

ACTIVITY REPORT

2019



Veolia Institute
institut.ve@veolia.com

Editorial director: Lorraine de Jerphanion
Creation: Narréa.

Photo credits:
Annette Birkenfeld/Fotografixx (cover) and Ton/stock.adobe.com (cover and p. 2, 20),
Olivier Guerrin (p. 16), Suebsiri (p.18), Riccardo Mayer (p.19),
Veolia photo library and Christophe Majani d'Inguibert/Veolia (p.4, 6, 10, 13, 15, 16).

04

PAGE

Editorials

Dinah Louda, Executive Director, and Jean-Pierre Tardieu,
Chairman of the Veolia Institute
Pierre-Marc Johnson, Chair of the Foresight Committee

08

PAGE

The Veolia Institute

A partnership-based and collaborative approach
Governance open to the world
A recognized legitimacy
Work freely accessible to all

12

PAGE

The Veolia Institute in 2019

Plastics
Urban agriculture
Common goods
The Veolia Institute Talks

18

PAGE

Outlook for 2020

Focus on two themes
Veolia Institute governance

Dinah Louda & Jean-Pierre Tardieu

Executive Director of the Veolia Institute
Chairman of the Veolia Institute

EDITORIAL



Dinah Louda

"Giving everyone access to objective observations and rigorous analyses."

The first quarter of this century is undeniably offering us a unique example of the divergence of world views among our contemporaries. There are those, buoyed by the immense possibilities of science and technology, particularly in the fields of artificial intelligence, cognitive sciences and biology, who are convinced that we will shed our homo sapiens skin as we discover new spaces and move towards transhumanism. And there are others who, on the contrary, express growing doubts about the very notion of progress and are anguished by humanity's inability to master the transformations to the planet resulting from human action, such as climate change, the loss of biological diversity, the non-renewal of resources, pandemics – illustrated in dramatic fashion by the current crisis – and the risk of a general collapse marked by migration and conflict.

In response to the momentous challenges facing the current generation, the Veolia Institute has set itself the task of giving everyone access to objective observations and rigorous analyses gathered from its network of leading scientists and actors in the field. Backed by a global group with recognized expertise in a very wide range of technologies used to protect the environment, and which has made its commitment to the planet part of its purpose, the Veolia Institute has a vast field of experience to draw on. ■■■

■■■ It systematically compares this experience with the analyses and points of view of other players committed to the same challenges – States, international organizations, NGOs, academics, companies, etc. – and makes the results available to the public at large.

In accordance with the orientation chosen in 2017, during the past year the Institute, with the support of its Foresight Committee, has focused on a number of major themes:

- **Plastics and their control, essential to the survival of the oceans and the fight against global warming;**
- **Urban agriculture, a means of making cities more resilient and sustainable;**
- **The issue of common goods, at the center of actions aimed at preserving scarce resources, which are essential for the sustainable development of our societies.**

These subjects have given rise to thoughts, ideas and discussions, published notably in the *Veolia Institute Review - Facts Reports* and at several conferences and symposiums. The feedback on them, both within Veolia and from our readers and external audiences, has confirmed the relevance of our chosen themes and methods, as this activity report endeavors to illustrate. ■

"Backed by a global group with recognized expertise in a very wide range of technologies."



Jean-Pierre Tardieu

EDITORIAL

Pierre-Marc Johnson

Chair of the Foresight Committee

EDITORIAL



"An approach that is well positioned and enlightening, both for the wider world and for the company that supports the Institute."

The Foresight Committee has accompanied the Institute since its creation. Its primary role is to advise and guide the Institute in its approach and work. In this respect, the Institute's publications in its Facts Reports journal can today be considered to have reached a very satisfactory level of quality, both in terms of scientific rigor and the practical value of the field actions described. The diversity and topicality of the themes chosen for its most recent issues (intelligent cities at a crossroads, artificial intelligence and robotics in the city, the resilient city, the indispensable reinvention of plastics, urban agriculture, and indoor air quality) and forthcoming issues (innovations for access to essential services in Africa, the circular economy and new resources for industry) are of interest to a wide readership. They also feed into conferences and symposiums that are open to all and very well attended.

