



# Delivering Paris

## CAN Europe key priorities for the new EU long term climate strategy

BRIEFING PAPER, JUNE 2018

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### Introduction & context

The Paris Agreement calls upon all its signatories to communicate “long term low greenhouse gas emissions development strategies” by 2020, which is the same deadline for when countries will have to re-submit their short term climate targets (NDCs). The EU has, as part of a G7 statement of 2017 committed to submit its own long term strategy well ahead of the 2020 deadline.<sup>1</sup>

On March 22 Heads of State and Government of all EU 28 member states unanimously called upon the European Commission to develop and present a draft long term climate strategy for the EU by end March 2019 latest:

*“The European Council invites the Commission to present by the first quarter of 2019 a proposal for a Strategy for long-term EU greenhouse gas emissions reduction in accordance with the Paris Agreement, taking into account the national plans.”<sup>2</sup>*

To be ‘in accordance with the Paris Agreement’ the new EU long term strategy will have to set out how to scale up climate action from incremental to transformational, for all sectors and across the whole economy. This briefing paper provides the key priorities of the CAN Europe Network for the new EU long term strategy. The priorities revolve around three main pillars: Ambition; Political issues beyond the modelling exercise; and Improved modelling.

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### CAN Europe’s expectations

The premises for CAN Europe’s expectations on the new EU long term strategy are threefold. First of all, with the call upon the Commission to come forward with a draft strategy *in accordance with the Paris Agreement*, Europe’s Heads of State and Government have started the process of reviewing the EU’s current climate commitments. To be Paris-compatible, the modelling and the strategy must clearly lay out pathways for how the bloc will contribute to the long term

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1 [http://www.minambiente.it/sites/default/files/archivio\\_immagini/Galletti/G7/communiqu\\_e\\_g7\\_environment\\_-\\_bologna.pdf](http://www.minambiente.it/sites/default/files/archivio_immagini/Galletti/G7/communiqu_e_g7_environment_-_bologna.pdf)

2 <http://www.consilium.europa.eu/media/33457/22-euco-final-conclusions-en.pdf>

temperature goal of the Paris Agreement, which is to pursue efforts to limit global temperature rise to 1.5°C, based on the remaining global carbon budget.

Secondly, as a Party to the Paris Agreement the EU has agreed to review and revise its climate target for 2030, its Nationally Determined Contribution (NDC), by 2020. In this context, the new EU long term strategy must facilitate a revision of the EU's current, inadequate climate targets by setting milestones for what needs to be achieved by 2030, and every five years thereafter.

Thirdly, there are some key lessons to be learned from the development of the 'Roadmap for moving to a competitive low carbon economy in 2050' ('2050 roadmap', issued in 2011), where substantial criticism has been issued on the modelling exercise. Despite never being formally adopted, the Roadmap proved fundamental in both setting targets for 2030 as well as proposing policies for how to reach the targets.

## 1. Overall ambition

### **The strategy must lay out pathways for how to limit temperature rise to 1.5°C in an equitable manner**

In the Paris Agreement countries committed to pursue efforts to limit global temperature rise to 1.5°C above pre-industrial levels. In the recent years scientific understanding of climate impacts has increased and it has become clear that limiting warming to below 1.5°C is imperative to reduce dangerous impacts of climate change, especially in the most vulnerable regions.<sup>3</sup> In this context, **the new EU long term strategy must clearly lay out pathways for how the bloc will contribute to limiting global temperature rise to 1.5°C.**

Multiple studies prove that keeping temperature rise by 2100 to below 1.5°C is feasible, but requires early and rapid action to reduce emissions in all sectors.<sup>4</sup> The upcoming IPCC Special Report on 1.5°C is expected to re-state the message that while keeping temperature rise to 1.5°C is economically and technically feasible, the barrier is lack of political will.

