Veolia's contribution to the EU Commission consultation "Future climate and energy policy — a Strategy for long-term EU greenhouse gas emissions

*Veolia group is the global leader in optimized resource management. With nearly **170 000** employees worldwide, the Group designs and provides **water, waste and energy management solutions** that contribute to the sustainable development of communities and industries. Through its three complementary business activities, Veolia helps to **develop access to resources, preserve available resources, and to replenish them**. The Group enables its municipal and industrial customers to mitigate their greenhouse gas emissions, in particular by developing the energy efficiency of buildings, diversifying the energy mix for district heating, and deploying circular economy solutions. Veolia also offers solutions to make cities and industries more resilient to extreme climate events.*

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In the present document, we share our vision regarding opportunities and challenges of long term emissions reductions. In doing so, we take stock of Veolia's technical and operational expertise, e.g. our experience with municipal and industrial clients to reduce their environmental footprint and reinforce their resilience to climate events. Our position is based on the following pillars:

- *The need for zero net emissions by 2050;*
- *The importance of circular economy;*
- *Energy efficiency as the backbone of decarbonisation;*
- *Territorial and district based view of decarbonisation;*
- *New venues for decarbonisation open by digitalization of services to environment;*
- *Financing needs for a decarbonised mid-century.*

1. The need for net-zero emissions by 2050

By adopting a net-zero emissions target for 2050, the European Commission has an opportunity to enable the development of both emissions reduction and emissions capture and sequestration solutions, while sending the right political message to the business and investors community in favor of long-term decarbonisation. Carbon neutrality can become a common horizon for all stakeholders involved in the fight against climate change.
This objective will however require a combination of actions: 1. achieve emissions reduction across economic sectors; 2. change consumption patterns; 3. strengthen natural carbon sinks such as forests and oceans; 4. upscale more existing technical options such as: energy efficiency, fuel shift, zero-carbon power production.

2. The importance of circular economy

Circular economy can significantly contribute to climate change mitigation efforts through a combination of improved material management, dematerialisation and systemic change. Today, we extract over 80 billion tonnes of materials per year, of which a mere 7% is reused or recycled by the global economy[1]. **Material management through our economies is estimated to account for as much as two thirds of global emissions**[2] and as much as **4.1 billion tonne of CO2 equivalents are associated with materials after the use stage (i.e. with waste management)**. Circle Economy estimated that **circular**

[1] Circle Economy team analysis based on Exiobase (2011); Tukker et al., EXIOPOL – Development and illustrative analyses of a detailed global MR EE SUT/IOT (2013) Economic Systems Research, 25 (1), pp. 50-70.; Wood et al., Global sustainability accounting-developing EXIOBASE for multi-regional footprint analysis (2015) Sustainability (Switzerland), 7 (1), pp. 138-163. source

[2] UNDP, "Circular economy strategies for Lao PDR – A metabolic approach to redefine resource efficient and low-carbon development" (unpublished draft), a project with Shifting Paradigms, Fabrications and Circle Economy

economy has the potential to close approximately half of the emissions gap between current policies and the 1.5°C target[3]. Two areas of the circular economy might have a significant impact in that regards:

➢ Reducing carbon footprint of plastics

Negative climate and environmental impacts of plastic consumption can be reduced by promoting recycling and reusing technologies. Creating new outlets for recycled plastics is however a prerequisite if market players are to invest time, money and expertise in the undertaking.

In this respect, the pledge by industry to incorporate 10 million tonnes by 2025 is a good first step. Should European industry not live up to this ambitious task, other policy options could be activated, such **as minimum recycled contents for manufacturers to incorporate more recycled plastics into their production processes. Public procurement** also represent a powerful pull, as contracting authorities have the means to set the rest of the value chain in motion.

In recent years, the recycling sector has been undermined by price volatility on both waste bales and virgin prices, which jeopardizes the economic equilibrium of recycling processes. This implies that the **price of recycled plastics should be competitive** enough for producers to make the right decision both for themselves and for the environment. To this aim, Veolia has long advocated for **monetizing the environmental benefit of recycling**, preferably at European level. The available policy toolkit is well known but political will is essential to restore the imbalance between the prices of virgin and recycled plastics, especially at Member State level.

The EU communication on the interface between chemical, product and waste legislation as well as the outcome of the negotiations on the new waste directives are unique opportunities to solve the conundrum of **how to phase out substances of concern and, at the same time, increase recycling rates**. A pragmatic approach is needed to facilitate the transition to a toxic-free material flow.

➢ Using waste heat as an energy source

According to a 2014 study[4], **only 1% of lost heat is recovered in Europe**. **Waste heat and waste cold** from industry, commercial operations and other urban sources is to play a major role in the energy mix of the future, alongside renewable energy solutions. Stratego project (2015) calculated the **EU total waste heat potentia**l to be 11.3 EJ (270 Mtoe), an order of magnitude that **could cover the EU's entire heating needs in residential and tertiary buildings,** especially when being fed into existing and prospective district heating networks.

Thanks to the recently adopted Clean Energy Package, some legislative barriers for the effective use of waste heat in the heating sector have been lifted. However **significant market barriers remain.** Fossil fuel subsidies and low energy prices in general, as well as the limited financial benefits of waste heat recovery despite economic viability, have thwarted the development of waste heat and cold recovery.

