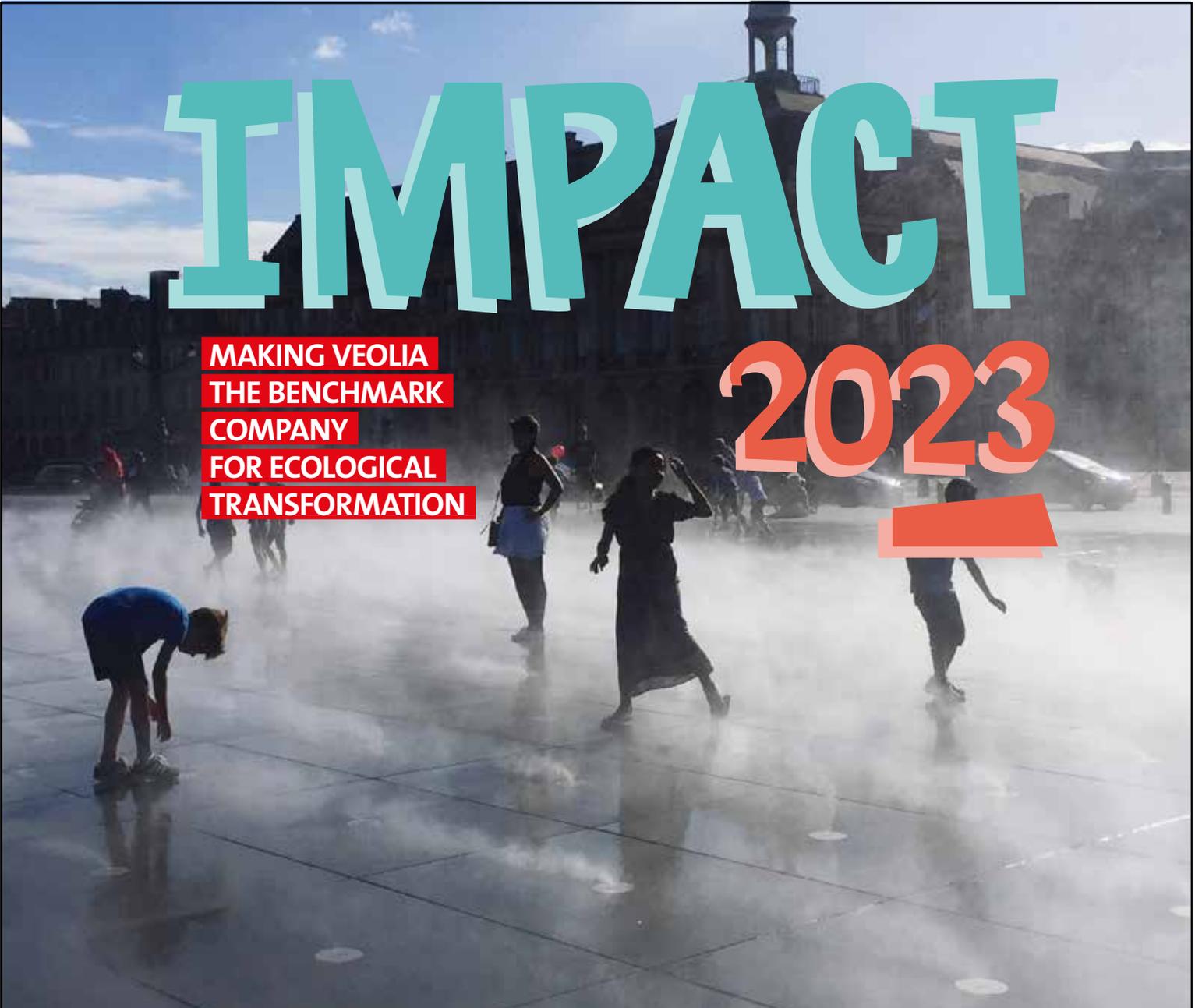


PLANET

#May 2020



IMPACT

**MAKING VEOLIA
THE BENCHMARK
COMPANY
FOR ECOLOGICAL
TRANSFORMATION**

2023

Forum

In the light of the crisis, what meaning does purpose take on for companies?

Frontline

Ecuador: Providing drinking water access in areas that water networks do not reach

Outfront

Co-constructing the benchmark company for ecological transformation

Explainer

Veos by Veolia: treating Morocco's medical waste



Antoine Frérot
Chairman and CEO
of Veolia

For several months now, the coronavirus epidemic has thrust us into another human, economic and social reality. With its emergence, time has suddenly accelerated and plunged us into a different world, forcing countries, companies and families to adapt at the drop of a hat.

This has been the case for our Group, which — as governments have taken drastic measures to stop the spread of coronavirus — has geared into action to ensure the continuity of its services and the safety of its employees. As our drinking water supply, sanitation, waste management, and energy services are indispensable for everyday life, they must be delivered, despite the disorganization that illness, lockdown, and the economic downturn may cause in various places.

Beyond the human tragedy and the profound difficulties that it creates, this crisis highlights a number of our Group's characteristics, starting with its usefulness. Already apparent when things are going smoothly, this trait stands out even more clearly during times of crisis, such as the one we are currently experiencing. Under the exceptional circumstances of this epidemic, our Group's response has been exceptional: it is working flat out around the clock to maintain the continuity of its essential services. Which is why I would like to thank Veolia's members of staff for their unwavering efforts and exemplary commitment, especially those who are on the frontline on the ground and are giving their all to keep our facilities running throughout this unprecedented crisis. Our Group's reaction and sense of service are commensurate with its purpose and values.

This crisis also reveals our Group's robustness and resilience. Without these qualities, it would not have been able to continue to provide all its vital services. Despite this epidemic's unexpected appearance, it is holding steady and coping well, meeting the needs of hospitals, communities, economic players, etc. And because this crisis will continue and recovery will be gradual, it has taken a long-term approach to organizing the conditions under which it can stand

firm. In the light of the sad number of victims of the epidemic and the relentless pressure of events, given the temporary collapse of economies, it is continuing its activities, bringing new forms of solidarity to light, which are giving renewed hope to our troubled societies.

This multifaceted solidarity on which our Group's resilience and efficacy are based is the third characteristic thrown into relief by this crisis. Solidarity between the Business Units, solidarity between the headquarters and the Business Units, solidarity between the different divisions at headquarters, solidarity between Veolia and its external partners, to name just a few. These close and intense expressions of solidarity are pursuing a wide variety of aims, such as procuring masks at a time when global demand is exploding, sharing best practices when it comes to staff protection, supporting colleagues in difficulty, preparing for the recovery after the crisis, inventing new offerings to make our clients' economic recovery easier. These expressions of solidarity are the pride of our Group and a promising sign for its future! It goes without saying that the future will involve renewable energy and recycled waste, digital technologies and the circular economy, but it will also and above all involve solidarity.

Yesterday's world — in other words, the pre-Covid-19 world — seems a distant memory, yet sooner or later this crisis, which has had a brutal impact on many countries, will come to an end. For this reason, we must not forget the post-crisis world and should already be preparing for coming out of the epidemic. Our aim is to ensure that the economic recovery — for there will be a recovery — takes place under the best possible conditions for Veolia and its stakeholders. In the countries first hit by coronavirus, particularly China, increasing signs that the economy is returning to normal can already be seen.

While the tragedies in terms of health and the environment are tenacious, our Group is even more so. So I wish you all the endurance and courage required to stay on course during the current storm and actively prepare for the post-crisis recovery.

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Editor-in-chief Laurent Obadia

SVP Communications, Veolia

IMPACT 2023: never has an issue of Planet made such an impact... When we began planning it in January, there was a strong desire to share with you the major ambitions of our new strategic plan IMPACT 2023, along with the solutions delivered by our teams. We were far from imagining that the topics selected would be put to the test by a health crisis forcing half of humanity to stay at home. The Covid-19 epidemic powerfully reveals the crucial role of essential services such as drinking water access or waste treatment in our societies. First and foremost, I would like to pay tribute to the commitment of Veolia's staff #OurDailyHeroes. All over the world, whether on duty on the ground or working from home, everyone has excelled themselves and will continue to do so, illustrating the power of the collective and the swell of solidarity. Their involvement obliges us and reinforces the Group's duty of responsibility to stay on course in the face of extraordinary and increasingly frequent crises. We must learn from everyone in order to become even more useful and live up to our ambition of becoming the benchmark company for ecological transformation. This is our purpose, both in times of crisis and when we return to a normality that we must still come to terms with... Take care. Happy reading.

Also in this issue

Jean-Michel Severino

CEO of Investisseurs & Partenaires (I&P) and chair of Veolia's Critical Friends committee

Before joining the I&P group in 2010, which is involved in impact investment dedicated to Sub-Saharan African SMEs, this Inspector General of Finances devoted his career to development finance. Initially Director of Development at the French Ministry for Cooperation, then Vice-President for East Asia at the World Bank, he was Director General of the French Development Agency (AFD) between 2001 and 2010. During this period, he extended the AFD's mandates to numerous countries and emerging issues (climate, biodiversity, etc.) and made global public goods a new driver of development aid. He regularly publishes on this theme and has launched the Ideas for Development blog.



Bernard Sananès

President of the market research and consultancy firm Elabe

An opinion research specialist, Bernard Sananès headed the agency Euro RSCG C&O, then the CSA institute, before founding the firm Elabe in 2015, based on three complementary areas of expertise: consultancy, opinion studies, and strategic planning. Elabe has carried out several analyses on companies' purpose, since the Pacte (Action Plan for Business Growth and Transformation) law was passed in April 2019, and French people's relationship to companies.



Luis Tavera

Social Delegate for "Compañía de Jesús"

(Company of Jesus) in Ecuador

Luis Tavera studied philosophy and theology respectively in Chile and Brazil, and then specialized in Communication and Development in Italy. Having made Guayaquil his home since 2005, he was previously Social Director of the NGO "Hogar de Cristo," which is celebrating its 49th anniversary. He supported this pioneering NGO with the social housing offering for the most destitute, when in 2007 it chose a new management model in line with the guidelines of the "Compañía de Jesús." This approach has enhanced the poor's well-being and above all helped consolidate their independence.



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#OurDailyHeroes

COVID-19 SPECIAL

All around the world, Veolia's members of staff are pulling together to face the health crisis.



#OurDailyHeroes

8/9



TRENDS



10/11

Assessing, all the better to take action

The aim of the International Energy Agency (IEA) is to facilitate the coordination of its member countries' energy policies. It has recently put forward a potential traceability framework for decarbonized energy sources with a view to their mass injection into tomorrow's energy systems², in order to keep the three key sectors of the economy running: electricity production, transport and buildings. The aim is to guide public energy policies, which must subscribe to the climate goals of the Paris Agreement. In other words, manage to lower CO₂ emissions. The agency has thus developed cross-cutting indicators that are able to incorporate a host of technological, economic and demographic data and weigh them according to two scenarios designed by the agency. The first is based on the national public policies announced with regard to reducing CO₂ emissions (Nationally Determined Contributions – NDCs). The second is more ambitious and takes into account the Sustainable Development Goals (SDGs³), including improving air quality and universal energy access.

1. The International Energy Agency, founded in 1974 by the OECD (Organisation for Economic Co-operation and Development), counts thirty member countries to date.
 2. The IEA reminds us that the energy sector is responsible for 90% of greenhouse gas emissions.
 3. 17 goals targeted by the United Nations to be reached by 2030.
 Source IEA: Energy Transitions Indicators, December 2019.

Anthropocene, a single planet for an ecological revolution

"We are living in a new geological epoch, the Anthropocene," warned Dominique Bourg, philosopher and honorary professor at the University of Lausanne¹. This concept, which was formalized in the previous decade², stipulated that human beings have now become the main driving force behind the earth's changes. Over and above this geological reading of this new word-concept, François Gemenne, a political science researcher at the University of Liège³, puts forward another one. He suggests that the environmental destruction that characterizes this epoch has political causes. "The Earth and the world form one and the same entity," highlights the Belgian geopolitical specialist. "There is not, on the one hand, the Earth governed by physical laws and, on the other, the world governed by social laws. This almost impermeable barrier between the hard and social sciences is groundless."