To limit global warming to 1.5°C (as well as to keep it well below 2°C), it is evident that we need to drastically reduce emissions as fast as possible. This means that reducing energy demand, using 100% sustainable renewable energy and emission reduction in the industry, transport and agriculture sector must be at the core of EU climate action. Where complete decarbonization of a sector is technically not yet feasible, carbon removals need then to be included in the policy mix as fast as sustainably possible.

CAN Europe sees very little evidence that any technology has the economic and sustainable viability to have a substantial impact on the carbon budget. Instead, CAN Europe favours the promotion of the most mature carbon dioxide removal that is available, which is to improve land stewardship. **The new EU long term strategy therefore need to assess the need for conserving, restoring and enhancing Europe's natural carbon sinks within the context of keeping warming to 1.5°C.** Possible perverse incentives that currently cause land emissions need to be identified and pathways to remove them suggested.

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<sup>3</sup> <http://climateanalytics.org/briefings/for-most-vulnerable-countries-1-5c-warming-limit-is-critical-above-it-climate-impacts-rise-rapidly.html>

<sup>4</sup> <https://www.nature.com/articles/s41558-018-0091-3>

**Lastly, pathways for how the bloc will contribute to limiting global temperature rise to 1.5°C must be based on the remaining global carbon budget.** CAN Europe supports an equitable effort-sharing of the available budget to limit temperature rise to 1.5°C, based on the principles of historical responsibility and capacity to act as enshrined in the Framework Convention on Climate Change. Hence the domestic emissions budget for the EU and the richer European countries should be smaller than their per capita share of the budget. CAN Europe also calls for a clear division between the responsibility for domestic emission reduction and financial support for mitigation and adaptation abroad.<sup>5</sup>

### **The strategy should include milestones for 2030 and every five years thereafter**

The current EU climate policy framework is far from sufficient to bring the EU on track with the long-term temperature targets of the Paris Agreement. In Paris however, world leaders including European ones have agreed to revisit and increase their level of ambition every five years. In this context, a critical milestone lies ahead of us: by 2020 the EU will need to resubmit its 2030 target to the United Nations Framework Convention on Climate Change. **In this context, the new EU long term strategy should include milestones (for 2030 and every five years thereafter) towards a full decarbonisation objective.** Doing so, the new EU long term strategy can facilitate the resubmission of the 2030 target to the UNFCCC. Including milestones in the long term strategy will provide clarity behind modelling assumptions for revising the target, which can greatly facilitate the political discussion.

### **The strategy must model a rapid and full phase out of fossil fuels, in particular of coal**

**To avoid lock in to high carbon infrastructures and stranded assets, the new EU long term strategy needs to provide pathways for the full phase out of the use of oil, gas and coal as soon as possible in Europe.** They should be replaced by a fully efficient 100% renewable energy system by 2050 at the very latest (see additional section on this below). To achieve this, the new EU long term strategy should assume no more public money being spent on fossil fuel projects as from now on. Coal, as the most polluting fossil fuel, will have to be phased out first. Creating clarity that all coal use will have to leave the European energy system as soon as possible, would not only set the direction of travel for decarbonisation, but would also help trigger the action that is needed to achieve a socially and economically just transition for the workforce in this sector.

### **The strategy should include sectoral pathways for full decarbonisation**

Limiting global temperature rise to 1.5°C will for Europe likely mean reaching absolute zero emissions in all sectors where that is possible as soon as possible, while ensuring it has enough capacity in natural sinks to absorb the small, remaining emissions from the sectors where full decarbonisation is harder to reach. **An EU long term strategy compatible with 1.5°C hence needs to consider unprecedented emission reduction pathways for all sectors,** including e.g. energy intensive industries, transport (including for international aviation and shipping) and agriculture.

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<sup>5</sup> In this regard, to whatever extent it is included in the new EU long term strategy, no investments by the EU, in the EU or abroad (financial, development or infrastructure) should be counter to the objectives of the Paris Agreement or in violation of human rights. In addition, all financial support by the EU abroad should take into consideration the balance between mitigation and adaptation needs and also ensuring direct access for the communities and people most vulnerable and affected especially women, children, local communities and indigenous people, climate refugees and displaced people and those economically disadvantaged.