Our committee devotes a full day at each of its meetings to a workshop on an important theme related to the Institute's work, with the participation of several experts. At its ■■■

■■■ meeting in October 2019, the theme chosen was urban agriculture. It highlighted the value of new urban and peri-urban forms of agricultural production, to reduce transport and provide additional food for people as well as help take a more balanced, resilient and ultimately more humane approach to cities. The Foresight Committee also examined Veolia's purpose, as adopted by the Group's governing bodies, and expressed its great interest in and appreciation for the very open conception of the company's missions and role as set out in this document. The Foresight Committee has always encouraged the

Institute to devote a significant part of its work to the link between health and the environment. The alarming health crisis the planet has been undergoing since late 2019 will certainly encourage us to continue to reflect on this theme.

Our committee thus believes that the Veolia Institute is committed to an approach that is well positioned and enlightening, both for the wider world and for the company that has supported the Institute for nearly 20 years. Its Foresight Committee is proud to participate in this original and fruitful work. ■



Panel discussion on urban agriculture (October 2019), one of the events organized by the Veolia Institute and open to all.

A platform for environmental & societal foresight

The Veolia Institute has been working prospectively on issues at the crossroads of the environment and society since 2001. Its mission is to offer cross-cutting perspectives that shed light on the future. As a bridge between the academic world, civil society and the Veolia Group, the Institute helps to enrich public debate as well as identify and share analyses and insights into emerging issues.

A partnership-based and collaborative approach

The Veolia Institute's activities are anchored in a permanent dialogue with scientific and intellectual circles as well as practitioners who are leading experts on the subjects studied. Through its panel discussions, journal, *The Veolia Institute Review - Facts Reports*, and forward-looking working groups, the Veolia Institute gathers and disseminates the experience and expertise of various players (researchers, academic experts, public authorities, international organizations, NGOs, and companies) to offer a variety of perspectives on the issues it tackles:

- Access to essential services
- Biodiversity
- Climate change
- Governance and societal debate
- Resources and the circular economy
- Health and environment
- Cities and urban services

In 2019, the Veolia Institute worked on its various productions in partnership with the University of the Pacific (California) and the French research and consulting firms Archipel&Co and Nomadéis.

Governance open to the world

The Veolia Institute is based on three pillars:

- The **operational team**, which runs the Institute's day-to-day operations;
- The **Board of Directors**, which sets out overall policy, and leads and oversees management of the Institute;
- The **Foresight Committee**, which advises the Institute and guides its development.



The team

The team suggests areas for study, establishes the broad themes and identifies priority topics and expert partners. It implements action programs, coordinates the network of contributors, and disseminates the results of the Institute's work. The collaborative work the team members do is regularly discussed with the Foresight Committee and approved by the Board of Directors.



*Top (left to right):
Dinah Louda,
Executive Director;
Nicolas Renard,
Director of Foresight;
Sophie Soubrier,
Executive Assistant.*



*Bottom (left to right):
Fanny Arnaud,
Program Director;
Lorraine de
Jerphanion, Program
Manager (from
October 2019).*

The Board of Directors

The board embodies the Veolia Institute's positioning and the bridges it builds between the private sector, scientific circles and civil society. The members who make up the board – including Veolia representatives, members of the Foresight Committee and eminent outside experts – deliver balanced governance of the Institute.

