ourselves is something essential and lasting, and that filling this need can help support projects that are important and meaningful. Even in the industry, there are initiatives that are helping the emergence of more frugal forms of fashion, as much in looks as in manufacturing. Sitting at the intersection of these challenges, the message of the Anti_Fashion manifesto published in 2015 by Lidewij Edelkoort,¹ which led directly to the Anti_Fashion Project, was explicitly designed to sound the alarm about the excesses of an obsolete industry and system, while also stressing the importance and legitimacy of the fashion industry in general. Ultimately, the challenge lies in finding ways to align the fashion industry with the concerns of the age by working to promote a world that is more sustainable in every sense of the word.

¹ Lidewij Edelkoort, world-renowned trend forecaster and founder of the magazine *Bloom*.



In aesthetic and design terms, designers have always tried to co-opt a form of sufficiency into their creations by working with sober shapes, colors and fabrics. Designers such as Alaïa, Margiela and Yoshi Yamamoto unequivocally embrace a very pared down aesthetic, sober by nature, that we also see among a number of designers from northern Europe. But this quest for aesthetic simplicity can sometimes coexist with manufacturing and retailing methods straight out of the fast fashion copybook. Uniqlo embodies this ambivalence: it foregrounds the utility, practicality and simplicity of its products, but is also criticized for its manufacturing practices.²

Certain cultural habits, practices, uses and relationships to clothes are worth studying. Japan is an interesting example, with a culture that values alterations, repairs and an anti-accumulation attitude. A Japanese woman will keep her kimono for life. When it comes to objects this same attitude is also found in the practice of *kintsugi*.³ This humility vis-a-vis clothing is very fascinating.

But putting this aside, it is clear that the notion of sufficiency encompasses a sense of timelessness that is hard to apply to the fashion industry, a byword for constantly renewed desires and aspirations, and endless revivals: we often see certain trends returning in cycles every 30 to 40 years (vintage looks are very on-trend right now). Simply put, the practices of the industry's giants are generally very much the opposite of sufficiency. Here's a number that speaks for itself: Zara releases 52 collections a year, that's one a week... this is close to being out of control.

At the opposite end of the scale, the aim of the Anti_Fashion manifesto was to call for a return to the fundamentals in terms of materials, style and approaches when designing collections. Far from making designers' jobs easier, this back-to-basics idea is actually far more exacting: how to build powerful signatures while also embracing humility and economy of materials?

At the Anti_Fashion Project we focus on nurturing and supporting these changes. Founded in 2016, Anti_Fashion is a participative platform, a research laboratory, that sets up collaborations between different skills and helps create new projects and economic models. The aim of the Anti_Fashion Project movement is to shine a light on dynamics, initiatives, ideas and actors that are driving renewal in the fashion world and the emergence of a more responsible economy. Some textile and garment workshops are trying to embrace this ethos by thinking very hard about how they make their products using a minimum of materials: every inch of thread is saved to minimize costs in terms of resources and energy.

*Sufficiency goes hand in hand
with a return to good sense
in fashion, before production
as well as afterward*

Sufficiency also goes hand in hand with a return to moderation in fashion, as much before as after production. At Anti_Fashion we focus on the circular economy, working to ensure that garments that already exist are transformed and recovered, not thrown away. This represents a form of sufficiency. But if these changes are to take root, it is vital to rethink how fashion is taught, to stop telling designers they have to produce a head-spinning number of collections every year if they are to survive.

FOCUS – THE ANTI_FASHION MANIFESTO⁴



Published in 2015 by Dutch influencer Lidewij Edelkoort, the Anti_Fashion manifesto sets out “ten reasons why the fashion system is obsolete.” Edelkoort cites a number of things that have gone wrong, in training at fashion schools as well as in methods used for manufacturing, designing and selling, catwalk shows, marketing, advertising and so on. She is especially scathing of the trend for greater uniformity in design, the shrinking role of creativity and originality, the cult of the “diva”, as well as offshoring and the race for profitability. She calls for a rethink of the entire system so that the fashion industry professions can regain their meaning and dignity.

Do you see fashion as a lever that can help shape a more desirable relationship with the world and, therefore, encourage changes in behaviors?

S.C.: Of course! Fashion has always been a trend setter, part of the avant-garde, but this is less so today than in the past. If fashion was for a long time almost like a winged horse foreshadowing the changes to come, I feel that for several reasons this is no longer the case today.

The rise of digital tech and social media has revolutionized our relationship with information, allowing often anonymous individuals to gain a profile and potentially far-reaching influence at lightning speed. These changes have reset the dial in terms of how influence is exerted, including within the garment industry where street

fashion now dominates over trends dictated by the big-name houses. But if fashion has lost its powers of attraction, this is above all because of the perceived discrepancy between changing lifestyles and changes in the industry: where once

² In May 2023, a number of NGOs (Sherpa, Éthique sur l'Étiquette, the European Uyghur Institute) filed a complaint against Uniqlo France, Inditex, SMPC and footwear company Skechers, accusing them of selling products manufactured in Chinese factories that use forced labor by the Uyghur minority.

³ Kintsugi (金継ぎ, golden joinery) or kintsukuroi (金繕い, golden repair) is a Japanese method for repairing broken pottery using a lacquer dusted or mixed with powdered gold.

⁴ Available from: <https://hkzero851997457.wordpress.com/2021/01/15/anti-fashion-a-manifesto-for-the-next-decade/>
See also an interview with Lidewij Edelkoort (May 8, 2015): *La mode n'a plus rien à dire* [Fashion doesn't have anything to say anymore], in *Libération*.

it represented the avant-garde, the industry today seems to be playing catch-up, a prisoner of outdated practices judged harmful to the environment.

Despite this, the fashion world undoubtedly retains its powers of attraction and ability to (re)invent fertile, aspirational and, therefore, desirable new images. We believe that the changes we are working for in the garment industry can have a resonance and influence that extends far wider. The big-name houses have always stood out by using elegant and restrained images, a form of discretion that is the polar opposite of eye-catching bling. Hermès is a case in point.

In reality, what dominates today is the coexistence of contradictory trends: one the one hand the stated desire to see the industry shift to a more responsible model, and on the other hand the success of the trends pages in women's magazines, inciting readers to constantly renew their wardrobes. We're in a transitional phase, one where the out-of-control horse that is the fashion industry continues its frenetic output, despite the increasingly urgent calls to slow things down.

The alternative models we are trying to promote via Anti_Fashion, focused on recycling and the circular economy, are still very much a minority within the wider fashion and garment ecosystem. And if dramatic events such as the COVID pandemic led some to believe that a trend for degrowth, or at the very least a more restrained attitude to buying clothes, would emerge, in reality people's purchasing practices remain as incessant as ever. If consumers are making judgements, these are above all a result of pressure on spending power, not any green aspirations they may have, despite this messaging being more and more present.

With these trends in mind, how do you explain the success of platforms like Vinted and leboncoin⁵, which we are told will help encourage consumers to behave with more restraint? Are we not seeing the emergence of a paradox, where buying and reselling secondhand items serves primarily to satisfy the desire to make purchases, which remains as strong as ever?

S.C.: What's interesting about this is the range of uses made of these platforms, and the variety of different types of users.

I feel a distinction has to be made between leboncoin and Vinted, whose communities have very different DNAs. The social dimension is very important to the leboncoin story, much less for Vinted, mostly because interactions are all-digital. For its part, leboncoin has successfully built a community of committed consumers, selling and buying secondhand items because they want to recycle not discard. leboncoin was a pioneer and over the past 20 years it has become something that people do, they consume the leboncoin way, it is like creating a parallel currency.

We're in a transitional phase, where the out-of-control horse that is the fashion industry continues its frenetic output, despite increasingly urgent calls to slow things down

These platforms can be used for a variety of ends, not all of them necessarily frugal / sufficient. Buying something cheaper secondhand may, for instance, mean buying more by spending less: this is not a forum where demand and need are questioned, yet this is the first step on the road to sufficiency. It seems that this applies to a good number of Vinted users. At the other end of the spectrum, some users value the recycling that the platform makes possible, using it as a way to reduce their consumption.

Aside from the platforms, it is interesting, sometimes nauseating, to watch how mainstream industry actors have co-opted the codes of the secondhand world. The secondhand racks in the Bon Marché store are priced at top dollar. It is a long way from thrift store sales by the kilo and the System D mindset. Lastly, buying secondhand used to be stigmatized, but has now become a new norm, almost a parallel economy; this is another downside.

The Anti_Fashion Project focuses on reimagining our relationship with fashion but it also has a social dimension, working with disadvantaged young people. How are these twin missions linked? How can your "anti" positioning be attractive to young people who have never had the opportunity to renounce it of their own free will?

S.C.: These are core questions. The interplay between environmental and social concerns, as well as between concerns about the garment industry and wider social objectives, has always been part of our DNA. The social side of our work consists of working with young people who are often very alienated from society, supporting them in their journey toward socio-economic integration, particularly through fashion.

Fashion is a tool for capturing their engagement. Our work is to awaken their interest and help them build a professional project, not necessarily related to the fashion industry. What counts is that they find training, a job they're interested in.