3. Energy efficiency as the backbone of decarbonisation

Given the EU's limited carbon budget, it is imperative to increase the overall energy efficiency of all energy sectors, in order to **reduce both primary and final energy consumption**. According to the McKinsey Institute study "Energy efficiency: a compelling global resource", 40% of the reduction of carbon emissions will come from implementing energy efficiency solutions[5]. On average, each euro invested in energy efficiency saves three euros over technology lifetime[6]. In addition, EE provides **additional benefits**, such as **increased competitiveness, job creation, cleaner air, poverty alleviation and strengthened energy security**. Finally, according to a recent IRENA study[7], higher energy efficiency gains facilitate higher renewable energy shares in the final energy mix and vice versa. Thus, **financing energy efficiency measures is the most cost-effective means to tackle climate change**.

The EU long term strategy should therefore fully integrate the Energy Efficiency First principle across the entire energy system, from generation through transmission and distribution to consumption, without being limited to thermal insulation in the building sector**.** This principle consists of assessing the potential of energy efficiency solutions in all decisions related to energy planning, investments and use, factoring the above-mentioned positive externalities - before investing in additional energy generation capacities

[3] White Paper published jointly with Ecofys in 2015

[4] Heat Roadmap Europe: Identifying strategic heat synergy regions, Energy Policy (see here)

[5] McKinsey Institute study, "Energy efficiency: a compelling global resource"

[6] From the Impact Assessment accompanying Energy Efficiency Communication, 2014

[7] Synergies between renewable energy and energy efficiency, IRENA, 2017,

4. Territorial and district-based view of decarbonization

Community-level energy infrastructure projects, especially when coupled with proper operations and maintenance of buildings and facilities, tend to be a more efficient and cost-effective decarbonization tool than individual solutions. **In this context, District Heating Networks (DHN) are a genuine backbone of the territorial energy transition**. They can channel climate-friendly energy sources such as renewables[8], energy recovery from wastewater treatment plants, waste heat and decarbonised heating fuels, thus lowering the carbon impact of the heating sector. Combined with waste-to-energy facilities, they help divert non-recyclable waste from landfills. DHN also participate in the sector coupling dynamic by offering numerous **storage options**, both thermal and electric (through the use of CHP), hence serving as flexibility providers to the entire local energy system. Finally, **only DHN can enable optimized use of local biomass**[9].

However, despite all their environmental, social and systemic advantages, DHN only produce 10% of heat in Europe today. This results from the l**ack of level playing field between fossil-based heating solutions and DHN.** In the EU ETS system, district heating networks above 20MW have to justify their emissions and acquire CO2 allowances, while smaller installations running on gas don't. In addition, while support for fossil fuels installations remains, district heating development is being stalled by financial hurdles, regulatory uncertainty and the prospects of decreasing heat demand, making private investors reluctant to bear the high upfront investment DHN requires. **Public support, ranging from direct subsidies to loan guarantees, should therefore be increased to boost the low carbon transition in the heating sector.**

Creating complementary tools in Member States, similar to carbon tax on the most polluting heating installations, would also accelerate the uptake of DHN. Finally, instruments like Local Energy Planning, which specify objectives, strategies and priority actions to be undertaken by all stakeholders in order to optimise the local energy loops and reduce CO2 emissions, should be encouraged.

5. New venues for decarbonisation open by digitalization of services to environment

Digitalization will be a key enabling factor in the transition towards circular economy, decarbonised and intelligent network systems, all of it inscribed at the level of a territory. In addition, it will encourage the diffusion of utilities' best practices and overall performance improvements[10].

To encourage accrued digitalisation, the EU should seek an alignment of national regimes for obligations on access to and reuse of data as well as liability in case of damage should be aligned as much as possible at EU level, and their dissemination at the global level. The European Commission should also investigate what legal, financial and market incentives could be deployed to reduce servers' carbon footprint, notably by systematising waste heat recovery.

6. Financing needs for a carbon proof mid century

An ambitious earmark of EU funds to climate action would be the first step towards financing a carbon proof mid century. Nevertheless, European funds can not and should not be the sole answer to meet financing needs of decarbonisation. European climate action will thrive through the **reinforcement of carbon price signals**, which will enable the deployment of viable business models for emissions reduction solutions. Enforcing the **"polluter pays principle"** as well as **public-private partnerships** is paramount to facilitate this process.

[8] Over the 2005-2014 period, the share of renewables in the heating sector was growing approximately by 3% every year in the EU, according to a EEA report published in 2017.

[9] Design at a territorial level enables higher efficiency stemming from the management of logistic issues in urban area, the possibility of producing both heat and electricity at the same time, optimal and adapted dust and pollution control, and the recycling of ashes. Biomass used at individual level requires the use of pellets that require drying and processing before use as well as transport on long distances. This is all the more relevant if those decarbonised energy sources are being used in highly efficient installations, using co- and trigeneration technology, which can make the link between renewable heat and electricity production

[10] One example being lack of obligation in the current EU legislation for public authorities to publish the energy consumed per m3 of distributed drinking water or treated waste water.