We find ourselves with leaders who do not have enough scientific knowledge and scientists who do not always grasp the social and political implications of their research, nor decision-making." As the Anthropocene is characterized by the fact that the changes are global and irreversible, François Gemenne relativizes the use of the words ecological "crisis" and "transition." The first is by its very nature temporary, while the second indicates a momentary state. "Once a crisis is over, we can hope to re-establish the state of things, which is no longer true in the Anthropocene epoch. Likewise, the transition should take us toward a 'greener' world in which everyone is a winner. Which is misleading," insists the Belgian researcher. François Gemenne concludes: "We are going to have to come up with ways to govern this new Earth to find solutions. And to do so, it's not an ecological transition that we need but a revolution."

1. Anthropocène, apocalypse ou parousie, OpenEdition Journals, Dominique Bourg, 2013.
 2. Paul J. Crutzen, awarded the Nobel Prize in Chemistry in 1995, officially said this word for the first time in a meeting of the International Geosphere-Biosphere Programme in Mexico in 2000.
 3. François Gemenne is the co-author of Atlas de l'anthropocène, Presses de Sciences Po, August 29, 2019.

Can we put an end to society versus nature?

The serious health crisis that the world is going through due to the Covid-19 epidemic is once again causing us to question the limits of the economic system currently in play on a global scale. For many observers, it now appears to be running out of steam or even tragically contrary to nature. Two French economics professors, Philippe Naccache and Julien Pillot¹, remind us that on many occasions in the past² the scientific community has pointed out the health risks posed by this kind of development model to globalizing human societies. "In the light of these long-documented scientific elements, it is very difficult to exonerate ourselves from all responsibility in the crisis we are experiencing," they add³. The situation therefore urgently calls for growing public awareness of the "day after," which will consist in putting forward and implementing radical solutions to prevent further large-scale health disasters, like the one in 2020. The boldest solutions currently suggested by many experts include: primarily funding industries focused on sustainability, defragmenting value chains with exorbitant environmental costs, relocating our food systems and... making peace with our environment. A vast program that will take years.

1. Respectively associate professor and lecturer/researcher at INSEEC business school (France).
 2. Global trends in emerging infectious diseases, Nature journal, no. 451, February 2008; Integrative approaches to the study of primate infectious disease: Implications for biodiversity conservation and global health, Yearbook of Physical Anthropology, November 2008.
 3. « Quoi qu'il en coûte » : la relance économique porte le risque de futures crises pandémiques, © The Conversation, April 2020.

New shipping routes by 2090



Northwest Passage - 5,225 nautical miles
 Northern Sea Route - 4,740 nautical miles
 Northeast Passage - 4,170 nautical miles
 Arctic Bridge - 3,600 nautical miles

25% reduction in the surface area of the Arctic Ocean's sea ice since 1979.

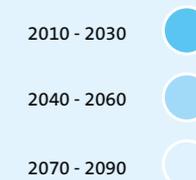
4.15 million km² is the minimum extent of the Arctic sea ice measured during the northern summer in 2019 (in September). It was 7.05 million km² in 1979.

Source: Météo France, Fonte de la banquise arctique: minimum d'extension remarquablement bas, September 2019.

13% of oil resources and 30% of natural gas reserves are found north of the Arctic Circle.

Source: The final frontier: how Arctic ice melting is opening up trade opportunities, World Economic Forum, February 2020.

ICE MELTING PROJECTION



The Arctic Ocean, a new Eldorado?

The accelerated melting of the Arctic sea ice is being viewed with a covetous eye: new commercial sea routes, fishing, the extraction of natural resources, territoriality issues. This poses a challenge for humanity — or at least the Arctic Council — in how to attempt to reconcile economic and environmental concerns in a sea that will soon be rid of most of its icy waters.

Sources: Visual Capitalist, Arctic Sea Shipping, Oil & Natural Resources of the Arctic, Development in the Arctic.

“The sense of being part of something greater than yourself can lead to high levels of engagement, high levels of creativity and the willingness to partner across boundaries.”

Rebecca Henderson, the John and Natty McArthur University Professor at Harvard University.

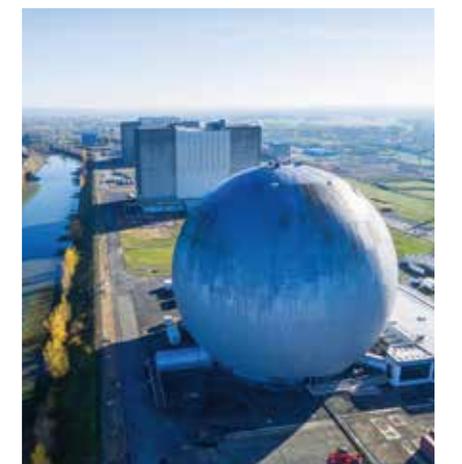
Source: “Why business must harness the power of purpose”



INSIDE

FRANCE A JOINT VENTURE WITH EDF FOR THE COMPLEX DECOMMISSIONING OF GRAPHITE REACTORS

The dismantling of nuclear reactors that use graphite technology is complex due to their design and the volume of materials to be eliminated. Only two of these reactors (out of sixty or so installed) have been decommissioned to date worldwide. Graphitech, the joint venture between Veolia and EDF, will be responsible for the technological developments and engineering studies required to prepare for decommissioning this type of reactor. It will thus be able to meet the needs of France, the United Kingdom, Spain, Italy, Lithuania, and Japan in this field. Its first objective will be to provide EDF with an optimized scenario for decommissioning the Chinon A2 reactor in 2028 and suggest a testing program to assess the technological solutions needed to carry out the operations.



UNITED STATES VEOLIA CONSOLIDATES ITS HAZARDOUS WASTE POSITIONING

With the acquisition of a hazardous waste treatment site in Gum Springs (Arkansas) for €224 M from the American aluminum production specialist Alcoa USA Corporation, Veolia is planning to expand both the volume and type of waste handled by the site: hazardous waste derived from the aluminum electrolysis process (known as spent pot lining). It is worth noting that Gum Springs already has authorization for the final disposal and treatment of hazardous waste in almost all categories (solid and liquid). The integration of this 5-km² facility into Veolia's North-American network will boost the Group's treatment capacities in the region and contribute to its ambition of developing cutting-edge environmental protection solutions.

UNITED KINGDOM VEOLIA IS ACTIVELY INVOLVED IN REDUCING FOOD WASTE

Veolia is the first recycling company to adhere to the national roadmap for reducing food waste, set in motion in 2018 by the IGD (The Institute of Grocery Distribution) and WRAP (Waste and Resources Action Program). The aim is to get companies in the food sector to halve their waste by 2030, in line with SDG 12.3, working all along the supply chain, from farm to fork. Veolia thus encourages its clients to ensure that surplus food suitable for redistribution is given to those in need. Also highly involved in collecting organic waste, Veolia then recycles this waste, turning it into compost or carbon-neutral energy.

Telex

Two staff members from the “So'Sport Veolia” team came second in the Défi d'Elles, the all-women charity sporting challenge held in Iceland in January.

Hong Kong District Cooling Company Limited (HKDC), a Veolia subsidiary, won the 2019 Sustainability Award bestowed by the NGO Hong Kong Management Association-HKMA.

Veolia and Jump (Uber) are partners in sorting, recycling and upcycling faulty or unusable parts from Parisian self-service bikes and electric scooters.

Veolia wins a sixth contract with MODEC for the construction of a seawater treatment plant for the FPSO (Floating Production Storage and Offloading vessel) ship Almirante Barroso MV32, off the coast of Brazil.

INSIDE



CÔTE D'IVOIRE PARTNERSHIP WITH PFO FOR TREATING BOUAKÉ'S DRINKING WATER

Like other fast-growing Ivorian cities, Bouaké suffers from a drinking water shortage. To meet the demand by 2030 and lastingly secure the city's drinking water supply system, the Ministry of Hydraulics has launched a project to reinforce this system. For this project, the industrial company PFO Africa, Veolia's partner in the region, has signed a financing, design and implementation contract with the authorities. Veolia has thus been entrusted with designing, supplying and commissioning all the equipment for the treatment plant with a capacity of 2,500 m³/h. This includes the raw water pumping station and the water intake, rehabilitating the existing plant, and general project management.

UNITED STATES

Veolia decommissions the last plutonium plant
This is a historic operation, according to the U.S. Department of Energy. Decontaminating and then decommissioning the plutonium finishing plant in Hanford (Washington State) — in operation from 1949 to 1989 — will have taken several decades. Veolia Nuclear Solutions-Federal Services manages the Environmental Restoration Disposal Facility (ERDF), as a subcontractor to CH2M Hill Plateau Remediation Company (CHPRC). Over 900 containers of waste were treated there between December 2018 and February 2020. On this once-secret site, more than 90 buildings accommodated the manufacture of plutonium, before it was shipped to nuclear weapons-manufacturing facilities. The remaining work — which is set to be completed by summer 2020 — consists in recovering and packaging the rubble, taking samples under the site's foundations, and stabilizing the soil cover.

Telex

Veolia has successfully issued bonds worth 1.5 billion renminbi (€193 M) on the Chinese domestic market (Panda Bond), securities placed with Chinese and international investors.

Veolia becomes the collective wastewater concession holder in the town of Dinard (France) for a 15-year period as of January 1, 2020.

Veolia's 2019 Performance Awards rewarded six students (5 years' higher education), who win a trip to Hong Kong, where they will be able to visit Veolia's facilities, along with a travel bursary.

MIDDLE EAST A WAVE OF DESALINATION PROJECTS

Veolia has won a host of desalination projects in the Middle East, including Bahrain, Saudi Arabia, the United Arab Emirates, the Sultanate of Oman, etc. The Group is thus proving its ability to adapt to the demands of industrial clients in complex environments, along with the specific social and local factors in the areas where it operates. The highlight of this fruitful year has been the implementation of Barrel in the Sultanate of Oman, a technological innovation for optimizing desalination performance. The desalination market is now growing by an average of 8% per year in the region, which represents 1% of the world's population and 6% of global water needs. A pioneer on this market, Veolia has built 17% of the global desalination capacity there.

DAVOS CTI, THE FIRST ONLINE SELF-ASSESSMENT TOOL FOR CIRCULAR PERFORMANCE

The drive to move away from a linear economic model continues. Some 26 members of the World Business Council for Sustainable Development (WBCSD), including Veolia, have identified circular transition indicators (CTI) to help companies of all sizes and from all sectors to self-assess their circular performance. Presented on January 21 at the World Economic Forum in Davos, the WBCSD's Circular Transition Indicators tool, which is available online free of charge, provides a common language and a decision-making tool. In addition to measuring the circularity of their products, companies can now integrate an assessment of their business model and so accelerate their transition to the circular economy.

PURPOSE: COMPANIES MOVING TOWARD RESPONSIBLE CAPITALISM

A company's "raison d'être" in France or "purpose" in English-speaking countries reflects societal changes on a global scale: the move toward responsible capitalism in the 21st century. The intention is to give greater meaning to the company and its activity in the place where it operates. By defining its purpose, the company demonstrates its usefulness to society, a factor in performance and long-term appeal.

MORE INCLUSIVE COMPANIES

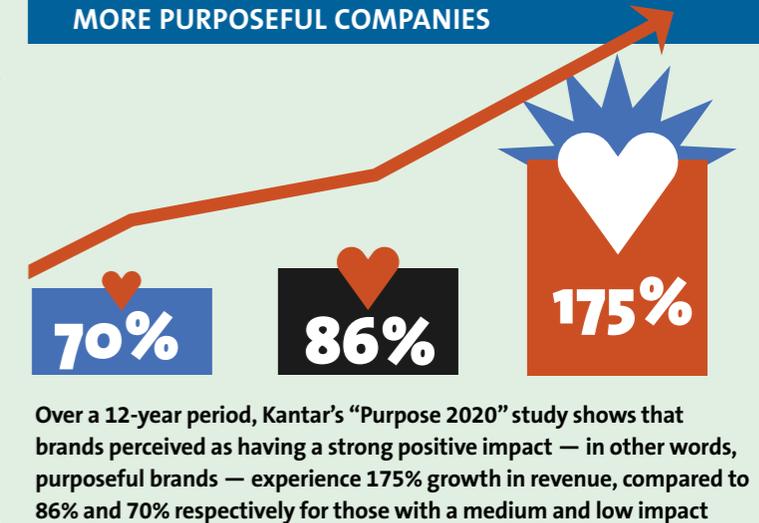
Purpose is embodied by a journey in four main stages that allows employees to gradually become engaged and give meaning to their roles. When steered correctly, the original "isolated tactic" becomes a "promise," then a "strategy," and finally a "full-scale movement."