By helping them to find their feet, we are fully engaged with challenges that, in the final analysis, relate to sufficiency: how do they want to give meaning to their career path? What are their life goals, their ambitions? Does any of this involve consumption, and is so, to what extent? We try to push them to look critically at these questions, to show them that everything is political, and that consumption is form of engagement. It is not easy! The term anti-fashion is something we're often criticized for. The truth is that if you come from a background where you're struggling, and I've experienced this myself, you're inevitably going to pass through a phase where consumption is important to you. But my view is that this phase comes just before the realization that consumption ultimately contributes nothing, or very little, to our happiness and peace of mind. The paradox is that to leave the consumer society you first have to join it.

⁵ Buying and selling platform between individuals such as gumtree in the United-Kingdom, or Marktplaats in the Netherlands.



Of course it takes time before the change of mindset we seek to bring about in these young people is perceptible. Our goal is not to groom them, or to watch them make the leap. Above all else what we do is plant the seed, try to give them the self-confidence they need to feel free to make their own decisions and choices, moving on from the idea that the system is against them. We also believe fashion is a great way to promote social reintegration, which is why we've set up our mentoring program.

On a fundamental level, we feel it is very important never to disassociate environmental and social challenges when addressing sufficiency. This is actually the very hardest part of all.

Through your work, have you identified the keys to raising young people's awareness of these topics?

S.C.: It varies so much from person to person, there's no silver bullet! We're a small team, a family, and we rely most of all on the willingness of the young people: they're free to join projects or not, to take part in activities or not. The best indicator of success is when nobody quits a project early.

They are the engines and the owners of the projects, ideas, events, etc. We feel this form of empowerment, a somewhat over-used term, is crucial. It gives them the chance to understand how to use the tools we give them, to get messages across, make their own decisions based on content that catches their attention, whether movies, music, book, etc. As I've said, what we're trying to do above all is to raise their awareness so that they come to realize their actions will shape the world of tomorrow. We give them information about the consequences of their choices, particularly in terms of consumption. They then form their own opinions, and can embody the messages they want to send out.

Personally, the chance to work with young people is one of the aspects of the Anti_Fashion Project closest to my heart. It is through these encounters that we help to provide access to culture and training in communities where these opportunities are lacking. One-to-one support can demand a lot of energy but I feel it is also a lever for genuine change.

Our role is also to support them through situations in their lives that can be quite complicated, finding solutions in an emergency, food or maybe housing. It is really important to help them get their heads above water, so they can see the bigger picture and start making plans.

We are also wedded to the idea of risk taking, of permanent change. Anti_Fashion was set up without any thought for how to take it forward: I reached out spontaneously to Li Edelkoort after she published her manifesto, after finding her email address on her website. We held conferences in Marseille in partnership with Aix Marseille University, but without planning what this might lead to. As it turns out, over 300 people attended our four conferences. The first year, 2016, we had only three months to put everything together and no budget, only willpower. We've continued down this road ever since, continuing to take risks and keeping a large measure of freedom in our activities.

How can other stakeholders – public authorities, businesses – leverage their inputs to help scale up? Do they represent a priority target for you?

S.C.: I'm like a shepherdess with her pilgrim's staff! I think policymakers are essential. You need to go out and convince stakeholders who have such enormous power and resources available to them. It is a matter of knocking on the right doors. The political dimension is at the heart of my engagement, and it takes real powers of perseverance. This quest, this political work, is something I take extremely seriously, in parallel to my artistic and educational activities.

In addition to lobbying and advocacy, we are also developing partnerships that are really important to us. Veja, leboncoin and LVMH are our lead partners, they believed in us from the very beginning. leboncoin shares our commitment to consuming in ways that are less wasteful and more reasonable, supporting actions we run targeting young people. My meeting with Sébastien Koop, co-founder of Veja, led to the creation of a mentoring program for young people who have dropped out of education, and a number of other projects we also run with Veja. The mentoring program is also supported by leboncoin, LVMH and local authorities such as the Roubaix town council. These encounters and collaborations with different partners make it possible to invent futures that are more frugal, rebuilding the self-confidence of young people we support by opening their eyes to the possibilities of a more engaged professional future.

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WHAT DOES THE FRUGAL CITY LOOK LIKE?

Interview with Charlotte Halpern

Political scientist and researcher at the Centre for European Studies and Comparative Politics at Sciences Po Paris



Forest city project in China, © stefano boeri architetti.

Charlotte Halpern has a PhD in political science and is a researcher at the Sciences Po Centre for European Studies and Comparative Politics. She works on the transformations of public policies and urban governance, analyzed from a comparative perspective in Europe, South America and Southeast Asia. Her research and teaching focus on sustainable environmental and urban policies, governance of ecological transitions in the mobility and energy sectors, and conflicts related to managing infrastructure. She teaches at Sciences Po, where she is Academic Director of the Executive Master's in Territorial Governance and Urban Development, and at AgroParisTech. She also heads the Institute for Environmental Transformations at Sciences Po. She was one of the founding members of the Centre des Politiques de la Terre (2019-2023), is co-director of the Bruno Latour Fund for Environmental Research and the environmental policies research group at the Laboratory for Interdisciplinary Evaluation of Public Policies (LIEPP). Her publications include: *Grenelle de l'environnement [Grenelle Environment Forum]*, with D. Boy, M. Brugidou, P. Lascoumes, Armand Colin, (2012); *L'Instrumentation de l'action publique [Instrumentation of Public Policies]*, with P. Lascoumes and P. Le Galès, Presses de Sciences Po, (2014), and *Villes sobres [Frugal Cities]*, with D. Lorrain and C. Chevauché, Presses de Sciences Po, (2018).

Sufficiency as applied at the urban level offers a third-way approach to development, positioned between urban development that consumes huge quantities of natural resources and ultra-local solutions. As Charlotte Halpern explains in this interview, the frugal city encompasses multiple realities and meanings. Sufficiency at the urban level is not confined to an approach rooted solely in individual actions, but is embedded in policies for optimizing resources (water and energy) and managing waste. Structuring a sufficiency program embedded in public policies requires a plurality of political and economic actors, and varies significantly depending on the modes of governance that characterize different countries and regions. While the North/South divide is only partially relevant to analysis of the frugal city, certain specific factors distinguish sufficiency in the Global South, primarily the role of informal workers.

In an era marked by the climate crisis, the city is increasingly a subject for debate, with multiple urban notions: green, sustainable, compact, resilient, frugal, low-tech, or 15-minute. What do you feel is reflected by this rise in innovations, concepts or narratives centering on the city?

Charlotte Halpern: The profusion of terms and concepts is interesting to analyze. It testifies to a strong desire to embed environmental challenges in urban policies in different ways.

This is not a new question. It was already a key issue in the 1970s and 1980s, as illustrated at the time by actions taken by a section of the middle classes to tackle problems relating to their immediate environment, such as pollution, protecting green spaces, noise, and nature in the city. A great many researchers have analyzed the socio-cultural motivations of these actions, known by the acronym NIMBY (not in my backyard), underlining their activist nature and the specific socio-political context that facilitated their emergence.

Today these theoretical frameworks illustrate the multiple ways we can think about the relationship between the city and the environment. Certain concepts are rooted in an essentially political or marketing stance, what we could call greenwashing. Conversely, cities are attempting to rethink their relationships to the environment and nature in concrete ways. For example, municipalities such as Lyon, Vienna, Malmö and Antwerp are stressing relationships with nature, water and trees. Other cities are opting to focus on techno-centric approaches with the goal of creating a low-carbon city. Notwithstanding the operational dimension, these concepts are also part and parcel of a broader desire to breathe new life into the city, which can suffer from a negative image since it is closely associated with externalities created by a development model that uses very large amounts of resources as well as with global warming and its consequences.



In 2018 you co-edited a collective work on *Villes sobres* [Frugal Cities].¹ How do you define the term?

C.H.: The notion of the frugal city is unifying because it is ambiguous. It lies at the intersection of debates on growth models. It embodies the demand for a third way between the business-as-usual approach, in the form of urban development based on endless exploitation of natural resources via programs for investing massively in large-scale technical systems, and approaches rooted in degrowth or post-growth, which question the notion of urban development and instead advocate for decentralized, miniaturized or even individualized solutions applicable to buildings, blocks and neighborhoods. The frugal city is positioned between these two approaches, arguing for a form of urban development that uses few natural resources.

In France, the notion of sufficiency ("sobriété") is primarily associated with Pierre Rabhi's proposed agricultural model that respects the environment and preserves natural resources.² The notion of frugal cities is instead rooted in territorial approaches to sufficiency, strongly influenced by ideas on industrial ecology debated in the 1980s based on Alfred Chandler's research in the USA, or in localized initiatives, such as in Kawasaki, Japan, which went on to be applied far more extensively. More radical approaches to the frugal city then developed, anchored in a holistic approach to urban development, for example, focusing on the concept of bioregions.³

As part of my research for the book, and working with my fellow authors, I examined the motivations and profiles of actors embracing the frugal city agenda. A striking discovery was that they are mainly economic and political actors working to promote urban developments that use fewer water and energy resources, for example, in the form of industrial parks and new cities. Feedback loops consisting of processing or reusing waste to supply energy to urban heating networks is one solution that has been highlighted.

Two triggers have emerged as the dominant factors in developing an approach rooted in sufficiency: 1) the desire to limit the negative externalities of green growth and promote others via waste/energy and wastewater/energy synergies; 2) the wish to support a political project for autonomy within a national territory (like the canton of Geneva or Amsterdam Schiphol airport), or for affirming national independence, as seen in Singapore. In what seems counterintuitive at first glance, the environmental dimensions of the frugal city, while not wholly absent, have remained relatively marginal and relegated to the background. The only exception we identified was Vancouver, where the ecology and involvement of ecology actors played a key role.