Sectoral pathways for full decarbonisation will help overcome the fact that many economic sectors in the European economy still perform in a fundamentally unsustainable way. It would facilitate political intervention to initiate and guide a transformation in these areas. If it fails to do so, Europe runs the risk of overprotection and the lack of economic incentives to innovate, leaving important industrial sectors behind, and delaying the necessary transition towards a zero carbon, resilient economy.

Sectoral pathways for full decarbonisation will, for several sectors, e.g. transport, require electrification. Hence, **making the electricity sector 100% renewable as soon as possible should be a key building block of the new EU long term strategy.**

### **The strategy should support the energy efficiency first principle**

Energy efficiency plays a critical role in reaching the EU's greenhouse gas reduction targets.<sup>6</sup> To hold warming below 1.5°C rather than 2°C, the related reductions in energy demand need to be greater, particularly from 2030 onwards.<sup>7</sup> **The new EU long term strategy should therefore be built on the 'Energy Efficiency First' principle.** This means considering - in energy related planning, policy and investment – energy efficiency and demand side response first.<sup>8</sup> This includes means of cost-optimal energy end-use savings, demand-side response initiatives and more efficient conversion, transmission and distribution of energy. Supporting the 'Energy Efficiency First' principle in the new EU long term strategy will help avoid over-investment in supply-side and network infrastructure and, ultimately, stranded assets.

### **The strategy must look to achieve 100% renewable energy by 2050 at the latest**

Renewable energy is vital for long term decarbonisation of the global economy. Combined with energy savings, the various renewable energy sources provide the only solution to bringing greenhouse gas emissions to zero in a relatively short timescale.

Besides their CO<sub>2</sub> abatement potential, renewable energy sources present numerous additional benefits such as: water, soil and air pollution reduction, energy independency, reduction of fossil fuels imports and, where there is a strong focus on community energy, the creation of millions of local jobs which bring economic benefits to local communities in urban and rural areas. Aiming at 100% renewable energy also provides a framework for the European industry to become a leader in an increasingly important global market that will trigger massive investments in the coming decades.

According to recent studies, due to rapidly falling costs of solar PV and battery storage, a transition to a 100% renewables based energy system by 2050 globally is no longer a question of technical feasibility or economic viability, but of political will.<sup>9</sup> For all these reasons, and with a view to lay out a 1.5°C pathway for the EU, **the new EU long term strategy should look to achieve 100% renewable energy by 2050 at the very latest.** Furthermore, only socially and economically sustainable use of bioenergy should be included, and only in sectors where other options are not available. The waste hierarchy and cascading use principles should be applied for bioenergy use.

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6 <http://www.raonline.org/knowledge-center/destination-paris-why-eus-climate-policy-will-derail-without-energy-efficiency/>

7 [https://unfccc.int/sites/default/files/resource/232\\_CA\\_Input\\_Talanoa\\_Dialogue\\_April%202018\\_FINAL.pdf](https://unfccc.int/sites/default/files/resource/232_CA_Input_Talanoa_Dialogue_April%202018_FINAL.pdf)

8 <http://www.raonline.org/wp-content/uploads/2018/04/rap-bayer-key-principle-for-energy-union-governance-2018-april-17.pdf>

9 <http://energywatchgroup.org/wp-content/uploads/2017/11/Full-Study-100-Renewable-Energy-Worldwide-Power-Sector.pdf>

## The strategy should set common timeframes for review of ambition

The Paris Agreement requires a revision and increase of the level of ambition every five years. To facilitate a process for reviewing the level of ambition in the EU's legislative framework, **the new EU long term strategy should include a five year implementation period.** A common five year implementation period would not only facilitate a legislative process for reviewing the level of ambition regularly in the EU's own policy framework, but also synchronise the EU's rhythm with the Paris Agreement's ambition mechanism, help us avoid locking in low levels of ambition, harness rapidly evolving real world opportunities and incentivize early action.