MORE ATTRACTIVE COMPANIES

- 66%** of global consumers attach importance to the brand's coherence (strategy aligned with actions) and its transparency policy
- 65%** are sensitive to a brand that manages its employees in a kind and respectful way
- 64%** find brands that actively communicate their purpose more attractive
- 62%** support a brand with ethical and environmentally friendly values
- 50%** are concerned that the brand takes a stand on the societal and cultural values they believe in

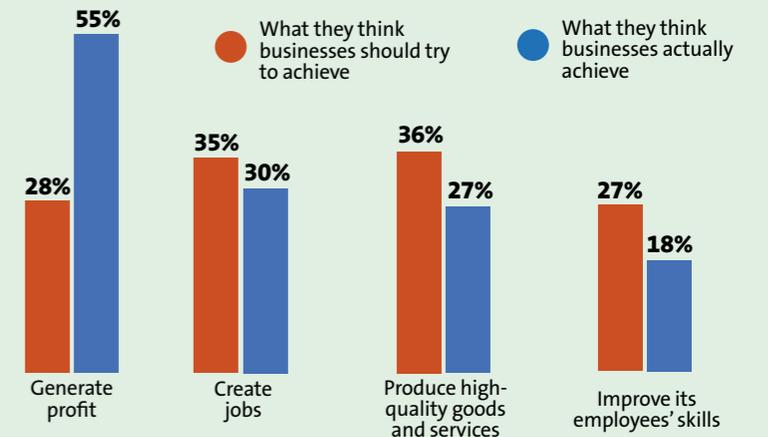
MORE PURPOSEFUL COMPANIES



MORE MILLENNIAL-CENTRIC COMPANIES



Purpose will become increasingly important in the future, with two-thirds of millennials expressing a clear preference for "brands that have a point of view and stand for something"



Conclusion

Purpose is a path toward excellence. It requires a company that embraces it to be coherent and transparent: coherent when it comes to decision-making, aligned with the strategy clearly communicated by the company, and transparent in order to give an account of its actions and performance, as well as the difficulties it may face, to society.

Sources: Kantar "Purpose 2020" study <https://consulting.kantar.com/wp-content/uploads/2019/06/Purpose-2020-PDF-Presentation.pdf>. Accenture 2018 "To Afinity and Beyond" survey https://www.accenture.com/_acnmedia/Thought-Leadership-Assets/pdf/accenture-competitiveagility-gcpr-pov.pdf. The Deloitte Global Millennial Survey 2019. <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html>

In the light of the crisis, what meaning does purpose take on for companies?

Antoine Frérot and Bernard Sananès

share their view of companies' role and purpose in times of crisis and beyond.



Antoine Frérot
CEO of the Veolia Group



Bernard Sananès
President of the market research and consultancy firm Elabe

Under pressure from citizens as well as a regulatory framework in certain countries, companies have been doing some soul-searching for the past few years when it comes to their purpose and contribution to a more responsible capitalism. The brutal, unprecedented crisis into which the Covid-19 virus has plunged the whole world is catalyzing and crystalizing these reflections. This turbulent period will undoubtedly reveal the sincerity of companies' approaches. Over and above the health crisis itself, organizations' ability and aptitude to mobilize society for the reconstruction period are already appearing as new issues at stake in the post-crisis landscape.

With the current global health crisis on an unprecedented scale and its economic, social and societal — even ethical — consequences, can and should companies rethink their growth model?

Antoine Frérot: This violent global health crisis has suddenly thrown us into a different economic and social reality. Companies must adapt their growth model, and for some of them this will involve a radical rethink. In the short term, in order to best maintain their business, bear the shock of the drop in earnings, and prepare to bounce back when they come out of the crisis. In the longer term, by increasing their agility and resilience, diversifying their supply chain, tightening up their critical functions, and rebuilding stocks of products and equipment indispensable to their operations, etc. All the more so as other crises of this kind are likely to occur. In principle, they are foreseeable; in their nature, timing and scope, they are not. The area of the threats has expanded and the response time shrunk. These changes heighten the risks; however, one of the characteristics of a good growth model is risk management.

Bernard Sananès: Companies have always included

an element of the unexpected when drawing up their plans. However, in the current situation, this unpredictability has taken hold globally and systemically. This brutality is what differentiates it from other crises that we have experienced. There is no doubt that this crisis will call economic models into question. It is an open question as to how "the post-Covid-19 world will be different than before." The jury is out between a scenario that demonstrates our ability to adapt to this uncertain period versus one that puts forward a more in-depth change to our societal model.

What role could companies play in a world with an increasing number of crises, in which we will not only have to face them but also rebuild afterwards? Do you think that this is a driver for achieving "responsible capitalism" in the 21st century?

A.F.: In an extreme crisis, you quickly lose all your bearings. The standard procedures and usual reflexes suddenly become obsolete. In this upheaval, many points of reference are shifting: some remain, particularly purpose, which reminds companies what is essential. One of its benefits consists in grounding

"By defining the company's role and place in society, purpose undoubtedly contributes to the emergence of a more responsible, more patient capitalism."

Antoine Frérot

...

...

the company's actions more deeply in the long term, and therefore looking toward the post-crisis period. By defining the company's role and place in society, purpose undoubtedly contributes to the emergence of a more responsible, more patient capitalism.

B.S.: Over the past five years, the movement toward a more responsible form of capitalism, particularly with regard to environmental questions, was already very much in progress. This corresponds to a societal expectation.

Before the crisis, eight in ten French people thought that we had to change our habits, adopting a more restrained lifestyle and reducing our consumption. The question now arises: "Will environmental issues remain in French people's top three concerns or, on the contrary, will jobs, social concerns and health become a priority?" For several months, the economic crisis and its impact on unemployment and precariousness will undoubtedly bring social and economic questions back to the forefront of priorities. However, in the long term, I really believe that most citizens will lastingly come to grasp the link between health and the environment and the search for new balances will become established as the key to individual and collective well-being.

How can we ensure that purpose is not a hollow and empty shell? Does this imply it being accompanied by a strategic plan? If so, how do you see this strategy being crafted, incorporating the 3 Ps (People, Planet, Profit)?

A.F.: I'll answer you, taking the example of Veolia. We have taken several measures to ensure that our purpose is effectively implemented. First of all, our Board of Directors will take this purpose into account in its decision-making and assess how it is applied. Then, each year, using a performance scoreboard, our Group will draw up a review of its multifaceted performance with our five main stakeholders: employees, clients, shareholders, the planet, and society in general. Finally, a Stakeholder Committee, made up of experts from civil society and representatives from clients, suppliers, employees and future generations, will advise Veolia's management to allow the Group to successfully fulfill its purpose.

B.S.: More than ever, the question will be: "Is the company making its purpose a guideline, an objective

“Civil society and public players already exert and will continue to exert a kind of pressure. Nowadays, companies can no longer ‘simply’ do their jobs. Society expects a great deal from them.”

Bernard Sananès

around which all its policies converge?" This is a real challenge for companies. In the surveys that we conducted in June 2019, we saw that there was a certain amount of skepticism in people's views regarding the sincerity of the commitments companies have made in terms of purpose.

Embracing a purpose can make companies more credible if it's not just a matter of communication, if, when put to the test by the crisis, it seems to be genuinely implemented in the everyday choices made by the company, and if its impact is objectively assessed.

A company like Veolia (a utility) already inherently has a “purpose” for its client (climate, environmental responsibility, etc.). In what way does Veolia’s approach confirm its long-standing mission or reassure its stakeholders?

A.F.: Our purpose is entirely in line with our Group's mission and its history. When our company was born, there were one billion fewer inhabitants on the planet. Today, it is home to over seven billion people. The challenges of the past were cholera prevention, supplying cities with drinking water, and collecting wastewater and waste. Today, they are a scarcity of water, energy and raw materials, treating toxic pollution, access to essential services for all, the energy transition, climate change, etc. Few tasks are as essential as helping overcome these major challenges that are affecting humanity as a whole. Our stakeholders are well aware of the significance of our actions and support them. They were also closely involved in drawing up our purpose, which strengthens their role, affording equal attention to each of them.

In what way does Veolia’s mobilization in the face of the Covid-19 virus epidemic reveal the sincerity of the Group’s initiative to embrace a purpose that “imbues” its entire corporate strategy (Impact 2023)?

A.F.: This crisis is a ruthless litmus test. It reveals how the company is able to carry out its missions, even when operating at a reduced level, how it divides its efforts between its various stakeholders, how it manages to maintain long-term objectives despite the pressing short-term demands. It shows how, beyond its sincerity, our purpose is deeply rooted at the heart of our company, down to shaping its internal organization. Our crisis units have been activated, our ...



...

continuity plans triggered, our organization has been adapted, and our resources mobilized to meet the vital needs of communities in terms of water, energy and waste management, as well as maintain the economic activity of our industrial clients, in accordance with the measures taken by each country. This health crisis must not kill economic life. On the contrary, it is indispensable to maintain it as far as possible.

Are you willing to let civil society and public (general interest) players help direct a company's strategic choices (the leader's twofold mandate)? Do you not think that this poses a risk to its development?

B.S.: Civil society and public players already exert and will continue to exert a kind of pressure. Nowadays, companies can no longer "simply" do their jobs. Society expects a great deal from them, for instance, in areas such as employability, career management, training, youth employment opportunities, and reducing social inequality.

A.F.: A company prospers because it is useful, not the other way round. Also, listening more to the voice of society does not distract it from its mission or make it lose its competitive edge; on the contrary, this helps it become a more useful company, in other words a better company. Being itself a player in society and only living through it, a company cannot not get involved in the social and societal realm. The real risk for its development would be not to get involved, because it would become misunderstood and therefore contested.

What lessons are you drawing from this crisis and its impact on the strategy of groups that had already been identified by governments as having an essential activity and that we are finding are up against it?

A.F.: Three lessons may be learned. Firstly, this epidemic illustrates the devastating power of domino effects: a local health crisis has become global, economic and social, while also remaining health-related. Secondly, this major and atypical crisis highlights our inability to imagine worst-case scenarios and exceptional events. It propels us into another space and time, which operate according to other rules. Finally, this epidemic confirms that *"in times of crisis, imagination is more important than knowledge,"* as Albert Einstein observed last century. And it's thanks to its collective inventiveness and exceptional mobilization that our Group is successfully assuming its responsibilities in such a destabilizing period.

“This crisis is a ruthless litmus test. It reveals how the company is able to carry out its missions, even when operating at a reduced level, how it divides its efforts between its various stakeholders, how it manages to maintain long-term objectives despite the pressing short-term demands.”

Antoine Frérot

B.S.: We are seeing that companies are on the frontline in the crisis. They often take over from governments who sometimes seem ineffective. They have agile processes, respond rapidly, and demonstrate a commitment embodied by leaders and staff alike. The crisis that we are experiencing could accompany this movement to rehabilitate companies and bring French people closer to companies, as it will have demonstrated that quite a few of them stepped up to the plate, filling in the gap or working alongside governments.

One thing is clear: there cannot be a single solution to the exceptional crisis we are going through. Numerous collaborations between public and private, between different players, could emerge in the post-crisis period.

This crisis also highlights how our economies are interconnected. All the same, are we really going to profoundly rethink our production models? What role could companies play in the future, in the light of the crisis experience?

B.S.: In all likelihood, the crisis will rebalance globalization. There is going to be a tendency to relocate industrial activity as well as consumption. The example of masks in France symbolizes one of the lessons that we can draw from the crisis: certain activities are now going to be reconsidered as strategic because they are essential to everyday life. More generally, each company, at its level, regardless of its size or business, can show its true colors in the crisis. Some companies have a more impactful mission than others. But for those whose mission seems less essential in the crisis, there are other actions in terms of commitment to staff and solidarity. Beyond this, in the post-crisis period, each political, economic and societal player will be scrutinized regarding its activity and we will collectively ask the question: "Who was there?"* Speaking only of companies: which company demonstrated by its action — not its communication — that what it proudly proclaimed in its purpose wasn't just empty words? Who, in an economically difficult time for everyone, behaved like a socially responsible link in a large chain, like a fair employer, someone that protects its suppliers, that continues or increases its socially responsible actions? I see two challenges for companies. First of all, playing an active role in successfully coming out of the lockdown, particularly by guaranteeing optimal safety for their employees and clients. Then, playing an active role in mobilizing society in the reconstruction period that we will go through.



The lockdown period has revealed new inequalities: the option of working from home or not, exposure to the health risk, or even lockdown conditions. Do you think that these issues will continue after the crisis?