In all the other cases we studied, sufficiency was essentially rooted in the quest for optimizing energy efficiency in buildings, recovering energy from neighborhood waste, improving

ways for preserving water, and so on. The search for solutions concerning ways of organizing neighborhoods, technical urban systems, and buildings and their interactions translates on the city level into an unprecedented profusion of techniques for processing wastewater, storing and recovering energy, and producing and analyzing data. In Singapore, for example, water recycling has been taken to unprecedented heights in recent years. And in Lima, the capital of Peru, investments in maintenance have been put in place to try and minimize water losses in the network.

There is always a degree of ambiguity when we discuss frugal cities. In some quarters it is seen as echoing post-growth and degrowth approaches to urban development as well as responsible consumption of resources. Elsewhere it is associated with a search for optimization, or even austerity, and criticized for a perceived connection with the swing to neoliberalism after the 2008 financial crisis. This ambiguity means that some ecology actors have trouble appropriating the notion of the frugal city and prefer terminology such as the low-carbon city, green city or nature in the city. It is further heightened by a certain semantic confusion in this field: sufficiency, frugality and sobriety are all terms that are used, sometimes referring more to austerity or sobriety in the sense of limiting one's alcohol consumption, rather than frugality.

In France the focus has long been on frugal practices, thanks in large part to work carried out by the nonprofit négaWatt.

Presenting sufficiency as one of ADEME's scenarios⁴ for cutting emissions by 2050 helped to establish it as a territorial development model using fewer natural resources. Sufficiency is increasingly taken into account at the collective, operational and structural levels, formalized by public policies such as the Water Sufficiency plan

and Zero Net Artificialization regulation.

Some cities are beginning to embrace sufficiency, turning to public consultations to reinforce the acceptability of projects. In the greater Annecy area, broad-based discussions have been organized centering on sufficiency scenarios. The scenarios in question concern housing, urban and economic development, everyday practices, mobility, and green spaces.

In the Belgian city of Antwerp, sufficiency has become a keyword in discussions about how to adapt (not mitigate) to climate change and the resulting public policies. Projects for city-wide heating networks as well as repairing roads with new materials to encourage rainwater runoff, however, raise multiple questions about the organization and methods to adopt. The complexity or simplicity of repairing roads with new materials varies depending on the amount of traffic. All these issues require coordinating work with all the actors running the network as well as the maintenance teams, and adopting a multi-scale approach. Actually rolling out these policies is extremely challenging on the technical level! It involves prototyping, measuring, understanding and assessing what is technically feasible, estimating the price, planning maintenance models and the necessary equipment, organizing human resources, and more. Definitely not an overnight task!

4 Particularly the "regional cooperation" scenario.

1 Lorrain, D., Halpern, C. & Chevauché, C. (2018). *Villes sobres: Nouveaux modèles de gestion des ressources* [Frugal cities. New Models for Managing Resources]. Presses de Sciences Po.

2 Rabhi, P. (2010). *Vers la sobriété heureuse* [Towards Happy Frugality].

3 See in particular the work of Sinäi, A. (2023). *Réhabiliter le monde : pour une politique des biorégions* [Rehabilitating the World: call for a bioregions policy], Seuil Anthropocène.



What do you see as the most mature solutions?

C. H.: Heating and cooling networks are of particular interest. To return to the example of Antwerp, a case I studied in depth, the city turned to urban development consultancy Arcadis⁵ to implement its networks. This involved several parallel challenges. The first was identifying suitable sites producing industrial energy to connect to housing. Then, all the co-owners had to be persuaded to connect to the heating network and agree to collective contracts, which also required getting small retailers and other economic actors on board. And finally the city and public bodies had to reach a consensus, a task made much easier by the framework of the city's Climate Plan.

Land use is another area where we are seeing ecological issues being increasingly incorporated, in particular as part of the Zero Net Artificialization policy. Public land agencies are adopting the policy's targets and rethinking land development with a focus on sufficiency. This involves rethinking economic models for urban development, construction and planning activities by including the goal of tackling land scarcity and ambitious objectives relating to depollution. These questions involve public and private developers as well as planners. They demand greater efforts in terms of contextualization to take account of degrees of density and thus avoid exacerbating socio-spatial inequalities, and to adapt to the crisis currently hitting the real-estate sector. These are subjects explored by many students and alumni from the École Urbaine at Sciences Po. Two examples that come to mind are the thought-provoking podcast CityZan Vox⁶ and the FNAU's European benchmark work.⁷ These studies show that techno-centric solutions are inadequate and that the challenge today lies in embedding ideas about the frugal city into a regional or local project.

At the global level, is a difference emerging in how cities in the North and the South appropriate the principle of sufficiency?

C.H.: I should start by pointing out that when it comes to sufficiency – just like every other subject! – we can consider that there are several Norths and several Souths. The specific contexts of each country influence the extent to which sufficiency is appropriated, and there are endless variations within the Global South.

Let's take the example of the city of Singapore, seen as a model for good practices in water management. We cannot understand the choices the city has made without linking them to the city-state's political system, where relationships between public and private, the rollout of public policies, and policy instruments are shaped by a hierarchical and techno-centric approach. The frugal city project here is part and parcel of a national independence strategy, and has resulted in the organization of world-leading manufacturers and the development of state-of-the-art technologies. In many southern countries, such as India and South

Africa, the sufficiency agenda is closely tied to debates on development models. In some cases, such as Brazil since Lula's reelection, discussions of frugal urban development include the challenges of reducing inequalities and a greater focus on the inclusion of indigenous communities.

We also find more specific issues which have a strong impact on urban development policies in southern countries. For instance, the role of the informal sector, particularly informal workers who have a central role in essential services. The focus on these actors plays an important part in studies on the recycling economy – what Rémi de Bercégo⁸ terms backyard recycling in his work on waste sectors in Indian municipalities – and economies of urban mining, studied by, for example, Côme Salvaire in the context of waste management in Lagos or Mexico City.

A raft of policies have been implemented in Chile, Brazil and Peru to try and formalize part of the informal sector. Some are designed to integrate informal workers via training and the stabilized income that flows from the formalization of green jobs. These elements are accompanied by efforts to set up and structure recycling sectors run by private actors, which do not always consider the future of these workers. In numerous geographic and cultural contexts – Brazil, India and the countries of the Maghreb – the inclusion of sufficiency policies in the waste industry is inextricably linked to discussions about the future of informal workers via the structuring of recycling sectors.

Surveys have highlighted another factor that distinguishes cities in emerging economies, Lima, New Delhi and Windhoek, for example: the role of international organizations and development aid agencies in driving technological and institutional innovation.

More broadly, the degree of control over urban development and governmental capacities and resources mobilized locally define the form that sufficiency will take at the highly operational level. In Singapore, urban development is strictly controlled and rolled out under the direction of the Urban Redevelopment Agency. Advanced technologies are employed to deliver energy efficiency and wastewater recycling, driven by a desire for optimization. Conversely, urban development occurs horizontally and informally in places like Lima in Peru, Manila in the Philippines and many other countries of the Global South. Lima's population is not growing by much, but spatially the city is expanding all the time. Public actors are therefore required to consider sufficiency in the light of networks that are inadequate in terms of the size of the city itself and subject to additional pressures caused by growing population density in certain neighborhoods. Laure Criqui⁹ and Jérémy Robert¹⁰ have shown how there are additional challenges relating to access to drinking water and decent housing. The question of sufficiency and exploitation of natural resources thus arises in a wholly different way depending on the nature and pace of urban development but also, and most importantly, on the political capacity to manage and deliver an agenda for urban sufficiency at the operational level. I believe this to be a major challenge facing the countries of the South.

⁵ <https://www.arcadis.com/fr-fr>.

⁶ Fanny Ervera, <https://www.cityzan.fr/podcast-cityzan-vox/>.

⁷ Group project at the École Urbaine de Sciences Po, <https://www.sciencespo.fr/ecole-urbaine/sites/sciencespo.fr.ecole-urbaine/files/FNAU%202023%20synth%C3%A8se.pdf>.

⁸ See Rémi de Bercégo's research: <https://www.prodig.cnrs.fr/remi-de-bercego/>.

⁹ <https://www.coordinationsud.org/prestataire/laure-criqui/>.

¹⁰ <https://cv.hal.science/jeremy-robert>.



What will be the biggest challenges for the frugal city in the coming years?

C. H.: I will mention three, though there are others.

First, although it is possible to manufacture a frugal city by creating new districts, this is far more complex to achieve in older neighborhoods, whether in terms of water networks, buildings or land use, in France as much as elsewhere. So although a technically accessible possibility, it also poses multiple practical questions: how can the work be funded? How can it be rolled out at scale? Can 50% of a city's buildings be connected to a district heating network? How can contracts be updated and redefined, how should costs be divided? Should incentive measures be introduced? And so on. In short, it is far harder converting what already exists than building from scratch.

The second challenge facing sufficiency is governance, which is indispensable to scaling up. For much too long the focus was on individual responsibility and everyday acts, or on exclusively tech-led approaches, imagining, for instance, that simply fitting homes with smart technologies would be enough to guarantee sufficiency. The fact is that governance is the key to scaling up, requiring public actors to take ownership of these subjects and roll out specific policies to address them. This is the only approach that makes it possible to plan how to divide costs between different local and regional territories, and involve the population as a whole. It is essential that this becomes a policy priority across the entire territory. This is something that metropolitan authorities such as greater Annecy and Grenoble are trying to do, that Dunkirk has done for a long time, and that Lyon is starting to do.