Board of Directors members: **Laurent Auguste***, Senior Executive Vice President, Development, Innovation and Markets, Veolia; **Jean-Pierre Boisivon**, Emeritus Professor at Paris II Panthéon-Assas University, Vice Chair of the Institute; **Estelle Brachlianoff**, Chief Operating Officer, Veolia; **Antoine Frérot**, Chairman and Chief Executive Officer, Veolia; **Paul-Louis Girardot**, Vice Chair of the Institute; **Alain Griot**, Advisor to the Director of Research and Innovation, Ministry of Ecological and Solidarity Transition; **Olivier Grunberg**, Executive VP and General Secretary of

Veolia Water; **Philippe Guitard**, Senior Executive Vice President, Central & Eastern Europe, Veolia; **Pierre-Marc Johnson**, international lawyer, former First Minister of Quebec, Chair of the Foresight Committee; **Claude Laruelle**, Chief Financial Officer, Veolia, Treasurer of the Institute; **Helman Le Pas de Sécheval**, General Counsel, Veolia; **Claude Mandil**, former Director General of the International Energy Agency; **Jean-Pierre Tardieu**, Chairman of the Veolia Institute; **Sébastien Treyer**, Executive Director of IDDRI; **Laurence Tubiana***, President of the European Climate Foundation.

* Until May 18, 2020.

The Foresight Committee

The Foresight Committee, which steers the Veolia Institute's work, embodies the solid scientific foundations of the Institute's programs thanks to the expertise and international reputation of its members. At the Committee's regular meetings, which began in 2001, it works on expanding the Institute's networks and guiding its forward-looking mission.



Nicholas Stern

IG Patel Professor of Economics and Government at the London School of Economics, Fellow of the Royal Society

Philippe Kourilsky

Honorary Director General of the Institut Pasteur, Biologist, Emeritus Professor at the Collège de France

Harvey Fineberg

President of the Gordon and Betty Moore Foundation, Former President of the United States Institute of Medicine

Pierre-Marc Johnson

International lawyer, former Prime Minister of Quebec, Chair of the Foresight Committee

Mamphela Ramphele

Former Managing Director of the World Bank, Former Vice-Chancellor of the University of Cape Town

Amartya Sen

Economist, Nobel Prize 1998, Thomas W. Lamont University Professor and Professor of Economics and Philosophy at Harvard University

The Foresight Committee's meetings give the Institute the opportunity to approve ongoing projects, identify new foresight topics, and develop its working areas thanks to the insights provided by the participating experts and their in-depth knowledge of their fields.

A recognized legitimacy

For over 20 years, the Veolia Institute has developed an innovative approach that benefits both from Veolia's hands-on experience and from the objective input of its Foresight Committee. This twofold approach has enabled it to become a relevant and legitimate internationally recognized platform for exploring global issues.

In December 2015, the COP 21 Paris Climate Conference ratified the Veolia Institute's status as an observer NGO under the terms of the United Nations Framework Convention on Climate Change. This decision recognizes the Institute's legitimacy as a contributor to understanding climate-related issues. The Institute's status enables it to participate actively at COP summits alongside other parties (governments, negotiators, etc.), play a role as a source of proposals within civil society networks, and contribute to discussions in the run-up to negotiations.

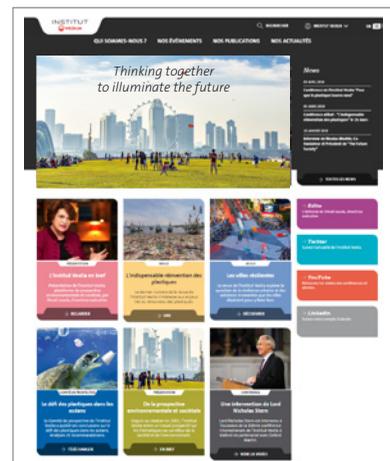
This status supplements other accreditations the Institute obtained in previous years:

- Member of the Civil Society network of the United Nations Department of Economic and Social Affairs;
- Accreditation as a research organization by the European Commission under its 7th Framework Program for Research.

