

## LTS IN EUROPE: EXPERIENCE FROM NATIONAL AND EU-WIDE 2050 CLIMATE PLANNING

**MATTHIAS DUWE AND EWA IWASZUK**

Ecologic Institute

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### SUMMARY

This case study describes the status quo and relevant recent developments at the EU and national levels on long-term climate strategies, detailing relevant insights on legal obligations, specific features, existing challenges, and potential future process.

Planning for 2050 is a core strand of debate in the European Union at present, focusing on a long-term EU objective and a strategy to be submitted to the United Nations Framework Convention on Climate Change (UNFCCC) by 2020. In parallel, all EU Member States are also developing national strategies, resulting in a wealth of experience but also a set of disjointed strategies, which will need alignment and integration, with each other and with the EU level.

### EU level

- ◆ As part of a post-Paris revamping of its main climate and energy legislation, the European Union as a whole has defined a new system of governance, which is closely linked to the Paris Agreement's five-year cycle of reviewing countries' contributions. The new system is based on national and energy and climate plans (NECPs) that cover 10-year periods, starting from 2021 to 2030. Moreover, the governance mechanism requires all EU Member States to produce national long-term strategies (LTSS) by January 1, 2020, and also commits the European Commission (EC) to draft a long-term strategy for the Union as a whole.
- ◆ After an influential but ultimately unsuccessful attempt at drawing up an overarching EU-level 2050 climate strategy in 2011, the European Union has embarked on a new process in 2018 to develop a new long-term plan. The initial proposal—presented in November 2018 immediately preceding the 24th Conference of the Parties (COP24) in Katowice, Poland—paints a vision for a net-zero emission future for Europe by 2050. Internal discussions on the merits of the proposal by the EC and

a potential adoption are in full swing at the time of writing, with a clear voice of support from the European Parliament (March 2019). This process should enable the Union to deliver a strategy by 2020. The discussion of the 2050 vision is expected to also connect to a potential review of the EU nationally determined contribution (NDC) for 2020—which could, however, be politically sensitive.

## National level

- ◆ Around half of the EU Member States have already developed national LTSs over the past decade. These strategies vary greatly in content, degree of detail on included measures, political ownership, and legal form, which makes them difficult to compare. While ideally the strategies would be the result of a wide-reaching stakeholder consultation process, contain ambitious targets covering all sectors of economy, and define credible, adaptable, and actionable processes for their implementation, many existing strategies fall short of meeting these standards.
- ◆ In many cases the development process was as important as the output (the strategy itself). In specific instances, public consultation or the political debate that led to the creation of the strategy allowed stakeholder groups to formulate a shared vision for a 2050 low-carbon world, thereby enhancing ownership, buy-in, and acceptance.
- ◆ Some countries (such as Portugal and France) are already reviewing their existing strategies in an effort to meet the strong impulse for long-term ambition set in Paris (e.g., achieving net zero emissions by 2050). Currently, the most ambitious target (expressed by several Member States) aims for an 80–95 percent reduction against 1990 emission levels by 2050.
- ◆ A growing number of Member States have embedded long-term strategies and concrete implementation policies in overarching climate laws to create long-term frameworks to govern a national transition. Such overarching governance frameworks provide stability and thus send a more credible signal about the direction of travel to all actors involved.

A process for assessing the national strategies after their submission in 2020 has been enshrined in EU legislation, but details on timing, format, and outcome are unknown. Such an evaluation could become a vehicle for a dialogue on learning from the planning experiences, and a process of aligning assumptions on the availability and cost of the transformation

options, plus an exercise to identify where coordinated EU-level or regional action may be most effective.

In this case study we present some context for the current state of play in and insights from existing experience in the European Union on long-term climate strategies. The case study looks both at the long-term climate planning for the Union as a whole as well as on the national level, shedding light on the great diversity that is present in Member States' 2050 climate plans and the potential challenges this produces—as well as the need for alignment integration among Member States and between the national and the EU level.

## CONTEXT: PAST, PRESENT AND FUTURE OF LONG-TERM CLIMATE PLANS IN EUROPE

Climate change has grown into a core area for joint EU policymaking since the issue was first raised more than 30 years ago. It was often directly addressed by Europe's top political leaders,<sup>1</sup> who have weighed in to set general parameters for the legislature or negotiate political agreements on sensitive issues.<sup>2</sup> To date, the European Union has developed a whole toolbox of legislative instruments, from support for renewable energy to energy performance standards for products to a cap-and-trade system for greenhouse gases (GHGs) in the power and industry sectors, for example.<sup>3</sup>

Long-term strategies are increasingly considered a useful planning tool in EU climate policy, not least as a means of providing direction for policymaking in the near and medium term. At the time of writing, in early 2019, considerable political attention is being given to the adoption of an EU-wide long-term strategy aimed at 2050. In addition to the current phase of 2050 planning, which started in the lead-up to and during the Paris climate summit, an earlier, distinct period can also be identified. A brief review of both will provide context for the subsequent discussion.