Financing these policies is, of course, a major challenge. In France, a large number of sources of financing are available to support rolling out sufficiency in new districts and new markets currently being developed. However, outlying districts, very rundown older neighborhoods, and certain derelict industrial sites are very much left by the wayside, whereas they need greater public investment. The truth is that we are yet to find an economic model suited to supporting scaling-up of policies to promote sufficiency. The role played by public investment, tax policy and incentives is crucial: it is not possible to rely solely on individual responsibility and market actors, particularly in terms of driving a transformative agenda pegged to ambitious social justice goals.

A third challenge concerns the countries of the South. An agenda demanding social justice and urban development that keeps within planetary boundaries cannot be confined to the major cities of northern Europe alone; it must be part of an overall vision that takes account of the environmental inequalities and regional impacts of the climate crisis, as underscored by recent IPCC studies. At the time of writing, as studied in our book, sufficiency-led urban policies are emerging as a result of relationships between public actors, the state and its agencies, as well as in a certain number of private-sector groups and, on occasion, civil society organizations. They are taking form around major infrastructure and planning projects. But projects like this do nothing to tackle the challenges of fighting poverty



Bosco Verticale, Vertical forest in Milan's Porta Nuova district.

and rolling out sustainable development goals, and so on. These are issues that require action on a scale greater than the city, geared toward a more comprehensive rethink of development policies from a multi-scalar perspective which necessarily includes work at the state level. This is a challenge of some magnitude.

To find out more

- Charlotte Halpern: *Frugal city: a 3rd way between "business as usual" and decline?* October 25 2018, available on the SciencesPo website: <https://www.sciencespo.fr/research/cogito/home/conservative-cities-a-3rd-way-between-business-as-usual-and-decline/?lang=en>
- *Villes sobres [Frugal Cities]*, a report coordinated with Eva Bossuyt, Sciences Po library (for release in late 2024): <https://dossiers-bibliotheque.sciencespo.fr/>
- *Territoires du futur: un nouvel imaginaire pour nos villes de demain [Territories of the future: a new narrative for the cities of tomorrow]*, podcast in the series *De cause à effets, le magazine de l'environnement [Cause to effect, the environment magazine]*, broadcast May 28, 2024 by France Culture with Charlotte Halpern and Agnès Sinaï. (<https://www.radiofrance.fr/franceculture/podcasts/de-cause-a-effets-le-magazine-de-l-environnement/territoires-du-futur-un-nouvel-imaginaire-pour-nos-villes-de-demain-9939200>).



HOW CAN SOCIAL SCIENCES HELP CHANGE BEHAVIORS?

The example of energy

Xavier Brisbois
Doctor of social psychology



Xavier Brisbois is an independent researcher who holds a doctorate in social psychology. His work uses scientific insights into behaviors to examine present-day social issues (mobility, recycling, energy, water, etc.). He is also a research associate at the Laboratoire Ville Mobilité Transport (Université Gustave Eiffel). He has contributed to a wide range of projects and studies, working on several occasions with [Paris transport operator] RATP, examining the acoustics of underground spaces, public transport fraud, and messaging about abandoned packets and parcels. He has also conducted research into waste sorting behavior for CITEO (formerly Eco-Emballage), in particular looking at training for -sorting ambassadors and the adoption of at-source waste sorting on Marseille's beaches. He is currently working on air quality on behalf of the Paris city council and Airparif, and on energy savings for ADEME. He regularly provides training to local authority mobility specialists from across France, working with CNFPT [National Center for the Regional Civil Service]. Xavier Brisbois completed his doctoral thesis in 2010: prepared at the RATP, it examined the decision-making process in terms of choice of transport mode, and set out to underline the importance of moving beyond traditional rational approaches that fail to account for a large number of real-life behavioral parameters.

The adoption of new heating systems that use less energy is a widely identified mechanism, seemingly simple to implement in order to cut energy consumption at the individual and collective levels as part of a drive for efficiency or even sufficiency. Yet, this behavioral change is proving difficult, a situation that contributes to the discrepancy between the potential and actual energy savings that energy efficiency could achieve. This is known as the energy efficiency gap. This article highlights research carried out by two specialists in order to illustrate the role of various social science disciplines in the analysis of this phenomenon, and to point the way to non-technical solutions. Particular attention is paid to solutions based on behavior-led approaches, which take account of the realities of people's habits rather than imagining that all their choices are rational. Already applied to behavioral changes designed to improve energy efficiency practices, these analyses are also relevant when dealing with the challenge of helping people transition towards sufficiency.

French law requires all communications by electricity suppliers to include the slogan "Energy is our future, let's save it". This might have the advantage of explicitly stating the government's position, but how can a plan of this kind be put into practice? Reminding people of the imperative to strive for sufficiency underlines how important it is to look at uses, inviting us all to be more aware of what we consume as individuals. This call for citizens to mobilize by adopting environmentally friendly habits such as remembering to switch off the lights in empty rooms is certainly important – but it is not enough. While it is essential to encourage everyone's goodwill and efforts, starting by getting people to learn about issues surrounding energy transition, we cannot be content with targeting only individuals.

It is also worth noting that calls for sufficiency are relative outliers in our countries with their engineering-led cultures where technical solutions tend to be prioritized. In the past few years, new technical systems have been widely developed to reduce energy consumption via a primary focus on improving efficiency (low-consumption lightbulbs, insulation, heating systems, etc.). Despite a degree of progress, these solutions alone have failed to solve the challenge of energy transition and reducing consumption. This observation should encourage us to broaden our analysis and look beyond technical solutions alone. This article focuses on identifying the various reasons behind this partial failure and highlighting potential solutions which also take human factors into account.



UNDERSTANDING THE ENERGY EFFICIENCY GAP

Despite technical improvements, energy consumption has not fallen in a significant manner, meaning the problem remains unresolved. Several scientific publications have highlighted a problematic phenomenon: the absence, or poor take-up, of new tools and solutions. This points to the clear gap between potential energy efficiency and real energy efficiency,¹ a topic that a large number of studies have attempted to either explain, or reduce.

Although the issue has been well known for some time,² the problem is still far from being resolved and constitutes a fundamental challenge in an era when reducing energy consumption has never been more urgent.

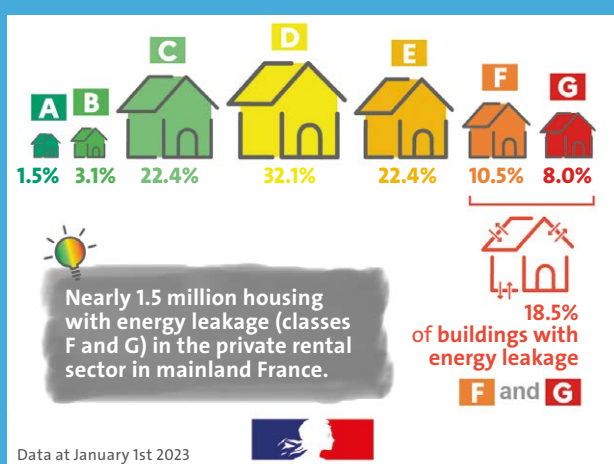
Despite technical improvements, energy consumption has not fallen in a significant manner, meaning the problem remains unresolved

Another category of publications tend instead to deny the gap exists; in simplified terms, they claim that if actors fail to adopt these techniques and tools it is because they are insufficiently attractive. The virtues of cutting energy consumption and saving money are, apparently, not enough in themselves to explain the choices made.⁴

These publications emphasize that in real-world conditions there are other important factors that come into play, particularly people's confidence that something will operate correctly, the ability to gauge actual savings, and individuals' feelings. One example is that consumers were for a long time hesitant to buy compact fluorescent bulbs because they produce a very white light. In this case, the desire

for a pleasant interior space was accorded greater importance in the decision-making process than cost-effectiveness.

ENERGY LEAKAGE IN THE PRIVATE RENTAL SECTOR



In France, despite messaging to encourage energy renovations, it is thought that 18.5% of private rented accommodation is a so-called thermal sieve, versus 15.7% of all main homes.³

SO, WHERE DOES THE ENERGY EFFICIENCY GAP COME FROM?

A great many publications analyze the gap as being above all a symptom of irrationality, a logical aberration on the part of those involved. Insofar as investing in such tools and techniques combines gaining green credentials with saving money, taking them up should be a matter of course. In the view of these papers, the solution lies in placing greater emphasis on these benefits so that people are better informed – and should then make the “right” choice.

THE IMPORTANCE OF FOCUSING ON USES AND BEHAVIORS AS WELL AS ON TECHNICAL DIMENSIONS

Ultimately, when faced with the analyses of behavior, we have to admit that technology does not explain everything: we have to take account of the human dimension too. The finest machines imaginable will not deliver all the hoped-for services unless people use them correctly. Sociologists in particular stress that systems are always to a large degree socio-technical: their true usefulness depends on both factors, and overlooking the social side in favor of technical considerations invariably leads to difficulties and disappointments. So-called boomerang effects are well-known examples of the human challenges involved in adopting a technology. For example, generalized adoption of the most energy efficient lamps led to an explosion in demand for festoon lights and a reduction in the attention paid to ensuring lights were switched off, as the new lamps were thought to “cost nothing to run.”