Work freely accessible to all

The Institute continued its communication activities and the dissemination of its work as widely as possible in 2019:

- **Veolia Institute publications** are available in free access, on the Veolia Institute website and on the human and social sciences Open Edition electronic resources portal. A partnership with The Conversation (an independent news source providing content from the academic community) provides a wide audience with access to the articles in *The Veolia Institute Review - Facts Reports* written by contributors from the academic world;
- **Veolia Institute conferences** can be viewed on video on the Institute's website and YouTube channel. The Institute organizes conferences in Paris in partnership with the SOS Group's social innovation platform Mouvement UP, which serves to disseminate its work to an audience of young working people and students;
- **The newsletter and social networks** help to foster a dynamic relationship between Veolia Institute and its external network as well as with the wider Veolia Group. ■



Plastics

The necessary reinvention

A century after the creation of plastic, its characteristics – light, resistant and inexpensive – have made it omnipresent in our throwaway society: it is everywhere, from the food industry to the healthcare system, the car industry to the fashion world. Once seen as a symbol of

modernity, plastics have in recent years been rapidly and profoundly challenged on a global scale, particularly because of ocean pollution. Can we imagine a society without plastic? How can we call a halt to our waste-centric society and move towards a resource-oriented society?

The Veolia Institute Review - Facts Reports

“Reinventing Plastics”



In line with the work resulting from the 2018 annual meeting of its Foresight Committee on plastic pollution of the oceans, in March 2019 the Veolia Institute published an issue of its journal on the theme of “Reinventing plastics”. The issue aims to:

- Explore the history and variety of plastics, explaining how this material has acquired a central place in our consumer society;
- Illustrate the advantages and limitations of this material, particularly its environmental impact;
- Present different initiatives to develop a circular plastics economy in industrialized and developing countries alike.

The journal features academic contributions (CNRS and Ecole Polytechnique), the views of NGOs (WWF and Tara Ocean Foundation) and public bodies (European Commission) as well as case studies of major groups (Danone and Veolia) and social enterprises (Yoyo and Kabadiwala Connect).

Conferences on the theme of plastics

Following the issue's publication, the Institute organized two panel discussions on this key theme, open to both internal and external audiences:



- A first conference was organized in March 2019 at Veolia's headquarters in Aubervilliers in the presence of the following guests: Laurent Auguste, Senior Executive Vice President, Development, Innovation and Markets, Veolia; Eric Brac de la Perrière, Founder of Yoyo; Jean-Marie Julien, Head of Materials Expertise, L'Oréal; Maria Luiza Pedrotti, Researcher at CNRS and the Oceanographic Laboratory of Villefranche-sur-Mer.
- A second conference was held in April 2019 in Paris, in partnership with Mouvement Up, the SOS Group's social innovation platform, with: Woldemar d'Ambrières, Director of Strategic Projects, Veolia; Alexandra Bordes, Coordinator of Public Interest Projects, Danone Ecosystem Fund; Romy Hentinger, Head of the Advocacy and International Cooperation Project, Tara Ocean Foundation; Carlos de Los Llanos, Scientific Director, Citeo; Elisabeth Laville, Founder of the firm Utopies. ■

Urban agriculture

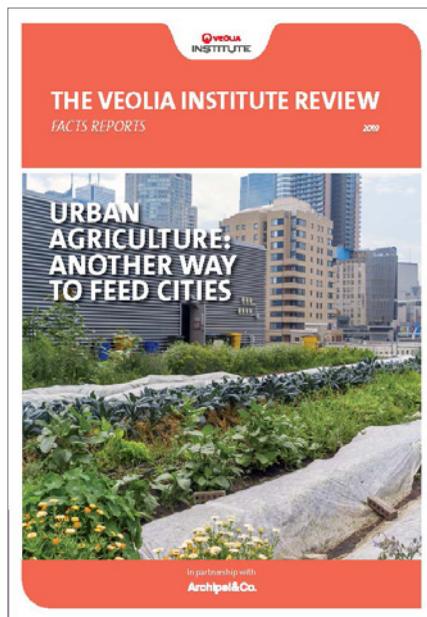
Another way to feed cities

With 80% of the world's food to be consumed in cities by 2050, the issue of food, coupled with the urban explosion and climate change, is becoming one of our greatest challenges. Once pushed outside the city's borders, agriculture is returning to the heart of the city in unexpected forms. Cities are coming up with a host of initiatives to bring part of their food system back within their walls and a

growing number of actors are getting involved. They range from local authorities, supermarket retailers and food industry players to architects and engineers as well as the citizens' collectives which are developing this type of agriculture, primarily with a view to revitalizing social ties and changing consumption patterns. How can we reinvent the links between cities and agriculture?