## 2. Political issues going beyond the modelling exercise

### The strategy must compare costs and benefits of action with total cost of inaction

As an additional element to help evaluate the costs and benefits from different scenarios (see section on cost benefit analysis in '3. Improved modelling'), **it is important when developing the EU long term strategy to have a better understanding of the risks, impacts and costs associated with lack of adequate action.**

Climate change is already now having serious economic impacts. Eurostat shows that climate related economic losses amounted up to 11.6 billion euro in 2015 alone.<sup>10</sup> Between 1980 and 2015 natural disasters caused by weather and climate-related extremes accounted for around 86% of the monetary losses in the EU. The European Environment Agency projects total economic costs of a 2°C temperature rise to be around 120 billion euro per year.<sup>11</sup> Further, multiple reports (including the 2007 Stern report and subsequent New Climate Economy reports) have already evidenced that the radical transition our economy needed in order to avoid dangerous climate change will have net positive impacts on our economy.

Next to the modelling, **the new EU long term strategy therefore needs to provide a full overview of costs of inaction, related to potential economic, social and environmental costs of specific temperature thresholds.** A final comparison should be done between the costs and benefits of action versus the total cost of inaction.

### The strategy should tackle lifestyle changes

The transformational change needed to limit temperature rise to 1.5°C can not only be based on technological innovation. It will need to include lifestyle changes, in particular in a number of sectors where full decarbonisation is challenging. Such lifestyle changes would include tackling energy overconsumption, mobility patterns, meat-based diets, etc. The EU needs to become more proactive in enabling lifestyle changes.

Grassroots community-led initiatives across Europe are already demonstrating successful approaches to engaging citizens and changing lifestyles. The new EU long term strategy should take note of such initiatives and **include a vision on how to reduce overconsumption and production and how to promote more equitable and sustainable lifestyles.**

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<sup>10</sup> Eurostat. Sustainable Development in the European Union 2017.  
<http://ec.europa.eu/eurostat/documents/3217494/8461633/KS-04-17-780-EN-N.pdf/f7694981-6190-46fb-99d6-d092ce04083f>

<sup>11</sup> European Environment Agency; Climate change, impacts and vulnerability in Europe 2016.  
<https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016>

**In addition, the strategy should include the (positive) changes to the system brought by lifestyle changes,** for example positive land use changes due to changes from meat-based diets to more vegetarian based diets.

### **The strategy must support citizen and community engagement**

The engagement of citizens and local communities is essential to achieving longer term climate and sustainability goals and to bringing about a successful transition to a low carbon society. Achieving the goals of the Paris Agreement including the 1.5°C objective requires citizen action at policy, cultural, social, economic and environmental levels. Thousands of grassroots initiatives have emerged across the EU in recent years as citizens and communities increasingly opt to be part of the solution rather than the problem. These communities are playing a critical role in driving local transition processes, transforming local economies and also helping to bring about a shift in lifestyles. However, such initiatives are largely disconnected from government initiatives and lack the recognition and support needed to facilitate wider replication. **The EU's long term strategy provides a unique opportunity to champion the role of grassroots, bottom-up initiatives and support a just, citizen-led transition.**

### **The long term strategy should integrate adaptation**

Impacts of climate change are already visible across Europe in the form of increased amount and insensitivity of extreme weather events, prolonged heatwaves and corresponding loss in human lives, food production and resilience of communities. Hence, it is clear that the EU needs to be increasingly better prepared to adapt to climate change.

However, adapting to climate change cannot effectively be planned for if it happens in isolation. Rather, integrating climate change adaptation into long-term planning is key to securing social and economic development.<sup>12</sup> **The new EU long term strategy should therefore, alongside mitigation, integrate adaptation to climate change.** Integrating adaptation into the long term strategy would serve multiple ends. It would paint the picture of the adaptation needs, allowing adaptation needs to be aligned with investment needs for mitigation while offering guidance of where local adaptation actions should be scaled up.