B.S.: Crises always accelerate injustices on several levels. Generally speaking, will we feel that everyone has been protected in the same way when it comes to health, or economically in the future? Then, two work-related issues may arise. First of all, working from home. It may be experienced as a new form of inequality between those who have access to it — for these people, it's a form of emancipation — and those who do not have access to it — for this group, it's a form of injustice instead. The other issue is employee risk exposure. There are sectors of activity where some employees are more exposed to occupational accidents but, on a daily basis, for most people going to work is not seen as a risk. At the end of lockdown, if it takes some time before we have a vaccine or a treatment, there is a risk that employees are either afraid of losing their job or afraid of the health risk. Finally, when it comes to the regions: will they all feel like they have been treated equally — both in terms of managing the health crisis and the economic recovery? Will certain regions, which are now seen as neglected, be rediscovered as good places to live

“Which company demonstrated by its action — not its communication — that what it proudly proclaimed in its purpose wasn't just empty words?”

Bernard Sananès

because they have been slightly protected due to their low population density?

Veolia's employees have demonstrated unfailing commitment on the ground all over the world during this crisis. Does this not indicate an extraordinary sense of responsibility on the part of your teams as well as the assimilation of the Group's purpose?

A.F.: We should praise — and I'm the first to do so — our employees' exceptional mobilization in these difficult times to maintain the continuity of our activities. They are giving their all, because our services are indispensable for everyday life and must be delivered, despite the disorganization that the lockdown is causing in various places. Our clients, hospitals, public authorities, and communities are counting on us. Our staff are very much aware of this and are striving to live up to such a great mission. Our purpose is natural for Veolia staff. Providing essential water, energy and waste management services is part of their everyday tasks. As our purpose is directly linked to this, they easily identify with it, whatever the circumstances. ■

* See also the opinion piece published by Bernard Sananès in *Les Echos*, April 1, 2020, "Pendant la crise : qui aura été là ?": <https://www.lesechos.fr/idees-debats/cercle/opinion-pendant-la-crise-qui-aura-ete-la-1190894>

Christopher Barnard is the Director of the Occupational Health & Safety department at Veolia in China. In Sweden, Johan Berterud uses his engineering experience to work on all Veolia Nordics' water contracts.

Above and beyond

Meeting Veolia employees from all over the world

Christopher Barnard
OH&S Director
China

From Malaysia through the Philippines to Taiwan, Christopher Barnard has travelled all across Asia for almost twenty-five years since joining Veolia in 1996. His explorer's outlook has been forged as the Group established itself in the region: "I set off alone for adventure in new cities and places to promote Veolia as best possible. It was an incredible and extremely instructive experience," he states.

This British civil engineer worked successively in business development, construction and operations before becoming Director of Veolia in China's 150-strong Health & Safety department in 2016.

On the strength of this multi-sector experience and his in-depth knowledge of Asia, Christopher recently steered the implementation of the ICIAct tool, which operates via the instant messaging app WeChat¹ (used daily by millions of Chinese for multiple services, such as payment, transport, etc.) and allows staff to report a dangerous situation in their working environment in the blink of an eye. On its launch, the application was instantly adopted by its users.

"This system clearly sets itself apart from the previous reporting culture, which had a rather negative image: previously, staff wanting to report a danger had to take the time to describe it in detail in a shared notebook, where everyone could see others' names and comments. It was a tedious system and was also viewed with suspicion by employees, who feared looking bad to their colleagues.

Nowadays, employees widely report hazards thanks to a very simple system. All you need to do is take a photo with your smartphone, send it via the app, and describe the problem in a few words. Whether in the street, at home or when travelling, staff are happy to interact on this type of platform as it is just like social media," explains Christopher Barnard.

Thanks to its impressive results, the initiative is one of the projects chosen for the Impact Awards in the Social Performance category. Just one year after the launch of this service in July 2018, hazardous situation reports had risen by 90% over the first half of 2019. In the same period, working days lost to occupational injuries dropped by 44%. Its recipe for success: an excellent match between the tool and the ultra-connected local culture.

Never short on resourcefulness, Christopher is as motivated as ever to meet the challenges of the future: "Efficiency and the desire to get things done are in my DNA. With each passing day, I'm a little more excited about taking part in Veolia's ongoing digital transformation." ■

1. The ICIAct WeChat app was designed collectively by Veolia in China's Health & Safety department, the IS&T department, and the ICIAct system's software developer.





Johan Berterud
Technical & Performance
Engineer
Sweden

At the age of 38, Johan Berterud has already acquired a wealth of experience since he joined Veolia Nordics, a subsidiary of Veolia in Northern Europe, in 2007.

After working as a project manager, then site manager for water contracts in the Stockholm region, the young engineer joined the Technical & Performance Department as a water specialist for all Veolia Nordics' sites, especially the Skövde site in Sweden, where the Group has been managing Volvo Powertrain's¹ different facilities since 2015. Veolia supports the car manufacturer in designing the vehicles of the future, to allow it to achieve its ambitious aim of becoming a world leader in sustainable transport. Thanks to a high degree of computerization and automation, Veolia manages the electricity, heating and ventilation, and is also responsible for maintenance, and landscaping of the site's outdoor areas.

Only wastewater treatment, which was previously managed by another company, was not included in the initial contract. However, by relying on its technicians' proactive drive and expertise, Veolia was able to suggest that Volvo optimize the wastewater treatment system at its Skövde plant. This initiative has been a source of pride for the local teams.

"A year after the contract was signed, our technicians noticed that the Volvo Powertrain site's water treatment system, which was managed by another supplier at the time, was not operating at maximum capacity," remembers Johan. "They passed on this information to Veolia's local management, which led to a dialogue with the client."

Following this exchange, in early 2018 Volvo decided to cancel its contract with the other company for the treatment of its industrial effluent, and signed two new contracts with Veolia: a five-year O&M (Operation & Maintenance) contract worth €1.1 M (i.e. a 20% increase in the revenue of the existing facilities management contract), along with another agreement worth €600,000 for the complete renovation of the water treatment plant.

Johan is familiar with the behind-the-scenes work on all Veolia Nordics' water contracts (in Sweden, Finland and Norway). He put his invaluable expertise to good use — especially by helping his colleagues with legal and technical aspects — throughout the Skövde facilities' transformation, notably providing technical support in coordination with the site's local manager to rebuild the plant.

"To see the renovation through successfully, I carried out technical studies and wrote a report with suggestions for setting up the new equipment," he explains. "Our action in Sweden, which can be adapted wherever Veolia is based, consists in breaking down the traditional barriers between different areas of expertise, in order to better harness our technicians' talent and know-how. It is a business but also a personal relationship."

Fundamental efforts made by local management allowed this ability to shake things up to be applied. Technicians — and all members of staff — were encouraged to dare to get even more involved, for instance during "Safety Thursdays," a weekly meeting devoted to discussing suggestions to continually improve on-site safety.

Proud of having contributed to this pooling of resources, which has led to a "win-win" situation for Veolia and its client, Johan more than ever finds meaning and motivation in his job. ■

1. Volvo Powertrain manufactures engine parts shipped all over the world (Europe, North and South America, Asia, India).



France

Guaranteeing 100% clean air in enclosed spaces

While air pollution is ranked by the WHO as the fourth-highest mortality risk factor worldwide, it has long obscured air quality in enclosed spaces. However, as a person spends on average 80% of their time indoors, their exposure to pollutants — which are sometimes more concentrated there than outdoors — is much greater. Now a major public health issue, improving indoor air quality has become a real area of expertise for Veolia. Its know-how in treating difficult pollution puts it one step ahead when it comes to restoring everyone's right to breathe clean air.



Issue at stake:

► Reducing the impacts of indoor air pollution on people's health.

Objective:

► Help local authorities and building managers guarantee indoor air whose quality is in line with the regulations and thresholds recommended by the WHO.

Veolia solution:

► Develop a complete integrated management offering for indoor air quality, ranging from auditing to adapting facilities, through raising user awareness and engagement, combined with a performance obligation.

Veolia has been an expert in air quality for many years, whether this involves eliminating odors from wastewater treatment plants, treating fumes and capturing volatile organic compounds (VOCs) from industrial activities, or guaranteeing clean air in clean rooms and hospital operating theaters. All these are assets when it comes to entering an indoor air pollution control market that is set to see strong development. For this reason, in addition to mobilizing its Research & Innovation teams, the Group has co-founded the AIRLAB incubator along with the developer Icade, among others. Overseen by Airparif, a body authorized by the French Ministry of the Environment to monitor air quality in the Paris region, this shared platform hosts a project dedicated to innovative micro-sensors for measuring and continually acting on indoor air quality. These sensors meet several criteria in terms of cost, ergonomics, and precision, along with the capacity to control ventilation or recycle indoor air, and measure numerous parameters such as hygrometry, CO₂ particulate, and volatile organic compound levels.



Everyday pollutants

“Constantly breathing polluted air has an impact on our health,” Frédéric Bouvier, Head of Veolia’s Air Center of Excellence, reminds us. “However, in our countries, in which we spend over 80% of our time in enclosed environments such as housing, offices, schools and public transport, we are potentially highly exposed to the many pollutants present in the air throughout our life.”

To reduce the risks and improve indoor air quality, action must be taken on three sources of pollution:

- outdoor air, which infiltrates into the building, including the famous ultrafine particles (PM_{2.5}), the most dangerous to health;
- building materials and furniture (carpet, paints, pressed wood, etc.);
- the activity of the premises’ occupants (housework, DIY, smoking, home fragrances, etc.).

The indoor air quality in France is considered to be poor in 60% of housing. Moreover, three in five classrooms are not equipped with ventilation and air handling units. This is also true of half of offices and 34% of tertiary premises in France. This has heavy consequences for the local authority¹, which must bear costs of around 19 billion euros linked to poor indoor air quality, including premature deaths, covering healthcare costs, lost productivity at work, etc. One

of the most exposed groups is children, whose respiratory tract is still developing.

New integrated offering

Veolia is committed to guaranteeing quality air through a new Air Quality Solutions offering, launched in 2019 and offering three complementary services:

- diagnosis and continuous



monitoring of various pollutants, thanks to a selection of highly adapted sensors that are among the most sophisticated on the market (Air Control);

- air treatment, via the installation of dedicated equipment, or even reinforcing the equipment that already exists in certain buildings, and controlling it in the long term (Air Performance);
- information and education among occupants and managers, so that they adopt pollution-reducing behaviors (Air Human). ●●●

Interview Sabine Fauquez-Avon

President of Veolia’s Air Center of Excellence and CEO of OFIS, Veolia’s sanitary engineering firm.

Was it an obvious step for a long-standing water treatment specialist to become an air treatment expert?

I see a parallel between how the public authorities and private players can approach the question of air pollution and the development of the profession of water utility provider in the late 19th century. At the time, the problem was perceived but not yet understood in terms of a sector of activity and a service to be delivered by a company. Treating difficult pollution is not a new field for Veolia, which is an expert in this area in water, waste, soils, energy, etc. So in 2017 it was no surprise when Antoine Frérot asked several of the Group’s divisions to set out the case for the existence of an air quality problem and anticipate how we could support our clients. The Air Center of Excellence emerged out of these reflections in 2018. In barely two years, we have successfully established ourselves as the accelerator of an area of expertise on behalf of the Group’s Business Units. And we have made indoor air quality a major area of innovation in terms of health and the fight against new pollutants, as part of the IMPACT 2023 plan.

How does Veolia’s offering stand out from the competition?

As with the treatment of other difficult pollution, we opted for an offering based on a performance guarantee, because when it comes to a health risk, an obligation of means is not enough. In concrete terms, we commit that the quality levels of the air that the buildings’ users (children or adults) are going to breathe remain permanently below the recommended public health thresholds. At the end of the day, our clients enjoy guaranteed high-quality air in the buildings for which they are responsible.

At what pace do you think you will see your offering adopted and deployed by your clients?

There is no doubt that public and private decision-makers in charge of air quality in buildings will take up our offering, at a time when we are facing a real public health problem: air pollution (see key figures) causes in total four times as many deaths as water pollution¹. However, their responsiveness will depend on several parameters. The speed of regulatory developments is one of them. In France, 40,000

schools are subject to indoor air quality control, but only 1,000 city councils apply this regulation to date. The regulations should therefore evolve to include more coercive measures. This is the context in which Veolia has built its offering for schools. This is what Belgium has done by setting CO₂ thresholds that must not be exceeded in offices, for example². Another parameter is public opinion. Both aware and made aware of the issue, it will undoubtedly be a strong driver in encouraging municipalities to act.

Could the Covid-19 epidemic ‘impact’ your roadmap?