The Veolia Institute Review - Facts Reports

“Urban agriculture: another way to feed cities”



In October 2019, the Veolia Institute published an issue of its review entitled “Urban agriculture: another way to feed cities”, focusing on the following main developments:

- The study of new uses of agriculture in cities, from the strengthening of ties between the city and nature to the development of new models of urban development and reinvention of food systems;
- Understanding of the diversity of urban agriculture models and the challenges that characterize them, from the most technological forms, practiced in a controlled environment, to the most low-tech, such as intensive organic micro-market gardening;
- Identification of the conditions for the application of urban agriculture, which is based not only on efforts by companies, associations and communities, but also on raising consumer awareness and training urban farmers to create quality supply chains.

Contributions from, among others, the FAO, researchers at INRA and CIRAD, distributor METRO, 2EI Veolia, startups Agricool and Infarm, architecture agency Bechu&Associés and the city of Quito (Ecuador) provide an insight into the diversity of the issues raised by this topic.

Conferences on the theme of urban agriculture

Following the issue's publication, the Institute organized two panel discussions on this key theme, open to both internal and external audiences:



- At Veolia's Aubervilliers headquarters, a first conference was held on October 1, 2019, with the following panel of speakers: Anthony Bechu, architect, Agence Bechu & Associés; Loïc Couttelle, Project Director at 2EI Veolia; Marie Garnier, Quality and Sustainable Development Director, Metro France; Nastaran Manouchehri, Research Engineer in Environmental Chemistry and Health Risk and Director of Studies and Pedagogy, Agro ParisTech; Morgane Ribault, Director of Public Relations, Agricool, and as moderator, David Menascé, Director of Archipel&co and professor at HEC.
- A second conference was organized in Paris in November in partnership with **Mouvement Up**, the SOS Group's social innovation platform. The speakers were Florian Cointet, General Manager, Infarm France; Loïc Couttelle, Project Director at 2EI Veolia; Christophe Soulard, Geographer and Research Engineer, INRA, and Mathilde Martin-Moreau from Archipel&co as moderator. ■

Foresight Committee Meeting

Urban agriculture

At its October 2019 meeting, the Foresight Committee took an in-depth look at the issue of urban agriculture, the reality of initiatives led by associations, businesses and communities, as well as their development challenges and prospects.

While the economic model is often still embryonic, the Committee was struck by the strong potential of urban agriculture as a vector of social ties and positive externalities for the city and its inhabitants. ■



Members of the Foresight Committee and the Institute's team with the experts participating in the study day on October 5, 2019.

Studies

Common Goods

The Institute continued with its ongoing work on the concept of common goods and its implications for Veolia's activities. A summary of this work and the main lessons learned was disseminated internally in 2019. The Institute will take this exploration of the theme of common goods further by broadening its operational application to Veolia's businesses. ■



The Veolia Institute Talks

Management, Geopolitics and Economics

Launched in 2018, this new format of meetings for Veolia managers gives them the chance to explore the environmental, societal and geopolitical changes underway through dialogue with high-level experts.

Three meetings took place in 2019:

In May, **Mathieu Detchessahar**, Professor of Management at the University of Nantes, talked about new ways of managing companies. He highlighted the three main trends in managerial innovation; namely, the development of employee freedom, the search for more teamwork, and the sharing of meaning. Mr. Detchessahar then presented his approach, based on the notion of the deliberative, dialogue-focused company, before questioning the impact of new technologies on these changes.