In the face of such complexity, how can we act to understand behaviors as well as to change them? Social and technical aspects are both tricky to manipulate, and various interpretations and solutions coexist. Without wishing to set the diverse approaches against each other, it is instructive to examine how different social science disciplines consider these questions, in the light of the work of Canadian researchers Charlie Wilson⁵ and Hadi Dowlatabadi⁶ into decision-making models,⁷ whose conclusions are presented here. At the end of their multidisciplinary literature review, the authors reaffirm the specific contributions of each discipline, as well as their shared usefulness.

1 Jaffe AB, Stavins RN. (1994). The energy efficiency gap: What does it mean? *Energy Policy* 22:804–10.

2 Hirst, E. and Brown, M., (June 1990). Closing the Efficiency Gap: Barriers to the Efficient Use of Energy. *Resources, Conservation and Recycling*, Vol. 3 Issue 4, pp. 267-281.

3 <https://www.statistiques.developpement-durable.gouv.fr/node/1243504>.

4 For example: Boulanger PM. (2007). *Les barrières à l'efficacité énergétique, Reflets et perspectives de la vie économique [Barriers to energy efficiency. Reflections and perspectives from economics]* (volume XLVI), pages 49 to 62. De Boeck Supérieur.

5 Professor of energy and climate change at Oxford University.

6 Professor Emeritus, Canada Research Chair, Applied Mathematics of Global Change, University of British Columbia.

7 Wilson, C. and Dowlatabadi, H. (November 2007). Models of Decision-Making and Residential Energy Use, *Annual Review of Environment and Resources*, Vol. 32, available at SSRN: <https://ssrn.com/abstract=1076831>.

The first stage in their work is to list together all the reasons usually identified to account for the energy efficiency gap and the failure of consumers to adopt less energy intensive heating systems. The main elements are summarized below.

- Information is hard to find and its reliability is hard to assess: people need to acquire a measure of expertise, or at least consult an expert, to be able to assess the efficiency of the mechanisms.
- Various fears exist, mostly centering on technical reliability and real-world value for money.
- People do not have the capital sums needed.
- Complex, sometimes counterproductive, incentive schemes are used, for instance, where conditions for benefiting from financial assistance make it hard to access information and make an assessment.
- Appearance of market effects, with certain actors selling less efficient older solutions at a loss.
- Lastly, heating is a relatively small portion of overall expenses, which makes the subject less important as a priority for households and other actors concerned.

After this overview, the authors look at how different human science disciplines have envisaged solutions based on their specific analytical frameworks.

The first discipline studied was conventional economics. With a focus on the effective usefulness of solutions and the rationality of the actors involved, economics suggests improving usefulness and/or objective cost-effectiveness to enhance the attractiveness of new products, as well as providing all actors with adequate information. Conventional economic studies cited by the authors also show that lending money to invest is more efficient than subsidizing a purchase, the problem being more a lack of investment capacity than a lack of objective cost-effectiveness.

The second approach is based on behavioral economics. In addition to the desire to maximize usefulness, this also takes account of decision-making bias (often termed cognitive bias) such as the point of reference effect⁸, and evaluation framework.⁹ In this regard, several studies from the field of behavioral economics identify interesting elements and make a number of recommendations for shrinking the energy efficiency gap that allow for the cognitive limits of individuals' decisions:

- Diversify the offer, particularly via an entry-level proposition, to recenter the point of reference and demonstrate the just price of products that provide the best value for money.
- Use the term "energy efficiency" rather than "energy saving", as this triggers the idea of a loss.

The virtues of cutting energy consumption and saving money are, apparently, not enough in themselves to explain consumer choices

- Promote comfort, meeting desires, or peace of mind rather than technical or cost aspects alone.
- Lastly, provide benchmarks to make evaluations easier, with labels or ratings similar to the energy label.

The third point of view centers on cognitive and social psychology. This explains decisions through the prism of psychological phenomena, starting from the principle that cognitive and social constraints have a major bearing on decision-making. It formulates a long list of recommendations and principles based on a considerable body of research.

- To be effective, information must have the following characteristics: be simple, salient, appropriate to the person addressed, and allow for comparisons. It is also essential to use the information provided to emphasize the relative benefits for the individual in terms of comfort, health, etc.
- Ineffective information, on the other hand, is: technical, detailed, factual, and exhaustive.
- The reliability and credibility of information and its sources are essential and must be emphasized.
- The biggest problem lies in the complexity of solutions and the lack of competency on the part of decision-makers. With this in mind, it is necessary to promote the emergence of trusted third parties or social feedback and advice from peers to help make decisions easier.
- The importance of observability: ideally best practices need to be visible, i.e. rooftop solar panels.
- Change is progressive: interventions have to target the long term.
- Messages need to be tailored to suit different targets (older homeowners, renovating buyers, property managers, etc.).
- Mass communications are useful for catching attention but have zero measurable impact on whether any action is actually taken.
- Lastly, messages that aim to convince using only environmental arguments are relatively ineffective and need to be paired with arguments which offer individuals more immediate benefits.

Sociological research provides the fourth, final, perspective. Sociological analysis calls on a different paradigm, one that considers decisions not as the acts of individuals themselves, but as constructed and/or determined by social and technical systems. For example, demand for energy is indirect and not the result of individual choices.

This is a problem integral to the issue of lifestyles. People do not consume energy as such; they cook a meal or take a shower. In other words, they use machines. One also has to take into account social and advertising injunctions to buy new products and consume more (swimming pools, SUVs, new phones, etc.).

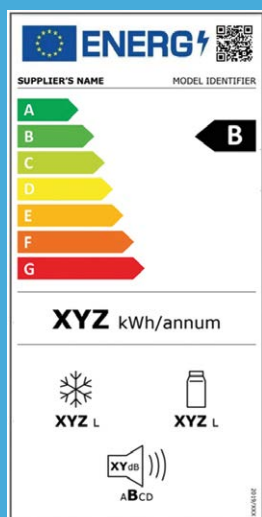
From this standpoint, sociological studies of the energy efficiency gap predominantly suggest actions that center on manufacturing chains and retail product offerings, and even urban planning. They recommend prioritizing an examination of individuals' needs (organization of work, travel, etc.), aims and aspirations rather than energy efficiency alone.

⁸ Points of reference refer to all the elements of comparison we use to take a decision and that may have a bias effect on our judgement. An example of a point of reference: we consider the price of a product to be more or less suitable according to whether we compare it to another similar option or to an option that is three times cheaper.

⁹ See below.



GUIDING CONSUMER CHOICES: THE ENERGY LABEL



Introduced in 1992 for most household appliances, the EU energy label offers consumers an easy-to-read summary of a product's characteristics, particularly energy performance, and is designed to help it make it easier to choose between models.

The research suggests that energy labels are a useful mechanism – although insufficient in themselves – provided they are used correctly.

The advantage of energy labelling is that it makes it easy to identify the characteristics of a product and draws attention to its energy efficiency, as well

as providing another basis for making a choice aside from price, appearance and marketing claims. The label also plays the role of the trusted third party that helps with the decision-making process.

However, several conditions must be met before energy labels can play a truly useful role: (1) they have to be associated with a trusted issuer (public authorities in this case); (2) they need to be used correctly by manufacturers; (3) the scale must be constructed to allow people to differentiate between efficiency levels; (4) there must be narrow price differences between efficiency levels, otherwise decision-making will be too heavily influenced.

CONCLUSION

This brief overview illustrates the contributions, interest and complementary nature of the different approaches social sciences take to tackling the challenges of energy efficiency. Each discipline is able to set out practical recommendations which serve as opportunities to measure the extent of the possibilities for complementing the technical approach, which is not enough by itself to trigger changes in behavior. Looking at the bigger picture, it appears that a determining element in supporting changes in behaviors of whatever nature – in favor of saving energy or water use, choices in terms of food or mode of transports, basically the entire set of subjects that interact with our lifestyles at even the most trivial levels – is, of course, to offer alternative solutions. But, paradoxically, it also entails deconstructing the notion that the roots of change lie in individual choices alone. The truth is that what we face is a challenge to our capacity to change, and we need to devote ourselves to building this capacity.

These comparative multidisciplinary perspectives make it possible to identify several overarching principles that could be used to guide the work of researchers and policymakers. It is vital to ensure not only the right conditions for helping with decisions and accessing information, but also to examine issues surrounding prescriptive social norms and, in a wider sense, how uses and lifestyles are represented. Ultimately, rather than trying to invent a radiator for the next millennium, efforts should be focused on supporting people who would like to do better and are unsure how to proceed in a complex environment laden with uncertainty. This seemingly more modest ambition would benefit from inputs from the human and social sciences perspective, providing comparisons between different scales of analysis and suggestions for relevant solutions. Already applied to behavioral changes designed to improve energy efficiency practices, these analyses are certainly also applicable to the significantly greater challenges of supporting people to transition toward sufficiency.



SUFFICIENCY: challenges for Veolia Water France

Article based on an interview with Jean-François Nogrette,
written by Archipel&Co.
Senior Executive Vice President, France and Special Waste Europe, Veolia



A graduate of AgroParisTech, Jean-François Nogrette began his career with Veolia in 1995, focusing on soil decontamination and remediation. From 1997 to 2002, he worked first in Israel then Canada to expand hazardous waste activities in the two countries. Returning to France in 2003, he headed up the Industrial & Innovation Department before taking over the North of France Regional Department at SARP Industries. In 2010, he was appointed Chairman & Chief Executive Officer of SARP and SARP Industries. In May 2015 he was appointed Chief Executive Officer of Veolia Water Technologies and joined Veolia's Executive Committee. In 2022, Jean-François Nogrette was appointed Senior Executive Vice President, France and Special Waste Europe.