Without any wish to be opportunistic, I think that the current coronavirus situation and the compulsory lockdown, when a number of people are sometimes together in a small space, will change the way decision-makers and public opinion view safeguarding health, especially in buildings.

1. Source: <https://time.com/4989641/water-air-pollution-deaths/>
2. Source: <http://environnement.wallonie.be/legis/air/air089.html>

... This offering is tailored to each type of interior, whether offices, educational and medical establishments, shopping malls, hotels, etc. And because maintaining quality air in classrooms is indispensable for a better learning experience and an improvement in children's concentration, Veolia has adapted and transposed its technologies designed for hospital operating theaters or clean rooms to schools. The aim is to neutralize all sources of pollution and treat air flows circulating inside educational establishments.

Demonstration in schools

Following the Elabe study carried out for Veolia in 2019, which particularly highlighted parents' deep concern about the air quality inside the schools their children attended (see key figures), Veolia and Le Raincy town council joined forces to keep a promise that is one of a kind in France: guaranteeing 100% unpolluted

air in the town's classrooms. Since September 2019, two elementary schools and almost 600 pupils have benefitted from the "Dans mon école, c'est le Bon Air" ["My school's a breath of fresh air"] operation, thanks to the full deployment of Veolia's new (monitoring, treatment and awareness-raising) offering in the guise of "Rob'Air," a robot that protects children's health and helps them concentrate and therefore work better. "The aim of the demonstrator is to show the Group's capacity to rapidly roll out solutions to guarantee quality air. Veolia has adopted a position that favors a result-oriented over a resource-oriented target," states Frédéric Bouvier. Air Control audits the air quality using sensors selected by Airparif and AIRLAB installed in classrooms. Air Performance purifies and guarantees the quality over time. Air Human raises awareness among adults and children using educational tools such as the Rob'Air robot, enabling them to play an active

Key figures

92% of urban populations worldwide do not breathe clean air. (WHO)

Air pollution could cost up to **1% of global GDP** in 2060, according to the OECD.

Outdoor air pollution is said to have caused **4.2 million** premature deaths worldwide in 2016, with indoor air pollution causing **3.8 million** deaths. (WHO)

59% of parents are concerned about the quality of the air that their children are breathing in schools. This concern is heightened by a lack of information: **81%** state that they are poorly informed.

(Elabe study conducted in September 2019 for Veolia on a representative sample of metropolitan residents aged over 18).

role in the quality of the air they breathe in their school. One of the first findings from this operation has been confirmation of the efficacy of the Air Performance installations. They have already lowered the ppm concentration of CO₂ in classrooms below the regulatory threshold

of 1,000 ppm, whereas measurements generally display a concentration of 4,000 to 5,000 ppm in a classroom after several hours' lessons. In the interests of transparency regarding positive changes to air quality, Veolia provides the town council with "Indoor air quality" indicators



Warsaw optimizes its district heating network all the better to breathe

Every winter the Polish capital is subject to smog episodes — a thick brownish mist from a mixture of air pollutants, primarily made up of nitrogen dioxide and sulfur dioxide particulates — that covers it. This cloud is partly caused by chimneys from individual housing, especially the lowest-income households, with coal-based heating. In order to combat this problem, which is becoming a public health issue, the municipal authorities formed a strategic partnership with Veolia in 2017 with a view to optimizing

the management of the district heating system, which is the largest in the European Union with 1,700 km of pipelines over 190 km. The program, known as Smart District Heating Network, bore fruit from the very first year, during which actions on electricity consumption, waste heat and shortcomings in the system prevented the emission of 22,700 metric tons of CO₂. Logically, the city council invited Veolia to join the anti-smog program that it initiated in 2018. The aim is to encourage residents to change their mostly

polluting heating methods, steering them toward gas boilers or a connection to the district heating network. The resolution stipulates that obsolete individual boilers that do not comply with standards must be removed by the end of 2022. In 2019 alone, this collaboration allowed 44 buildings to be connected to the network, contributing to a 40% reduction in pollution from coal-fired stoves, and respectively a 34% and 23% reduction in sulfur oxide and nitrogen oxide emissions.

that summarize the pollution levels of each classroom and shares the data with teachers and parents.

From Le Raincy to the rest of the world

With its diversified new offering, Veolia offers many regional players the opportunity to take local action to improve indoor air

quality. The solution deployed in Le Raincy has now been implemented in high schools in the Paris region as well as the Group's head office. Veolia is supporting cities the world over to guarantee clean air for users of buildings such as offices in Shanghai, hospitals in Korea, and a museum in Italy. This international rollout makes Veolia the only company on the market to date to offer solutions ranging from auditing to remediation, to

guarantee indoor air quality while optimizing energy consumption. ■

1. Exploratory study of the socio-economic cost of indoor air pollution, The French Agency for Food, Environmental and Occupational Health & Safety (Anses), Observatory of Indoor Air Quality (OOAI) and Pierre Kopp, Economics professor at Panthéon-Sorbonne University (Paris 1), April 2014.



Hungary

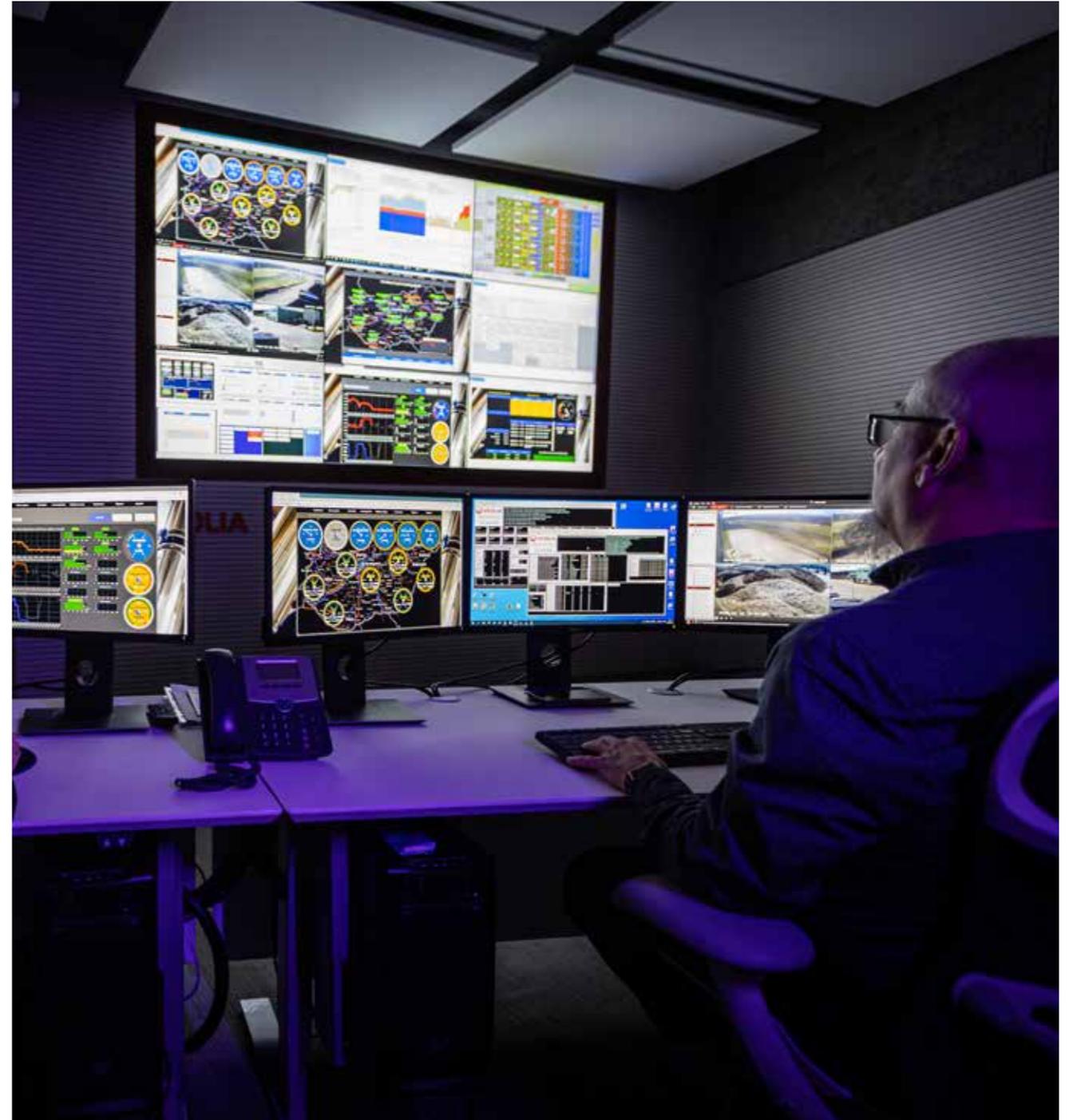
Smart Unit: a whole array of technologies in the energy transition

Hungary is currently facing fluctuations in its power grid due to the growing share of renewable energy, which is by definition linked to weather conditions and therefore unpredictable, in its energy mix. To compensate for the irregularity of sun and wind power production, Veolia has developed an original solution: a centralized remote control system that operates different independent electricity production units as if they were one and the same resource. Its virtual power plant called Smart Unit, based in Budapest and operational since January 2019, thus helps balance the country's power grid.

Because renewable energies (RE) boast a host of obvious assets, most countries worldwide are looking to increase their production from sources such as solar, wind, and hydroelectric power. Although increasingly cost-effective, safe and sustainable, they do have one pitfall: their fluctuating nature, as neither the sun nor wind is constantly available. Hence the growing reliance on virtual power plants (VPP), mechanisms that offer real flexibility when it comes to electricity, making it possible to adjust production in line with supply and demand.

Under the Hungarian Sun

Facing a serious risk of energy dependence due to aging nuclear and gas-fired plants and a drop in their competitiveness, the



Issue at stake

► Balancing the national power grid given the increasing use of renewable energy.

Objective

► Develop a rapidly operational solution to rebalance Hungary's energy mix.

Veolia solution

► The Smart Unit, a smart system that "virtually" controls the small power plants already in place across the country.

... Hungarian government has made energy security a priority pillar in the country's strategy. However, the power grid operator (MAVIR) forecasts that out of the 8,500 MW currently installed, only 4,887 MW will still be operational in 2030. In light of this, Hungary is relying on solar energy to cover a large share of its annual electricity needs, around 40 TWh (2016 peak). "Given the efficiency of the photovoltaic panels already installed, the government is looking to achieve a solar power production capacity of between 3,000 and 7,000 MW by 2030," states Ferenc Fernezelyi, Commercial and Marketing Director for Veolia in Hungary. "In late 2019, our country's solar facilities produced a total of 600 MW, which rose to 800 MW in early March 2020 and will continue to increase..." This success allows the government to reconcile the constraints associated the fluctuating RE supply with the everyday electricity needs. This is where VPP comes in. This "control energy" offering represents an alternative to traditional facilities, which often consume fossil fuel, in order to meet consumption peaks. If necessary, VPPs can increase electricity production or, on the contrary, reduce or momentarily stop it altogether. Their strength lies in balancing electricity production and consumption that is managed by decentralized high-efficiency gas engines burning natural gas and producing electricity and heat at the same time. The electricity is used for balancing purposes and the heat for heating, mainly in district heating networks.

A favourable context

In this context, for both supply security and financial reasons, Veolia decided to create its own portfolio of virtual power plants in Hungary. A strategic partner for the government, the Group thus helps disseminate technologies and innovative solutions, and strengthen the country's energy supply security. "Since the Second World War, Hungary has created around one hundred district heating networks powered by "gas" powered by gas engines," explains Ferenc Fernezelyi. Veolia runs twelve of them and produces heat in fifteen towns. "However, after the financial crisis that hit Hungary, the government reduced the subsidies for cogeneration from

2010, which resulted in a drop in the prices of electricity and heat, making cogeneration less profitable¹. That is how our Smart Unit solution was born." In 2018, Veolia acquired a 51% share in the virtual power plant CHP-EROMU Kft. — the owner of three combined heat and power plants, with a combined capacity of 30 MW — and turned this platform into its Smart Unit. It joined the Group's suite of power

plants across the country (Nyíregyháza and Debrecen combined heat and power plants, gas-fired plants, and small producers with gas engines). Its Smart Unit now serves as a springboard for Veolia's entrance onto the regulated national energy market. Thanks to this acquisition, along with the renovation and restarting of old units, the Group will more than double its production capacity in two years, reaching 100 MW. Its

Key figures

- 8,500 MW** of electricity production capacity installed in Hungary Including **800 MW** from solar power
- 51 MW** capacity of Veolia's VPP (capacity to be doubled to **100 MW** by 2022)
- 121,181 MWh** of electricity produced by Veolia's VPP under license
- Veolia's **28 gas engines** contribute to the balance of the grid
- 18 employees** manage the Smart Unit's entire virtual network



activities now cover the entire value chain for the Hungarian energy market: the sale of gas and biomass, heat production and services, and, first and foremost, electricity production and sale.