Mathieu Detchessahar

In June, **Thomas Gomart**, Director of the French Institute of International Relations (IFRI), presented his analysis of the main current geopolitical issues. In particular, he cited the influence of Chinese-American rivalry, the central question of Europe's trajectory, particularly in terms of security, and developments in relations between Europe and the African continent. Large companies have a role to play in these geopolitical developments, not only through their commercial activities but also through the political capital they have at their disposal with the adoption of CSR approaches.



Thomas Gomart

In October, **Philippe Chalmin**, Professor at the University of Paris Dauphine, discussed the major trends in commodity markets in the autumn of 2019 and the outlook for the year 2020. He also presented the 33rd report on the cycles and orientations of products and exchanges by Cercle Cyclope, a research company he founded, specializing in the analysis of world commodity and raw materials markets. Another topic he highlighted was the influence of geopolitical and commercial uncertainties on commodity prices. ■



Philippe Chalmin

Focus on two themes

Indoor Air Quality: Tackling the challenges of the invisible

In contrast to ambient air pollution, which is frequently covered in the media, the issue of indoor air quality is less well known. However, we spend on average more than 80% of our time in closed environments (home, work premises, means of transport, etc.) where we are often exposed to an array of pollutants with potentially harmful effects. Globally, the WHO estimates that 3.8 million people die each year as a result of poor indoor air quality. In France, it is estimated that 20,000 premature deaths are caused by the six main indoor pollutants, and the cost of this pollution to the community is estimated at 19 billion euros per year*.



To shed light on this subject, in the first half of 2020 the Veolia Institute is publishing a new issue of its journal devoted to the subject of indoor air quality. It aims to:

- Understand the sources of indoor air pollution around the world and the different public health issues depending on the areas concerned;
- Explore the solutions to measure, improve and preserve the quality of indoor air enabled by the latest scientific and technical innovations;
- Identify the levers for raising public awareness and rolling out the public policies needed to implement these solutions.

* According to the Indoor Air Quality Observatory, the National Agency for Food, Environmental and Occupational Health Safety and the Scientific and Technical Centre for Building.

Sustainable Cities and Essential Services in Africa

With four billion inhabitants and a continental GDP that could match that of the European Union by the end of the 21st century, Africa represents a continent of the future which promises significant growth for the decades to come. In this context, the Institute has chosen to launch a prospective and innovative initiative to identify the challenges of access to essential services in Africa, drawing on Veolia's experience in the field.



This initiative will include, on the one hand, the organization of meetings with African and European experts to explore the challenges of sustainable cities in Africa, and, on the other hand, the publication in autumn 2020 of a *Facts* issue dedicated to innovations in access to essential services on the continent. The issue will aim to:

- Understand how access to services is at the heart of the issue of sustainable development on the continent, through the analysis of demographic dynamics as well as socio-political, health and environmental contexts up to 2030;
- Map promising innovations, good practices and pitfalls to be avoided, from service planning to service governance, with a particular focus on the potential of decentralized solutions, collaboration with the informal sector and the circular economy on the continent;
- Identify the levers for rolling out these innovations, including new business models, the contribution of digital technology, the need to measure the impact of solutions, user involvement and coalitions of innovative actors. ■

Veolia Institute governance

Changes to come

The year 2020 will be marked by changes in the Institute's governance.* The changes align with the need to ensure the continued adherence to the principles governing the way the Institute operates:

- **Dinah Louda** succeeds Jean-Pierre Tardieu as Chair of the Veolia Institute;
- **Jean-Pierre Tardieu** becomes Honorary Chairman;
- **Nicolas Renard** becomes Executive Director.

In addition, Olivier Brousse, Director of Strategy and Innovation, Veolia, and Julia Marton-Lefèvre, expert in sustainable development and the environment and former Director General of IUCN, are joining the Institute's Board of Directors.

* According to the decisions taken by the Board of Directors and the General Meeting of the Institute on May 18, 2020.

Thinking together
to illuminate the future

Veolia Institute
30 rue Madeleine Vionnet - 93300 Aubervilliers - France
www.institut.veolia.org