Sufficiency has emerged as an appropriate approach for tackling water-related issues in a context marked by different challenges: a sharp spike in water stress, mostly caused by the climate crisis, but also inadequate investment in infrastructure. Given this situation, sufficiency is a useful lever for delivering short-term solutions to problems relating to water stress. It is increasingly also a necessary precondition for efforts to bolster the acceptability of industrial actors. Jean-François Nogrette discusses a range of levers for implementing sufficiency: decoupling production and distribution in business models for water management, as Veolia already does with a number of its contracts, as well as behavioral innovations in the form of helping people to change their behaviors. Useful though they are, these levers also have to be accompanied by other approaches, and Veolia does not consider that sufficiency can be a one-size-fits-all response to the challenges that water stress poses. Innovation, energy efficiency, and resource recycling and circularity solutions are all indispensable levers for making ecological transformation a reality.

Recent years have seen sufficiency impose itself as one component of scenarios for cutting greenhouse gas emissions, alongside other levers such as energy transition and shifting to renewables. Bodies such as the IPCC and International Energy Agency now include sufficiency, meaning a reduction in energy demand, as a factor in their thinking and scenarios. How sufficiency is translated into policies remains, however, variable according to the country and context.

In France, sufficiency has a notably high political profile, mainly as a result of the sufficiency plan the French government launched in 2022. And while sufficiency-based approaches can be applied in multiple domains and industries, sufficiency relating to individual and collective use of water resources is the subject of particular attention in a context of heightened water stress acknowledged by all stakeholders. In 2023, France's government unveiled its Water Plan, designed to steer industrial businesses and ordinary citizens toward an approach governed by water sufficiency and an acceleration of the shift to sustainable management of water.

As the champion of ecological transformation, the concept of sufficiency, and water sufficiency in particular, is something we are clearly very interested in, not only in terms of municipal contracts but also to help ensure that major industrial projects are locally acceptable. While sufficiency is something that concerns all the Group's activities, in this article we will focus on the specific case of sufficiency as it relates to water management, the Group's historical activity.





SUFFICIENCY PROVIDES SOME NECESSARY SOLUTIONS FOR DEALING WITH WATER STRESS AGAINST A BACKGROUND OF UNDERINVESTMENT IN INFRASTRUCTURE

We should start with the following two observations. The investment needed to tackle the water crisis and provide genuine industrial-scale responses is considerable, and far from materializing as yet. At the same time, water stress is something that economic modeling fails to take into account sufficiently. According to the most recent report from France Stratégie on the subject, renewable water resources, indispensable to multiple anthropic uses and the operation of aquatic systems, fell by 14% in France over the past 15 years.¹ This trend will probably worsen, in particular during the summer, as a result of the climate crisis. An independent report published in June 2023 by the Academy of Technologies² demonstrates that three major elements contribute to growing pressure on available water resources: discharges of chemical or biological pollution into water resources, resulting in the need for special treatments prior to use or to identify alternative resources; the consequences of the climate crisis on the water cycle and the amount of water abstracted, and, conflicts between the amount of water needed for human activities and the amount needed to maintain healthy natural ecosystems.

We are now racing against the clock to address water stress, in an environment where the necessary investments are likely to take some time

The reality of this situation tends to indicate that investment in water and sewage infrastructure remains too limited. Water networks – 875,000 km for drinking water and 425,000 km for sewage and wastewater, half of it located in rural areas – face many difficulties. Nationally, leaks mean that 20% of drinking water leaving treatment plants never arrives at its destination. These losses represent close to one billion cubic meters every year, equivalent to the amount used by approximately 18.5 million residents. The investments required are considerable: the network renewal rate is currently just 0.6% a year. In a report published in 2022,³ the Water Industries Union estimated that approximately €2.7 billion was needed to renovate the drinking water network, with the sewage network requiring a further €2 billion. The estimated investment shortfall for these two networks is put at €1.8 billion and €1.4 billion respectively.

We are now in some ways racing against the clock to address water stress, in an environment where the necessary investments are likely to take some time.

In this situation, sufficiency, particularly in terms of managing behaviors, becomes a go-to lever for taking action. Encouraging sufficiency provides an initial response and solution to mitigate the consequences of the inadequate rollout of solutions to improve efficiency and yield in the networks. Alternatively, supporting behavioral change may under certain conditions offer a faster-acting lever.

However, sufficiency and the question of saving water are also keys to ensuring social acceptability, or even prerequisites that must be respected in order to obtain a license to operate. This aspect appears to be very much a key expectation on the part of the Group's stakeholders: industrial actors, public bodies, and residents.

¹ https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/fs-2024-na_136_enjeux_et_usages_de_leau_avril.pdf.

² https://www.academie-technologies.fr/wp-content/uploads/2023/07/20230703_Rapport_AT_Apports_technologies_besoins_eau_douce_web.pdf.

³ <https://eau-entreprises.org/actualite/patrimoine-de-leau-2022/>.



LEVERS FOR DRIVING SUFFICIENCY, FROM BUSINESS MODEL TO BEHAVIORAL INNOVATIONS

Given this background, a number of levers exist for making sufficiency a concrete reality.

The first involves embedding sufficiency as a determining features of business models, something Veolia is already working on. One example is the northern French city of Lille where **production and distribution are now decoupled** to make the system more durable.

The situation in Lille is complex: groundwater recharging has fallen 20% since 2017 while the population is forecast to grow by 5% over the coming decade, supported by the construction of 6,000 new homes. Unlike most other regions of France, there is no major river that crosses the greater Lille area, itself very densely populated. Four million people – the Lille metropolitan region with its very buoyant local economy, the coalfields, and Belgium – all share the same groundwater.

Here, for the first time, we will receive payment for the amount of water saved. We have made a commitment to deliver a 4% cut in the amount of water purchased from Sourceo, the public entity that produces the water, under the terms of what we have called a water sufficiency contract. And the price end users pay for their water remains controlled.

We are also going to support consumers in efforts to reduce the amount of water they use. Remote meter reading will be rolled out over the next four years for all consumers, who will be alerted within 48 hours if a leak is detected. We are also going to be encouraging people to behave more sustainably. We intend to distribute 550,000 water-saving kits that include aerators to reduce flow from taps, a timer to help people realize how long they spend under the shower, a plastic bladder to place in the toilet cistern to reduce the volume of water, a flow regulator for showers, and a guide to raise awareness. These kits will be handed out door-to-door. We will thus be paid not for providing more, but for providing less.

We have opted for the same approach as part of our contract with the city of Verdun, committing to delivering a 22% cut in water use (10% for residents, 30% for the municipality) by distributing 150,000 water-saving kits.

A second mechanism lies in **systematizing behavioral innovation**. All the literature agrees that efforts to change behaviors can be divided into two key phases: on the one hand, understanding existing behaviors and recognizing different preconceptions that may affect our decision-making, on the other hand, implementing behavioral levers to encourage change. Veolia is committed to a focus on understanding, formulating, and scaling up mechanisms of these types.

If we want to be capable of rising to the challenge of the changes to come, we need to combine sufficiency with other levers for taking action, especially innovation and the search for energy efficiency, resource recycling and circularity solutions

Sufficiency can be encouraged through ambitious targets centering on raising awareness and changing people's behaviors. But it would be a mistake to believe these targets replace collective initiatives, when they actually work to accelerate them by urging everybody to act at their own level. This is the approach we have adopted as part of the Eco d'Eau initiative in France, which aims to get the largest possible number of people involved in actions that permanently alter our relationship to water.

Veolia is supporting the goals announced in the French government's Water Plan by rolling out Eco d'Eau, designed to help regions and industries tackle the issue of dwindling water resources. This is a collective initiative recognized by the government with its "Every action counts. Let's preserve our resources" label. It provides participants with access to educational tools highlighting sufficiency issues and the 33 eco-friendly actions everyone can take, a charter of voluntary commitments for organizations to structure and share their commitments with external stakeholders and employees, and a manifesto for individuals to highlight their involvement.

Environmental actions can also help create a positive dynamic for tackling broader social issues. This approach is central to actions taken by Veolia Water Île-de-France, particularly its Eau Solidaire program which aims to link the question of ecological sufficiency to the fight against water poverty. Our goal here is to duplicate the mechanisms of what we could call a just transition by working on social as well as environmental dimensions.

As part of the Eau Solidaire initiative, created in 2011⁴ by the Greater Paris Water Authority (SEDIF) and its operator Veolia Water Ile-de-France, we partner with various organizations (Compagnons Bâisseurs and Impact Copro) to launch targeted programs for reducing water consumption in badly maintained housing blocks. We aim to work on various levels: technical aspects, by repairing leaks; behavior, with workshops on awareness-raising, prevention and education on the main consequences of excessive water use (waste, damage to the building, financial costs, modifying social ties, etc.), and longer-term prevention by training residents in simple repair work so they have the tools to undertake repairs in their building themselves.

In our view, sufficiency is not a miracle solution that can solve all the challenges we face. However, given the complexity of the problems that need tackling, such as water sufficiency, we cannot afford to discount any solutions. If we want to be capable of rising to the challenge of the changes to come, we need to combine sufficiency with other levers for taking action, especially innovation and the search for energy efficiency, resource recycling and circularity solutions.