### **The strategy should take into account best practices from national long term strategies**

Several European Countries are leading the way in setting ambitious long term targets and implementing long term climate and energy strategies. Iceland aims to reach net zero emissions by 2040, Sweden by 2045 and Portugal and France by 2050. France, Sweden, Ireland, Norway, Spain and the Netherlands have already turned or are in the process of turning their climate policies into national laws. These front runners prove that bold decisions to fully decarbonise their economies are politically feasible to take and implement. **The EU long term strategy should take these examples of best practices of long term planning into account.**

## **3. Improved modelling**

The modelling behind the 'Roadmap for moving to a competitive low carbon economy in 2050' ('2050 roadmap', issued in 2011) has been subject to substantial criticism, on several fronts.<sup>13</sup> First of all, the modelling exercise was not transparent, which made it very difficult for stakeholders to verify, criticize and propose improvements to the underlying assumptions used. Secondly, the

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<sup>12</sup> <http://adaptation-undp.org/principles-practice-integrating-adaptation-long-term-strategies-0>

<sup>13</sup> See for example Delft (2014), Review of the Impact Assessment for a 2030 climate and energy policy framework.

model itself used – Primes – has a number of shortcomings in terms of its ability to accurately model scenarios for deep decarbonisation. Thirdly, the roll of renewable energy and energy efficiency was treated unfairly in the system due to the use of discount rates that were too high, and due to the lack of a proper cost-benefit analysis. Integrated assessment models, such as Primes, also follow a least-cost paradigm. This may not lead to optimal outcomes, including on policy choices, as more mature and cost-able technologies tend to be promoted. Against this background, the modelling for the new EU long term strategy must be improved in all of the below areas.

### Full transparency on the assumptions and the scenario development is needed

The Commission's effort to open up the process and consult stakeholders on the technology assumptions as an input to modelling of decarbonisation pathways is a step in the right direction.<sup>14</sup> However, **stakeholders need to be involved more systematically in the process and not just in a single moment in order to ensure wider public engagement**. This means full access to all input assumptions, details behind the underlying data and how these will be used in the scenarios. Such wider public engagement should not only be limited to technological and cost assumptions but also be **expanded to other relevant assumptions - such as those related to policies, behaviour change and costs and impacts of protracted action or inaction** – which are all key to the framing of the scenarios' design. This will increase the credibility of resulting scenarios, paving the ground for a sound political discussion regarding the final long term strategy.

### Assumptions regarding technology costs must reflect reality

Costs of renewable energy have declined dramatically over the last years and much faster than previously expected, leading to a more rapid expansion of renewable energy than foreseen. The 2011 'Roadmap for moving to a competitive low carbon economy in 2050' made several wrong assumptions regarding development of technology costs and corresponding generation capacity of various renewable energy sources. For example, the net generation capacity in GW of Solar energy in the 2020 forecast was projected to be 53 GW, while the 2016 reference scenario shows a net generation capacity of 136 GW in the 2020 forecast. That is a change in expectation of +155%.<sup>15</sup>

In March 2018, in light of the new figures from IRENA and the European Parliament's call for increased targets for renewable energy and energy efficiency for 2030, the Commission published complementary modelling regarding these targets based on lower renewable energy technology costs. The modelling indeed proved that greater ambition in renewable energy and energy efficiency – and corresponding reductions in emissions – come at lower costs. However, the costs assumptions in the modelling remain under critique, for example regarding offshore wind development.

With regards to the transport sector, most road vehicles (cars, vans, buses) have a clear path to zero emissions, which is increasingly cost effective. For trucks, there is an increasing amount of evidence to show that they have feasible paths to electrification.<sup>16</sup> Until now, this has not been reflected in any of the Commission's modelling.