The Energy Internet

Veolia is one of the pioneers in the remote control of small power generation units. The Group has successfully incorporated the Internet of things into traditional gas engines to automate the processes and manage the whole system by developing its Smart Unit. Its control center, located in Budapest, is directly connected via the Internet to 28 gas engines spread all across the country. It can thus quickly activate one or more engines if the grid needs extra capacity, all this without any human intervention. In most cases, the system itself has the necessary intelligence to optimize electricity sales in line with market

demand. However, the operators can take over in the event of a system malfunction, or if there is an opportunity to sell surplus energy to the market.

A balanced grid

"Veolia in Hungary's Smart Unit delivers high performance because the average efficiency of the gas-based cogeneration units is more than 80%," continues Ferenc Fernezelyi. "It is also the best way to balance the needs of a power grid that uses renewable electricity. Another important point — it is extremely profitable." In his view, although other balancing techniques exist, Veolia in Hungary's Smart Unit is much more advanced than most of them thanks to its high level of smart automation. "I'm convinced that our solution will be used everywhere in the long term," he adds. At a time when Hungary and other countries are

increasingly investing in renewable energy sources such as solar, wind, and small-scale hydroelectric power, the need to balance the grid is becoming apparent. Veolia in Hungary's Smart Unit is an innovative and profitable way of achieving this. For Ferenc Fernezelyi, this tool could well prove to be a "win-win" choice. ■

1. With the cancellation of government support, it has become more profitable for public utility companies to use the existing cogeneration capacity to produce electricity with the help of VPP. These companies thus deliver additional capacity to the Hungarian grid (applying higher prices), rather than providing a conventional district heating offer with a low market value.

Flexibility: the Smart Unit's watchword

The watchword for Veolia in Hungary's Smart Unit is flexibility. Firstly, in terms of the teams, who in barely a year have successfully shifted from running a heat production network to managing an electricity-producing network. Everyone demonstrated their open-mindedness and ability to adapt to the new methods and technologies without hesitating to ask for help. "All across the company, the network's management requires only 18 staff members," states Ferenc Fernezelyi. Secondly, in terms of the process, which is fully automated with the use of cogeneration units whose operation is driven by the needs of the power market rather than the heat market to maximize profitability. This power plant, which produces and accumulates electricity, must therefore guarantee the flexibility of all its decentralized facilities on the electricity market. The virtual power plant (VPP) makes it possible to provide fast, balanced and multifaceted production: the Smart Unit quickly adapts by injecting the amount of electricity required in real time into the grid. It can also optimally monitor prices on the electricity exchange and offer the electricity that it produces as effectively as possible.



Monte Sinaí

Ecuador

Providing drinking water access in areas that water networks do not reach

On the outskirts of Guayaquil, Ecuador's economic capital and port city, lies the Monte Sinaí slum, a precarious shanty town. Its residents were faced with a drinking water supply problem: unpredictable and contentious distribution and poor-quality water at high, unregulated prices. With the "AGUA DEL SINAI" project, Veolia is providing a solution to this problem with the implementation of efficient logistics and the help of smart technologies to meet a fundamental human right.

Monte Sinaí is a squatter settlement, like many others on the edges of major cities in developing countries, to which extremely poor populations from rural areas continue to flock. They set up home there, with no legal title to the land, in houses made of bamboo. This neighborhood is not part of any urban development plan and basic services are not provided. The water supply used to be delivered by trucks outside the municipality's control. The water distributed was of poor quality and posed a health threat to the entire metropolis' population, exposing them



Issues at stake

► Improving the health, economic and social conditions of a vulnerable population by guaranteeing secure access to high-quality drinking water.

Objectives

► Guaranteeing the distribution of unlimited high-quality drinking water at a set reduced price to 130,000 isolated and disadvantaged people.

Veolia solution

► Digitizing the distribution and building a water supply station on the site.



... to a heightened risk of water-borne diseases. The chaotic distribution conditions created a tense atmosphere. Last but not least, the abnormally high and variable prices proved untenable for families. A source of growing tension, this critical situation posed a health, social and political problem. In the light of these difficult conditions, providing Monte Sinaí's residents with an acceptable solution was only natural for Veolia's staff, even though the district was outside the scope of the concession contract signed with Guayaquil (operation and maintenance of the city's drinking water, wastewater and stormwater networks). "In Latin America, shared perspectives foster a very high level of solidarity between social groups, which is particularly strong among our staff in Guayaquil," explains Frédéric Certain, CEO of Veolia in Ecuador. "Veolia cannot merely content itself with a service that works well in the city but remains inaccessible for hundreds of thousands of people in the surrounding area. Its raison d'être is at stake: we are only credible if we are useful."

Smart technologies on behalf of the most vulnerable

The challenge to be met consisted in organizing the distribution so as to guarantee quality water, a secure low-cost supply, and increased profitability for the truck drivers. The "Agua del Sinaí" ("Water of Sinaí") program is the fruit of lengthy deliberations between Veolia, Monte Sinaí community representatives (mostly women volunteers heavily involved in neighborhood organization, each representing some one hundred families) and institutional partners. It is also the result of fierce negotiations with the truckers. As the residents have a cellphone, the water supply was able to be digitized. Using GPS, smart routing was set up to locate users, organize the distribution, and optimize the truckers' route while checking them. The drivers have a dedicated app on their cellphone that tells them the route and allows them to directly save user information and the amount delivered. The whole process is overseen by Veolia thanks to a remote management and monitoring system. Each truck has

its own identification attributed by the municipality and the truck drivers now wear uniforms. The vehicles display the "Agua del Sinaí" logo, the price applied, and a telephone number for orders and any complaints. A filling station built by Veolia in the same neighborhood, connected by a pipeline to the municipal service, assumes many functions (filling, office, etc.). It is where the water quality is checked by random sampling, subject to bacteriological analysis. This location has also brought about notable improvements, guaranteeing the origin of the water distributed and reducing truckers' journey time. The closest filling station was previously 8 km away. "The services provided by Veolia cannot develop without an understanding of what happens in the most fragile communities," analyzes Frédéric Certain. "We have worked a great deal on social cohesion; it's an added contribution that consolidates our credibility in Latin America."

A positive impact for everyone

From now on, a tank truck goes by each house at least four times a day — however, it may be up to eight times depending on demand — distributing drinking water at a more affordable set price in a calm atmosphere.

This low-cost scheme first and foremost benefits users, who enjoy a secure, regulated, high-quality drinking water service, which has a positive impact on their health and purchasing power. However, it is also beneficial to the truck drivers, whose working conditions and profitability have improved, and to the municipality, which is seeing the risk of a health and social crisis recede. "For Veolia, it's a source of satisfaction and pride to have provided aid," says a delighted Frédéric Certain. "And for our South American staff, it's extremely important to have helped their fellow citizens. Our users here are incredibly grateful to us." "Agua del Sinaí" proves that quality drinking water distribution is possible without a connection to the official network. The set-up in Guayaquil can be applied to other makeshift neighborhoods, as well as urban development areas in Latin America, Africa, India, etc. facing the same problem. "The difficulty is neither technical nor financial. The key to this program's success lies in the determination and courage of Veolia's teams, who wanted to provide a solution for the city's most vulnerable population. This kind of action gives Veolia renewed credibility when it comes to working in poor regions," concludes Frédéric Certain. ■

Assessment after one year up and running

WATER FOR ALL

Since April 2019, the "Agua del Sinaí" program has been providing quality drinking water to all homes in the Monte Sinaí squatter settlement, 15 km from Guayaquil, i.e. **130,000 people** (including **100,000 children**) living in extreme poverty. This population is growing by **10,000 to 20,000 people per year**. The water supply station built in the neighborhood has eight pumps, enabling **26 tank trucks** to distribute **2,500 m³** of drinking water per day. On site, an efficient and regular bacteriological analysis system guarantees the water quality.

REGULARITY OF SERVICE

The digitization of distribution via smart routing using GPS and a dedicated app on the truckers' cellphones makes it possible to adjust delivery to demand in real time. Truck drivers make seven to eight journeys per day compared to the previous maximum of four, and they now go past each house a **minimum of three or four times a day**. An automatic control and notification scheme for the tank trucks and their drivers guarantees peaceable relations between users and truck drivers.

IMPROVEMENT IN USERS' PURCHASING POWER

A **0.21-m³** tank is billed at the flat rate of **US\$ 0.75**. This is over **25%** less than the previous minimum price (which ranged from **US\$ 1 to US\$ 3** during the rainy season).

FUNDING

Veolia contributed \$450,000 to construct the filling station and support the scheme's set-up. Nowadays, the project no longer requires any funding. Guayaquil's **540,000 households** with a water meter pay a contribution of **\$0.10 per month** to a fund to renew the truckers' vehicles.

Testimony Luis Távora

The Social Program Director for the NGO "Hogar de Cristo" established at the heart of Monte Sinaí when the "Agua del Sinaí" project was created, he remains in touch with the district's population today.

"Agua del Sinaí's success lies in community involvement based on a relationship of trust. After outlining the beginnings of the project, Frédéric Certain contacted "Hogar de Cristo" to meet the residents. Participatory meetings were organized in their homes to design the program together. This way of humbly and unpretentiously approaching the population of a neighborhood with a dangerous reputation allowed a climate of trust to be created. It is important to state that for the highly religious (mostly Christian) population, this approach also had a spiritual dimension. When they understood that they couldn't be connected to the municipal network before 2025, most of the population rallied behind the truck distribution alternative. A hectare of land purchased for the supply station has been devoted to community development. Training sessions organized by Veolia staff members for residents, focused on plumbing, urban agriculture, microcredits, etc., continue to be held there. At present, each inhabitant ensures that the water distribution service runs smoothly. As well as improving access to water, thanks to its participatory approach, Agua del Sinaí's implementation has led to a sense of empowerment² and social cohesion. The interest shown by Veolia in inhabitants who had long been ignored by everyone does away with the stereotype of a multinational."

1. Active in the neighborhood in the following areas: social housing (building pioneers), solidarity economy, protecting women, community development, education, health, and food safety.

2. A term that appeared in the context of social movements (such as defending women's rights) to describe opposition to a form of imposed hierarchical authority, and encourage the social, economic and political emancipation of a community so that it can act by itself in complete independence.