⁴ Every year 2.5 million euros (representing 1% of income from water sales) are allocated to the Eau Solidaire program.





TOWARD SYSTEMIC SUFFICIENCY

Philippe Bihouix
Chief Executive Officer, AREP Group



Philippe Bihouix, an engineer, is the CEO of AREP, a French multidisciplinary and international consulting agency is a consultant engineer and Chief Executive Officer of multidisciplinary agency AREP (www.arep.fr). For the past 15 years he has focused on issues surrounding energy transition, non-renewable resources, and the associated technological and environmental challenges. He is the author of several books, including *The Age of Low Tech. Towards a Technologically Sustainable Civilization*, Bristol University Press, 2020, *Le bonheur était pour demain. Les rêveries d'un ingénieur solitaire [Happiness Was Yet to Come. Reveries of a Solitary Engineer]*, Seuil, 2019, *La ville stationnaire. Comment mettre fin à l'étalement urbain [The Stationary City. How to Put an End to Urban Sprawl]*, Actes Sud, 2022 with Sophie Jeantet and Clémence de Selva, and the comic strip *Ressources. Un défi pour l'humanité [Resources. A challenge for humanity]* (Casterman, 2024, with Vincent Perriot).

Traditionally the preserve of ecological nonprofits and a small handful of institutional actors, sufficiency is beginning to be recognized as a key lever for much-needed environmental transition. It is now a regular feature of public policies, particularly in Europe following recent concerns over natural gas supplies and large spikes in gas and electricity prices, and appeared in the most recent IPCC report.

However, work still needs to be done on defining exactly what sufficiency looks like: when not simply confused with efficiency, it often takes the form of “personal” sufficiency, a more or less voluntary approach that looks a lot like austerity and essentially involves turning down the heating, choosing public transportation, so-called green mobility or car sharing, and consuming a little more frugally (food, tech, clothes, etc.). This in turn raises the issue of its acceptability to people mired in a consumerist outlook.

But rather than depending almost entirely on consumers, sufficiency could be given a deeper reach, become more systemic and more organized, facilitated by authorities at every level, in every sphere, from transport to telecommunications, construction to regional planning.

For a long time, the notion of sufficiency was confined to a small circle of energy specialists, ecology nonprofits such as négaWatt (which made a big contribution to cementing the use of the term in France) and certain institutional actors such as ADEME (France's ecological transition agency), although they were largely preaching in the desert. Things have changed in recent years and the term now crops up in the discourse of many public and private sector actors.

One of the reasons for this marked change was, of course, the outbreak of war following Russia's invasion of Ukraine which in turn triggered massive uncertainty about energy supplies and sharp spikes in European gas and electricity prices. But irrespective of this situational effect, sufficiency was also referenced in the most recent report from the IPCC. Sufficiency policies are defined as “a set of measures and daily practices that avoid demand for energy, materials, land and water while delivering human wellbeing for all within planetary boundaries.”



Calls for sufficiency come on the heels of a decade when all the major international agencies stressed the massive material requirements of an energy transition predicated on renewable energies and electric vehicles,¹ adding to already well-established trends for the world's urbanization, industrialization, and digitalization. Every year humanity extracts over 100 billion metric tons from the environment, three quarters of which are non-renewable resources such as fossil fuels, minerals and ores, sand and gravel, etc.² And the combination of economic and demographic growth could see a 70% increase in this figure by 2060.³ Faced with this level of acceleration, it is clear that any measure able to "avoid creating needs" – without calling into question the goal of human wellbeing and development – would be very welcome. The best, most ecological kilowatt-hour is undoubtedly the one we had no need to use!

So, sufficiency is beginning to be recognized as a key lever for much-needed environmental transition. Specifically, the switch to new practices in the aftermath of the 2020 pandemic crisis (travel by bike, rise in working from home and remote meetings, etc.) and the real reduction in energy consumption during the winter of 2022-2023 resulting from various public policy measures (heating offices and public buildings to 19°C, various incentives, etc.) were surprising in their scope and speed of adoption. Sufficiency went from key lever to something that could be activated without triggering a social meltdown.

SUFFICIENCY OR AUSTERITY?

But what form of sufficiency are we talking about? Work still needs to be done on defining exactly what sufficiency looks like, as the term, alongside sustainability, resilience, and a few others, has multiple meanings: governments, advocates for degrowth, major corporates and environmental protection nonprofits all have very different perceptions of sufficiency.

When not simply confused with efficiency, it often takes the form of "personal" sufficiency, a more or less voluntary approach that looks a lot like austerity and essentially involves turning down the heating, choosing public transportation, so-called green mobility (riding bikes and scooters, walking, etc.) or car sharing when there are no alternatives, and consuming a little more frugally (eating less meat and opting for local and seasonal food, embracing responsible tech, buying fewer or secondhand clothes, etc.).

This in turn raises the issue of its acceptability: to people mired in a consumerist outlook and manipulated by advertising ("consume and be happy") who may – legitimately enough – feel they are being encouraged to tighten their

belts "for the planet" while the dominant political and economic classes carry on much as usual; and to governments and economic actors that may view sufficiency policies as threats to the survival of economic models or the balance of public finances.

The spat between France's Ministry of Finance and Ministry for Ecological Transition (which oversees ADEME) following a "consume responsibly" campaign launched in November 2023⁴ is an interesting example of this tension. Advertisements featuring "de-salespersons", quirky and slightly disconcerting but very appealing, questioning people's real needs rather than letting themselves be wooed by the siren calls of excessive consumption, quickly caused outrage among retailers' associations and forced the government to walk a tightrope between concerns for the environment and for GDP.

SYSTEMIC SUFFICIENCY

The debate surrounding personal consumption may be important and legitimate, but in reality it masks two key elements. The first is the fact that, in many cases, consumers simply have no choice, and berating them excessively is not necessarily very productive. If you are looking for kids' clothes made locally, organic yoghurt in returnable packaging or spare parts to repair your hairdryer, the chances are that your shopping trips will turn into a major ordeal. Contrary to what economists may think, we don't live in a pull economy driven by the customer as king, but in a push economy driven by businesses producing goods and services.⁵

The second element is that this "virtuous" call for personal sufficiency masks the fact that another very different form of sufficiency exists, depending not on each individual but on action coordinated, organized, steered, and chosen by governments. Let us look at a few examples.

We will start with telecoms. Competition has been created by granting licenses to various operators that each install and run their own radio access networks (antennas and base stations).

This means that in France, apart from a very few areas that are shared, we have four overlapping networks (2G, 3G, 4G, 5G) providing coverage in the same places. This would clearly be impossible in any other networked industry (water, electricity, gas, road, rails, etc.): you do not see buildings connected to four separate electrical or water supplies, nor can you choose your supplier from one of four parallel highways. By creating a shared and optimized single-access network compatible with competition, every operator would enjoy undifferentiated access to a network that might, for example, be granted as a regional concession. This would halve electricity bills, saving around 2 TWh a year in France,⁶ not to mention the resulting savings to customers.

This "virtuous" call for personal sufficiency masks the fact that another very different form of sufficiency exists, depending not on each individual but on action coordinated, organized, steered, and chosen by governments

1 IEA, (2021), *The Role of Critical Minerals in Clean Energy Transitions*.

2 UNEP, (2024), *Global Resources Outlook*.

3 For example: OECD, (2018), *Global Material Resources Outlook 2060*.

4 ADEME campaign (2023) "Ask the right questions before buying".

5 Galbraith, J.-K. (1967). *The New Industrial State*.

6 1 TWh = 1 billion kWh. Annual electrical consumption in France is approximately 450 TWh.



In terms of fiscal choices, far-reaching changes are required if we are to see widespread adoption of virtuous behaviors and new methods of production and consumption, such as reusing, repairing, recycling, renovating, short retail circuits, farming practices that regenerate soils and ecosystems, and a focus on craft professions. All these activities share the characteristic of needing far more human labor. However, current fiscal systems treat natural resources as free and have made human labor the basis of social welfare systems for healthcare, pensions and unemployment benefits: carbon tax represents less than 2% of social insurance contributions on wages⁷ and taxation of resources, land take and waste production remains extremely limited.

The upshot is that the incessant quest for “productivity” – reducing the amount of human labor needed to produce goods and services – is considered necessary and natural by all actors, from public administrations (faced with their taxpayers) to businesses (faced with their competitors). It is this productivity, so terribly costly in resources and energy, that prevents us from entering the age of reuse and maintenance, where making things last, repairing and remanufacturing would be the norm not the exception.

Finally, let us consider regional planning. For several decades the idea that “the denser the city the less it pollutes” has gained currency: land take is reduced and public transportation is more economically viable. Policymakers, justifiably concerned with job creation, have proactively supported and amplified this metropolization by launching regional marketing campaigns, boosting attractiveness to businesses and tourists and competing for new infrastructures in an attempt to make their cities powerhouses in a globalized economy.

However, all of this has exacerbated the amount of existing housing stock left vacant. In France, we build two new homes for every new inhabitant! Between 2016 and 2021, the average annual increase in the population was 165,000, while the number of new homes grew by 350,000. This eye-catching ratio can, of course, be explained by a number of factors. Firstly are the social changes that are shrinking household sizes, including an aging population and separations. The average household in 1960 contained 3.1 people compared to 2.2 today. But vacant housing stock is also growing by 50,000 units a year. France has 3.1 million empty homes and a further 8 million that are under-occupied. The national housing stock does not match people’s needs (or desires) because of the condition, size, format, setting, or location of homes. Single occupancy and metropolization keep the house-building industry afloat.