While it is impossible to predict the future, **the assumptions regarding technology costs in the new EU long term strategy must reflect the new reality we are living in**. CAN Europe believes this

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<sup>14</sup> An expert stakeholder meeting (mainly directed at businesses) took place 16 May, with stakeholders having been allowed to send written input in advance of that meeting (11 May).

<sup>15</sup> <http://bruegel.org/2018/04/developing-the-eu-long-term-climate-strategy/>

<sup>16</sup> <https://www.transportenvironment.org/publications/roadmap-climate-friendly-land-freight-and-buses-europe>

means **using empirical real-world data from the most recent capacity auctions**. Either way, a **better estimation of technology costs development must be better facilitated**, by consulting a wide range of stakeholders within the relevant sectors.

### **The strategy must be based on a cost benefit analysis**

Modelling of energy scenarios is traditionally based on a ‘least cost’ approach, in which all expenditure is seen as a burden to be minimised. This is true also for the model currently used by the European Commission, the ‘Primes’ model. In a least cost approach, additional benefits gained from a deep decarbonisation scenario in the form of for example job creation, growth prospects and reduced health costs are not weighted against potential costs. **The new EU long term strategy should therefore use a cost-benefit analysis, which is the only analysis that could accurately account for the benefits gained – or costs saved – from the modelled scenarios.** Such cost-benefit analysis should be applied also to the sectoral decarbonization pathways, where e.g. reduced air pollution should be factored in for the decarbonization pathway for transport.

### **Discount rates must not inflate cost estimates**

To allow for a comparison of today’s investments with long term benefits (e.g. to 2050), the discount rate which the Commission uses to report and compare annual energy system costs across all scenarios is crucially important. The higher discount rate, the higher the costs will seem compared to the benefits of a certain investment, making more ambitious targets for e.g. energy efficiency look unattractive. For buildings for example, the Commission currently use a discount rate of 10%. This is almost double the average rate used by national governments and regions.<sup>17</sup> This means that an energy savings benefit in 2050 would be valued today at only 5% of its actual benefit. To avoid a situation where policy decisions are being made based on inflated cost estimates, **the Commission should for the new EU long term strategy apply discount rates which are compatible with the discount rates in the Member States.**

### **Assumptions on how to decarbonize aviation and shipping must be included**

Outsourcing responsibilities for emission reductions of (international) aviation and shipping to ICAO/IMO would not be acceptable in the context of the new EU long term strategy. These agencies lack competence, resources and structure to pursue decarbonisation consistent with the Paris Agreement. Additional action by states, including the EU is needed. **The new EU long term strategy must thus look at the alternatives for decarbonizing these sectors, taking into account also strict sustainability criteria for the different options.** For example, it is clear that there are limits to what can be achieved through electrofuels for aviation. Indeed, delivering 50% of the EU’s energy demands for aviation in 2050 with electrofuels would require adding the equivalent of 24% of the current electricity generation. **This must be factored into the modelling.** This also means other measures such as increased aircraft efficiency, carbon pricing, fuel taxation and removal of subsidies remain essential.<sup>18</sup>

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**Climate Action Network (CAN) Europe** is Europe’s leading NGO coalition fighting dangerous climate change. With over [150 member organisations](#) from 35 European countries, representing over 1.700 NGOs and more than 40 million citizens, CAN Europe promotes sustainable climate, energy and development policies throughout Europe.

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<sup>17</sup> [https://www.eceee.org/static/media/uploads/site-2/policy-areas/eceee\\_april18\\_infographbriefing\\_final.pdf](https://www.eceee.org/static/media/uploads/site-2/policy-areas/eceee_april18_infographbriefing_final.pdf)

<sup>18</sup> [https://www.transportenvironment.org/sites/te/files/publications/2017\\_11\\_Briefing\\_electrofuels\\_final.pdf](https://www.transportenvironment.org/sites/te/files/publications/2017_11_Briefing_electrofuels_final.pdf)