Philippines

“Liters of light” that are changing the lives of vulnerable communities

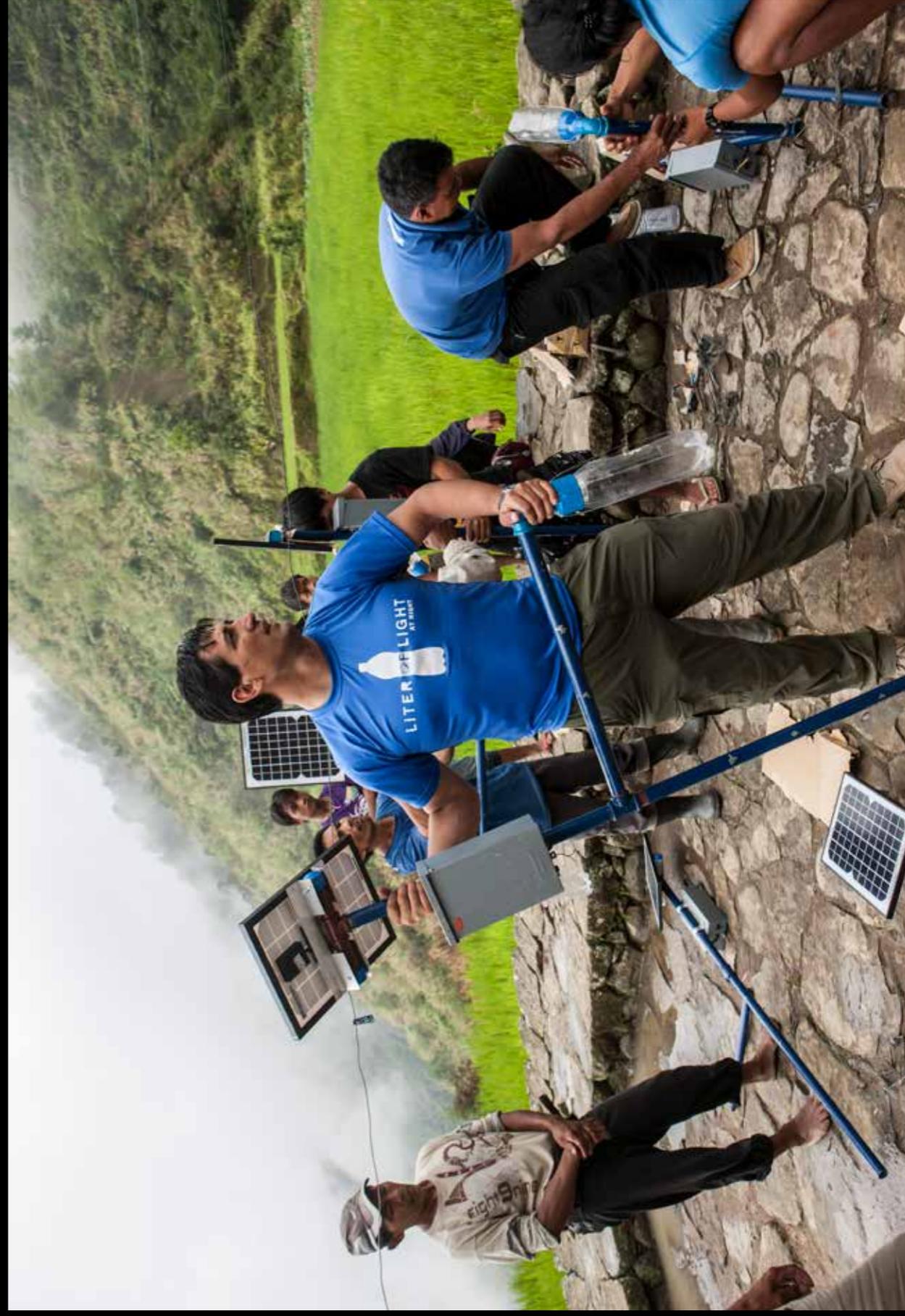
A billion people worldwide do not have access to electricity. Many of them live in shanty towns. To prevent the residents of these makeshift dwellings from remaining in the dark all day long (shacks in shanty towns often do not have any windows), the NGO “Liter of light” offers an easy installation using a plastic bottle to create a light source. The principle is simple: make a hole in the roof, which is usually made of corrugated iron, in order to be able to insert a bottle filled with water into it. Sunlight is reflected in the water, offering a skylight equivalent to a 55-watt lamp.

This installation has been subsequently improved to offer the benefits of electricity to as many people as possible. By adding an LED, electronic components, a tube and a solar panel, a room of around 15 m² can be lit for a dozen dollars or so. Some components can even be recycled using old radio sets or cellphones. Volunteers from the NGO “Liter of light” travel to extremely remote villages to teach the inhabitants how to manufacture and maintain these “lamps.” The photographer Sergio Ramazzotti shadowed one of these teams in the Philippines.



Manila, Pinaglabanan neighborhood. A child in his shack with the “bottle of light” lighting the room.

Manila. Filipino soldiers unload hundreds of bottles from an army truck for distribution in the capital's shanty towns. Volunteers are mobilized to make deliveries by bicycle.



Malgong, Banaue Valley, Philippines. Ilac Diaz, Liter of Light's founder, explains to the villagers how the solar lantern developed by the NGO works.

Patayay, Ifugao Province, Philippines. Assisted by locals, members of the Litter of Light organization assemble solar street lamps that they have brought to the villages.



Maligncong, Banaue Valley, Philippines. The villagers have just received the solar lanterns developed by Litter of Light.

Malgong, Banaue Valley, Philippines. These lamps significantly improve the living conditions of farmers, who have always worked at night in total darkness, when water runs down from the mountains.



Amsterdam, the Netherlands. Ilac Diaz, Liter of Light's founder, presents his work at GRI's (Global Reporting Initiative) global conference, where he was invited by Enel (Ente Nazionale per l'Energia Elettrica), the Italian energy giant with which he has signed a partnership.

Sergio Ramazzotti Photography, a human encounter

It was during a report in Manila that Sergio Ramazzotti discovered his first "liter of light" by chance. "This very simple solution, which everyone can implement at home, was a real revolution, improving thousands of people's quality of life in an incredible way," he remembers. Marked by this experience, a dozen years later he decided to accompany Ilac

Diaz, the NGO's founder, and his staff through remote villages in the Philippines and do a full report on the project. For Sergio Ramazzotti, the technical aspect of photography is secondary. His top priority is lightness and kindness: "The images that have helped forge the history of photojournalism, such as those by Robert Capa, were taken with ridiculous cameras compared to current technology. Yet they are timeless and incredibly powerful. That's what I am looking for.

Photography is primarily about entering into a deep and empathic relationship with a story and its protagonists." He therefore takes the time to spend at least one day without his camera in each place, chatting and sharing tea. "Pointing the lens at someone is an act of violence," he reminds us. "You must be gentle and respectful and take a sincere interest in what they are saying." This is the only way to get great shots.

Bio

The 54-year-old Italian photographer Sergio Ramazzotti has already spent thirty years as a photojournalist, particularly in war zones. However, he did not study photography, as he is a qualified aeronautical engineer. After working for a photo agency in Milan, then for the newspaper Gulliver, he went freelance in the 2000s, contributing to publications such as Spiegel, The New York Times, and a number of Italian newspapers. With three colleagues, he founded the Parallelozero agency in Milan, which also produces television documentaries. He draws inspiration from the great masters of painting rather than photographers. "No photographer uses light like Caravaggio or Vermeer; none of them has Velazquez's eye for composition!" he says admiringly.

An aerial photograph of a dense forest with a road and a car. The forest is composed of various types of trees, including tall evergreens and shorter deciduous trees. A road with a dashed white line runs horizontally across the middle of the image. A small white car is driving on the road. The text is overlaid on the image in a large, bold, white font.

CO-CONSTRUCTING THE BENCHMARK COMPANY

FOR ECOLOGICAL TRANSFORMATION

Veolia has set its sights high: over the next four years, the leading environmental services company is looking to become a gold standard company for ecological transformation. This ambition is commensurate with the unprecedented global — environmental, climate, and most recently health — crises that are shaking up the early 21st century. To achieve this ambition, in 2019 the Group adopted a purpose — to contribute to human progress to achieve a better and more sustainable future for all — that pervades everything that the Group does, imperceptibly taking on its full meaning and power. Guided by this “compass,” Veolia has drawn up its new strategic plan for the next four years: IMPACT 2023.

Veolia presented its new strategic plan IMPACT 2023 on February 28. This roadmap is based on solid pillars, arising from the transformation implemented by the Group over the past eight years. Veolia finishes this cycle posting 2019 results that are significantly higher, driven in particular by the growth of the Group’s new business lines and the savings made during the previous two plans (2012-2015, 2016-2019).

Maximum positive impact

IMPACT 2023’s key priority is striving for maximum positive impact, whether social, societal, commercial, environmental or financial. This priority goes hand in hand with distinct choices regarding the sectors of activity, with a strong acceleration of those with a high eco-friendly impact.

Collective “inspiration”

Distinguished by a powerful co-construction approach, IMPACT 2023 was born of a novel consultation and discussion initiative across the Group’s entire ecosystem, starting with its staff. “Almost two years have passed between the impetus given by Antoine Frérot to consider the post-2016-2019 plan,

involving as many members of staff as possible, and the presentation of the IMPACT 2023 program,” points out Jean-Christophe Taret, Veolia’s Senior Vice-President, Strategy. Back in 2018, the Group initiated the collaborative thinking process “Inspire,” with a view to developing a keen understanding of the issues it would have to face in the years to come and gathering suggestions from staff in terms of priorities for action. Veolia thus successively turned to several hundred internal “talents,” followed by 500 senior executives from all the areas and Business Units, and finally Veolia’s Executive Committee. Following this highly instructive step, the Group undertook a detailed review of its business portfolio, from which three types of policies for implementation emerged: business lines to be aggressively accelerated, those to be optimized while pursuing measured growth, and finally those to be slowed down or stopped. 2019 was devoted to drawing up the strategic plan per se and a detailed costing of its ambitions. “IMPACT 2023 is a plan that aims to have a unifying effect,” summarizes Jean-Christophe Taret. “While creating a clear framework, it is based on feedback and suggestions from the ground, which revealed strong support from the members of

staff consulted for the initiative along with Veolia’s mission to ‘Resource the world,’ as well as the high standards of excellence that this mission demands. Incidentally, this enthusiasm can also be seen in the Group’s employee engagement rate, which was 85% in 2019.”

Multifaceted and quantified performance

While it wishes to continue to deliver a solid financial performance, the Group is also committed to reaching ambitious performance levels for the other components of its ecosystem. On the strength of the discussions carried out when drafting the text of its purpose between 2018 and 2019, Veolia has thus defined 18 multifaceted performance indicators (cf. diagram) in the light of the UN’s Sustainable Development Goals and with regard to its five main stakeholders: shareholders, employees, clients, the planet, and society. This commitment is leading it to apply the same standards of excellence to each of them, all five being equally important in its eyes. “This leaves us no room for error,” admits Jean-Christophe Taret. These indicators, assessed by an independent body each year, will also be used to determine the variable share of compensation for the Group’s senior

executives. Enriched through consultation with Veolia’s “Critical Friends” (cf. Perspective), debated by the Executive Committee and approved by the Board of Directors, the performance scoreboard reflects the plan’s ambitions: it will be used to steer its execution. “At the end of the day, we wanted to construct a plan that would speak to everyone,” explains Jean-Christophe Taret, “a plan that our staff and our external stakeholders would find meaningful and with which they could identify. We really built it with our own hands, our heart and soul, our culture. It is inspiring, because the issues that the Group is looking to meet (especially climate and pollution) are clearly identified. And extremely important.”

Aligned with the entities

To successfully implement the plan on the ground, the newly created Business Support and Performance division plays a control tower and support role, both to identify impactful initiatives and measure the extent to which Veolia is able to replicate them. “We work on behalf of the entities (BUs) to make the Group’s strategy possible and secure its execution for maximum impact,” states Pierre ...

18 multifaceted performance indicators
Guided by its purpose, Veolia has made a public commitment to 18 concrete performance indicators, which cover the five dimensions of its performance on behalf of its stakeholders.





...
 Ribaute, Business Support and Performance Director at Veolia. “All the Group’s experts are not necessarily in our division, but they are in our BUs and we know where to find them on the ground and create connections,” he emphasizes.
 On a day-to-day basis, the division will assist the business community in every dimension — commerce, technical aspects, scientific expertise, performance, operations — and work proactively with the BUs as much as possible. “With each of them, we are jointly going to identify the priority themes for its 2023 trajectory, then decide on the subjects on which to work together,” he states. Once the themes have been defined, it is a question of indicating what supports the BU will need. For example, if a BU is aiming to enter the hazardous waste market, the division’s responsibility is to make it a success by lining up all the best resources available. “Based on the business model, we are going to concretely look at how to generate value by analyzing the Group’s main feedback on entering the waste market in such and such a country or area,” explains Pierre Ribaute. “That’s how we will be

able to guarantee our clients that Veolia is locally deploying the best of its know-how and all its power to deliver a high-quality service.”

Innovation and collective intelligence

The strategic plan also aims to accelerate innovation, all the better to carry out the Group’s mission and once again make a maximum impact. “We are going to make the Group’s human and geographical footprint a leverage for innovation,” explains Olivier Brousse, EVP Strategy and Innovation at Veolia. Each member of staff — wherever they are in the world — can contribute new ideas and solutions that can create value. The idea is to connect this intelligence to have a real international radar when it comes to innovation. Veolia’s presence in 75 countries also makes it a privileged partner for the giants in their sector (petrochemicals, agri-food industry, etc.) and therefore places it in direct contact with the major problems to be solved. Accordingly, six major global challenges¹ for today and tomorrow have been chosen in IMPACT

2023 to harness the teams’ creativity and give free rein to innovation. Their selection is based both on the importance that they hold for the future of the planet and its inhabitants and on what Veolia employees’ skills and imagination can contribute in terms of highly differentiating and highly effective ideas to offer concrete and operational solutions. “We are explorers and must find a balance between existing business lines and those to be invented, between our five stakeholders, and between periods of growth and crisis, such as the Covid-19 situation, while staying on course with our purpose, which is our compass,” states Olivier Brousse.