To fully mobilize the potential offered by existing homes and retail and industrial buildings, cities must hive off, putting an end to efforts to attract newcomers and to expansion that harms smaller towns

To fully mobilize the potential offered by existing homes and retail and industrial buildings, cities must hive off, putting an end to efforts to attract newcomers and to expansion that harms smaller towns. Authorities at every level must now leverage their ability to lead the way and set an example, using all possible measures to promote better redistribution of the population, reviving smaller cities and towns, villages and country areas, public and private sector jobs, services, shops, medical, social and entertainment provision, etc. This type of redistribution could go hand in hand with a slower pace of life and would tie in with other environmental transition issues, such as cutting the need for unavoidable and ever longer daily journeys to and from work.

VIRTUOUS CIRCLE

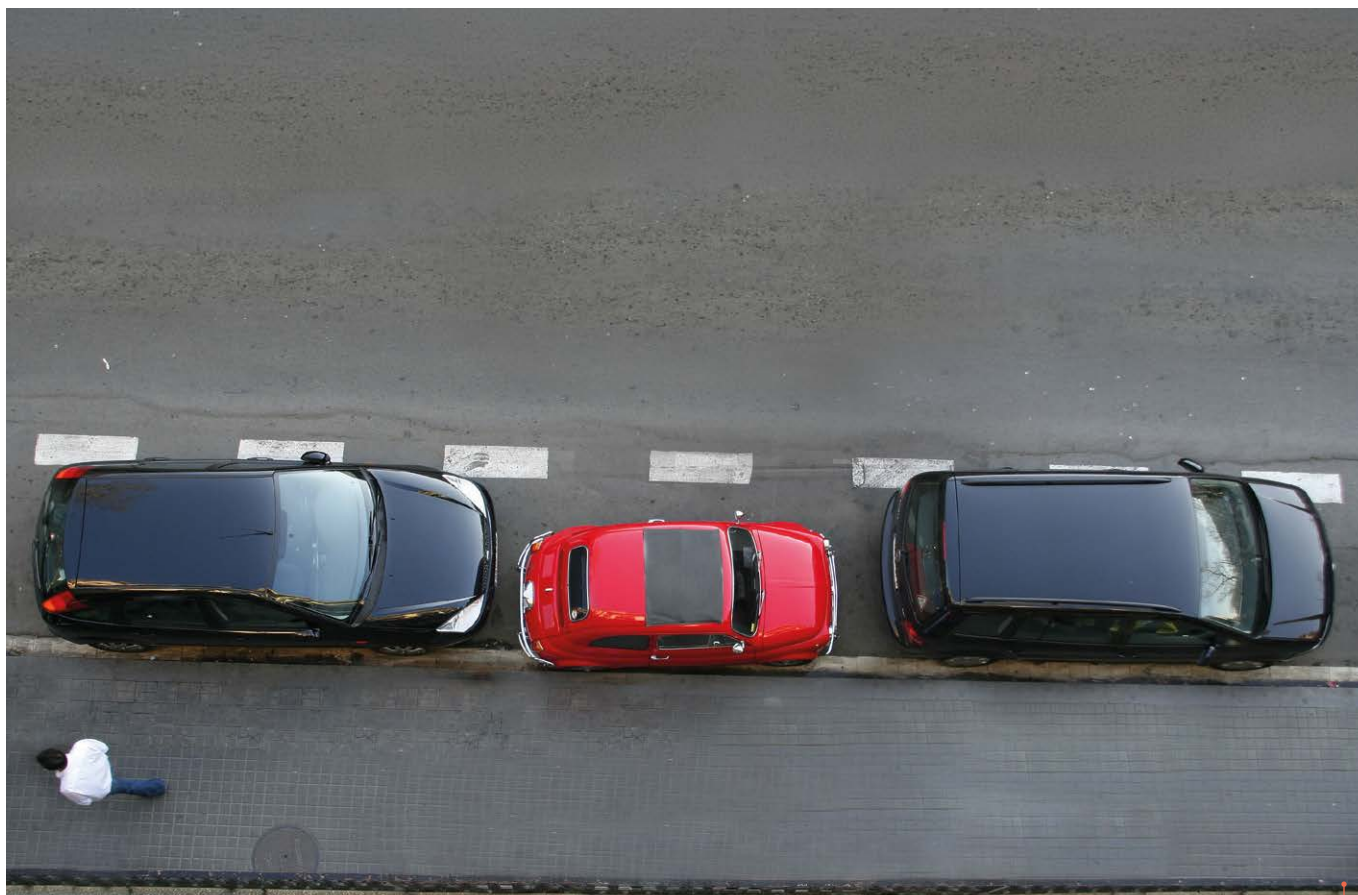
Systemic sufficiency, if effectively organized, guided and anticipated, could be the trigger for loops that create environmentally virtuous circles. Take the private car as an example, imagining that the switch to electric vehicles happens based on very different criteria from today. The first step would be to build smaller cars. You need fifteen times fewer batteries, and all the lithium, cobalt, nickel and other metals they require, to power an 800-kg microcar with a 200-km range than a 2-ton SUV with a 1,000-km range. Modern cars, along with products in many other sectors, are victims of the rebound effect: gains from optimized powertrains are lost because new vehicles are heavier and more powerful. From the technical perspective this is a great pity.

And, in the decades to come, will we really need to keep manufacturing so many new cars every year? There are two levers available for reducing the number of vehicles required: first is the number owned per household, another area where sharing and pooling could be embraced to a far greater extent than today. But it is also possible to leverage vehicle lifespans. Electric motors are considerably less prone to wear than internal combustion engines. Why should a car not last as long as a locomotive or an airplane, at least 30 or 40 years, if certain consumable parts are replaced on a regular basis? We have General Motors to thank for the joys of regular car purchases, after it invented the model-year concept in the 1930s to capture market share from Ford and its timeless cars. Isn’t it about time for a change?

What would happen, from a physical standpoint, if we switched car production toward producing far fewer, far lighter vehicles? There would be less need for manufacturing plants, assembly lines and robots; fewer materials (steel, glass, aluminum, synthetic rubber, paint, etc.) and fewer raw materials (oil, sand, iron ore, coal, etc.). As a knock-on effect, there would be less need for infrastructure to extract, transport and process these materials: fewer machines and access roads for mines and quarries, bulk more carriers and port facilities, heavy trucks, etc., all of them also dependent on consuming steel and other materials. Smaller vehicles would not take up so much room in the public space, parking lots would be smaller and in turn require less steel and cement, and so on.

⁷ €450 billion in social insurance contributions and €50 billion in environmental taxes, including €8 billion from the carbon tax.





Cars are getting bigger and heavier...

There is a massive ecosystem that lies behind motorized mobility: roads, highways, toll plazas, bridges, parking lots, and more, all supported by tarmac, steel, cement, aggregate, bulldozers, graders, etc.; energy infrastructure (oil-based today, electric tomorrow); commercial and technical networks of dealerships, garages, dismantlers, landfills, storm basins, depollution, etc., and countless related activities, from radar speed traps and roadside inspections to hospitals, insurance companies and the offices they occupy. A portion of national armed forces can be added to this list as they are used, albeit indirectly, to secure our supplies of certain indispensable resources.

Systemic sufficiency, if effectively organized, guided and anticipated, could be the trigger for loops that create environmentally virtuous circles

SUFFICIENCY OR POST-GROWTH?

The application of systemic sufficiency to the motorized transportation sector, to take just one example, would thus have major consequences for all other spheres of economic activity. Scaling cars back down to their “proper” size and, especially, returning them to their proper role while organizing civilization's exit from the private car model in the space of a few decades would be extremely virtuous from an environmental perspective (transporting

a 100-kg load in a 2-ton vehicle will forever be a physical and environmental aberration) and is probably culturally achievable. After all, humanity lived carless for eons and would doubtless be able to reverse direction – provided this “restriction” came with advantages. Those advantages are not hard to identify, including a more localized economy and reinvigorated social life, additional free time, a major reduction in noise and pollution, and making it safe for children to play in public spaces.

Equally, this cascading list of impacted activities is exactly what prevents us collectively from making radical choices. Less consumption also potentially means less employment, more public and private sector insolvencies, and so on. There is a tendency to glorify Schumpeter's creative destruction rooted in technological innovation, but imagining the same thing applied to the environmental field terrifies us. The argument about job losses is always used when certain activities (such as private jets) are challenged! This underlines the urgency of theorizing, then putting into practice, a post-growth, full-employment economic system able to distribute wealth, deliver human wellbeing for all – in the words of the IPCC – and, finally, respect planetary boundaries.



***" Both Mahatma Gandhi
and African ancient wisdom teach us
the same lesson – sufficiency is in the mind."***

Mamphela Ramphela
Former Managing Director of the World Bank
and Member of the Veolia Institute's Foresight Committee

Editor-in-Chief: Nicolas Renard, Executive Director, Veolia Institute

Publication Director: Dinah Louda, President, Veolia Institute

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Contact:

institut.ve@veolia.com

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Veolia Institute

30, rue Madeleine Vionnet • 93300 Aubervilliers, France

www.institut.veolia.org