From usefulness to the benchmark

While the epidemic linked to the novel Coronavirus, Covid-19, spreads rapidly worldwide, Veolia is mobilizing and strengthening its organization on an international scale to ensure the continuity of its essential services: drinking water, sanitation, waste treatment, energy, disinfecting buildings and facilities, etc. All these vital activities must continue to func-

tion even — and especially! — in the event of an epidemic. “More than ever, civil society is worried and lacking points of reference,” adds Olivier Brousse. Yet Veolia, which has been identified as a key worker in the UK (and an *Opérateur d’Importance Vitale* in France), is one of these points of reference and has made health one of its major themes for innovation. “Along with food and air quality, the health issue — and the coronavirus epidemic is accelerating the urgency of it — calls for new solutions on the part of Veolia,” Olivier Brousse reminds us. “If we are able to show that our purpose and the impact created by the 18 indicators in our strategic plan can withstand and offer solutions to this historic crisis, then the Group will come out of it as one of the specialists in these societal problems. A reference point in the storm. Of course, a major effort is required from each of us, but it is on a par with our responsibility as a company.” ■

1. Health and new pollutants; adapting to climate change; new material loops; food and environment; new energy services; new digital offerings.





Jean-Michel Severino
CEO of Investisseurs & Partenaires (I&P) and chair of Veolia's Critical Friends committee.

“We form a useful and unique space for free expression”

Since its creation in 2013, the Critical Friends committee, today made up of some fifteen members who are experts in a wide variety of domains, has supported the Group in its thinking, at the crossroads of its major ethical, societal, strategic and operational challenges, in an atmosphere of critical candor, which is what truly sets it apart. Hence its name... There are two rules of the game: complete freedom of expression and confidentiality of the debates.

How is the committee useful for Veolia?

Veolia counts on its “critical friends” to debate complex questions, without making any concessions when it comes to intellectual and ethical rigor or any obligation to reach a consensus. The great advantage of how this committee works is the vast freedom of thought and interaction that prevails and that we maintain with General Management. For instance, when Veolia questioned us about its activities involving radioactive waste, shale

gas and coal, three topics about which the “critical friends” did not see eye to eye: does helping improve the environmental performance of activities otherwise denounced from an environmental perspective represent an improvement or deterioration in outcome? While they may seem philosophical, these debates have tangible repercussions in reputational, strategic, and operational terms.

How do you view the formalization of the purpose, in which you were involved?

I see it as the incorporation into managerial life of an approach long championed by its CEO, namely the company's usefulness for its stakeholders, underpinned by the strategic as well as CSR initiatives undertaken by Veolia. As early as 2014, the committee began debating the high standards implied by the ‘Resourcing the world’ tagline; helping define and draw up the purpose was therefore a logical extension of this. We focused concurrently on its text, its approach,

and its governance. A complex step for the committee, for which the interaction with General Management was very engaging, concerned the new anchoring accorded to the committee regarding governance of the purpose. This led to in-depth discussions, particularly the limits not to be crossed in order to allow the committee to maintain its distinctive features of freedom and non-consensus, which are useful to Veolia. From 2021, we are thus going to take part in critically monitoring the purpose's performance indicators

In this respect, what particular influence did your involvement have in the creation of the performance scoreboard?

An indicator system's stability doesn't lie in its ability to describe the whole world but in being credible and legitimate with regard to the part it does describe. The committee was therefore keen to encourage Veolia to accept that aspects of the purpose cannot be recorded on the basis of

an indicator. By way of example, we had a very rich discussion about measuring the contribution to ethics on a scoreboard... A major topic in terms of purpose, which is reflected in the scoreboard's final structure!

How do you plan to support Veolia in preparing for the aftermath of the Covid-19 crisis?

Covid-19 is a multi-dimensional upheaval for Veolia. The crisis highlights two themes already more present than elsewhere — Health/Environment and Biodiversity — that will move back up on the Group's strategic agenda. It is also leading to careful consideration of Veolia's organization, especially its social dimension. I'm thinking about its Waste business line, whose staff members are on our streets each day while the world is in lockdown. In this kind of rehabilitation underway, Veolia's status as a service provider comes fully into its own.

54/55

At the height of the unprecedented fires that struck Australia from June 2019 to February 2020, Veolia ANZ (Australia & New Zealand) provided financial and material aid to those most affected, as well as supporting firefighters. Veolia ANZ has a long history of supporting the local communities in which it operates, and was able to offer this assistance thanks to its skilled approach to risk management and resilience, along with a keen awareness of the effects of climate change.



Bushfires in Australia: Veolia comes alongside those worst hit

The fires in the second half of 2019 caused the death of over one billion animals and the destruction of eight million hectares of vegetation across Australia as a whole. This phenomenon was particularly devastating in the states of Victoria and New South Wales, where Veolia is present. The Group mobilized all its resources on the ground in the face of this environmental, human and material disaster. Veolia was able to count on the spirit of solidarity shown by its staff across the country, who volunteered to provide daily help to the hardest-hit communities. At Veolia's Woodlawn¹ eco-precinct in Tarago (New South Wales) and in the surrounding area, Veolia's employees took part in operations to clean up and remove several thousand metric tons of asbestos-contaminated waste from homes devastated by fire. Thanks to Veolia's tank trucks, the Woodlawn eco-precinct also supplied water directly to the Rural Fire Service's response units. This volunteer-based rural firefighting agency (under the government of New South Wales) found itself on the frontline facing the flames. Veolia provided crucial support on a national scale to the Australian Defence Forces within the framework of the Bushfire Assist² operation. Their response actions included clearing 4,848 km of roads, purifying 3,880,000 liters of water on Kangaroo Island, and delivering over 76,260 meals to shelters

for emergency service personnel and evacuees. Four charities³ benefited from the Veolia Mulwaree Trust's (see boxed text) donation of 200,000 Australian dollars (over 110,000 euros), matched by another donation of the same amount by Veolia ANZ that went to a further six charities⁴. This financial support totaling 400,000 Australian dollars was directly used to come to the aid of many local communities, in particular by providing them with essential equipment, such as portable toilets and showers (also accessible for people with a disability), electric generators, freshwater tanks, etc.

1. Forming the hub of a network of interconnected green projects, the Woodlawn eco-precinct hosts infrastructure designed and managed by Veolia. It receives waste from the city of Sydney and transforms it into a number of different resources: biogas for electrical generation and waste heat for aquaculture products. Attached to the facility is an agricultural enterprise where sheep and cattle are raised on Veolia's 15,000 acres of farmland.
2. <https://news.defence.gov.au/national/operation-bushfire-assist-2019-2020>
3. Rural Aid, Blazeaid, Wildlife Rescue South Coast, WIRES
4. Conservation Volunteers Australia, Gippsland Emergency Relief Fund, Wildlife Victoria, Native Animal Trust Fund, Aussie Ark - Australia Action Fund and Wangi Men's Shed.



Created in 2005 by Veolia ANZ, the Veolia Mulwaree Trust is a foundation that organizes the management and distribution of funds to different not-for-profit organizations in the Goulburn region and the surrounding area.

More than ever keen to embody Veolia's active aim of conserving and rehabilitating the environment, the Trust distinguished itself during the forest fires.

Through this entity, for the past fifteen years Veolia has been providing regular financial support to local communities for an array of buildings and infrastructure: schools, sporting facilities, parks, emergency services, etc.

To contribute to the artistic and cultural dynamism of the region, the Veolia Mulwaree Trust also funds a number of academic and creative arts scholarships each year. Since 2005, it has distributed more than 11 million Australian dollars, used to support over 1,200 local community projects.

Veos by Veolia: treating Morocco's medical waste

Health professionals (hospital complexes, analytical laboratories, doctors, veterinarians, etc.) produce a great deal of medical and pharmaceutical waste, such as gloves, masks, gowns, syringes, etc. The current Covid-19 health crisis is today reminding us once again of the importance of good management of medical waste and its potential environmental impact. Moroccan regulations stipulate to producers that this waste must be sorted and treated in accredited facilities (they are legally responsible for it until its disposal). The aim of this treatment is to eliminate the microbiological risk in order to make this waste inert and safe for the environment. Most waste producers in Morocco choose to entrust this task to specialist providers. On the strength of over 50 years' experience in this field, Veolia is looking to put its expertise to good use on behalf of players in the sector through its Moroccan subsidiary Veos.

To oversee the management of this waste, the ministry in charge of the environment has announced a tightening of the regulations, controls and upward revision of fines regarding waste management and disposal. In order to offer its waste treatment solution in Morocco, the Veolia group has joined forces with the Moroccan firm SOS NDD, which specializes in waste management. With Veos, the joint venture is looking to support the sector's providers, guaranteeing them

compliance with the law and digital traceability of their waste management. This business line is entirely in keeping with Veolia's new strategic plan: Impact 2023. "The plant is under construction and the activity is set to start up in late 2020. We want to provide an offering on the market tailored to the specific needs of our clients: major healthcare providers and health professionals," states Damien de Larivière, Veos' Managing Director. This offering includes digital traceability solutions, a dedicated client area, and waste disposal certification. ■

MEDICAL WASTE TREATMENT STEPS

- 1 WASTE PRODUCTION**
 - Most medical procedures lead to the production of medical waste (needles, syringes, compresses, etc.). The healthcare provider sorts it into customized containers provided by Veos, identified by a tag allowing it to be traced until its disposal.

• Veos agents provide waste producers with containers, cardboard or plastic boxes, and/or needle boxes.

- 2 WASTE COLLECTION**
 - The containers are collected regularly according to a predetermined schedule.
 - Veos agents scan these containers to ensure their tracking.

- 3 TRANSPORTING WASTE TO THE PLANT**
 - Medical waste is transported to the treatment site by certified truck.

- 4 TREATMENT METHOD**
 - Once they have arrived at the plant, the containers are unloaded and identified before their treatment. The waste is then shredded and heated using a "microwave" method that makes it inert. Its status is then similar to that of household waste.
 - The treatment technology chosen by Veos has the advantage of producing zero emissions.

- 5 CERTIFICATE**
 - A notification is sent to the client informing them that their waste has been treated.
 - At the end of the process, a waste disposal certificate is given to the client, who is released from all responsibility as required by law.

- 6 LEAVING THE PLANT**
 - Transformed into dry residue, the waste is totally harmless and ready to be stored in a sanitary landfill or incinerated to produce energy.
 - The containers are washed and disinfected to be ready for further use.

• The Veos solution allows waste producers to track the waste throughout the process thanks to a dedicated app, in particular giving access to customized indicators.



22,000 metric tons of medical waste is produced each year in Morocco.

The Veos plant will be able to treat up to **4,000 metric tons** (in the long term) of MPW (medical and pharmaceutical waste) per year.

Futurist



Enova's Smart Glasses: acuity 2.0

Airports, hospitals, amusement parks, shopping malls... All these sectors can offer highly specialized equipment behind the scenes. To ensure that the customer experience is not impacted, behind-the-scenes operations must run smoothly. To keep downtime caused by maintenance to a minimum, Veolia's subsidiary Enova increasingly relies on Smart Glasses for remote expert support in the maintenance field.

These smart glasses are embedded with a camera and audio online streaming so that a remote expert can see in real time on their computer screen what the technician sees on site. Equipped with these high-performance connected glasses, technicians are guided vocally and with visual cues by experts from all over the world. The seasoned experts can quickly identify the malfunction to be repaired or the faulty material to be replaced as if they were present on site. "With our smart

glasses solution, we are harnessing new opportunities offered by augmented reality," states Rachid Hamida, Enova's Technology & Performance Director. "And for our staff, following instructions from a remote expert can quickly become a highly effective learning tool. Studies have shown the educational benefits of augmented reality and we are delighted to be seeing the first results already." This key innovation has proven its effectiveness at coordinating the teams at two complex

amenities in the Middle East region: Ski Dubai, which has been managed by Enova since it opened in 2005, and the more recent Ski Egypt, which opened in 2017. Thanks to Smart Glasses, experts from the Ski Dubai Enova team can share their experience and assist the Egyptian team, ensuring the maintenance of highly specialized equipment while avoiding delays due to plane trips. Smart Glasses also contribute to an increasingly safe working environment for staff:

mid-intervention, the expert can remind the technician to change protective equipment, due to newly arisen risks during the maintenance procedure. In addition to better quality of service and considerable transport savings, these connected glasses deliver immediate added value for the group's clients: the possibility of observing the progress of the operations carried out on their site "live," and reducing equipment downtime due to optimized maintenance.



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