## Historical background (2009–14: Pre-Paris)

The development of long-term climate planning in the European Union over the last decade is clearly linked to developments in the UN climate change negotiations.

The failure to adopt a new global climate change treaty at the 2009 Copenhagen climate summit put a damper on climate policy in Europe. Ahead of the summit, EU leaders had invested heavily in the further development of the EU climate and energy

targets for 2020 and had adopted key legislation in late 2008 to lend credibility to EU commitments. They had even built a “carrot” into their proposal: if a new global treaty were adopted with comparable efforts by other countries, the European Union would increase its 2020 reduction goal from 20 percent to 30 percent (Oberthür and Pallemerts 2010).

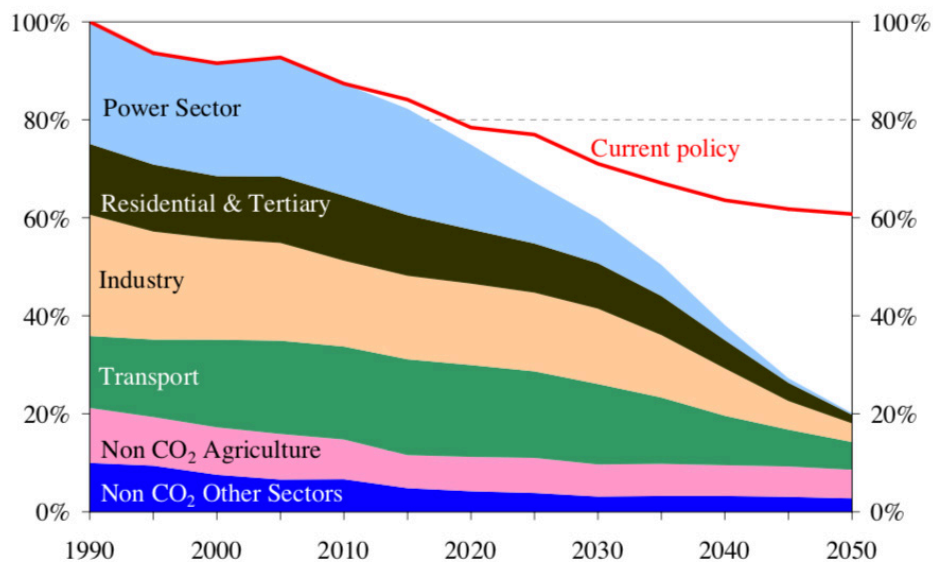
After the lackluster result in Copenhagen, the Cancún summit a year later in 2010 (COP16) aimed to reaffirm the viability of the UN climate negotiations and adopted several decisions to move forward despite the lack of a new comprehensive framework. Alongside the adoption of the Cancún Agreements that set voluntary emission targets for 2020—most of which had been put forward a year earlier in Copenhagen—this included the concept of low-carbon development strategies (LCDSs). LCDSs were a key outcome of the Cancún Working Group on Long-Term Cooperative Action under the UNFCCC. The decision reached at the end of the summit required each developed country Party to produce a national long-term vision in the form of an LCDS, realizing that “addressing climate change requires a paradigm shift towards building a low-carbon society” (UNFCCC 2010). The decision did not specify the time frame for LCDS implementation, and developing countries were encouraged but not obliged to follow suit.

The first draft of an EU-wide 2050 strategy (or LCDS) was published by the European Commission in March 2011. The “Roadmap for Moving to a Competitive Low Carbon Economy in 2050” (European Commission 2011a) was part of a two-pronged attempt at injecting a new dynamic into EU climate policy post-Copenhagen. In 2010, the European Commission had already attempted to get EU Member States to review the Union’s conditional offer of a 2020 target and consider an increase despite the lack of an international treaty. This was ultimately unsuccessful because the European economy was still recovering from the immediate aftermath of the economic crisis and in the midst of an enduring political fight over the Eurozone crisis.

Looking at 2050 and the implications of transformational emissions cuts was a departure from the typical perspective, focusing on a 2020 time horizon. The low-carbon roadmap contained a target of an 80–95 percent reduction in GHG emissions by 2050 and crucially demonstrated the need for additional policy action (existing policies, if continued to 2050, were estimated to achieve only a 60 percent cut, see Figure 1 below).

**Figure 1. Projected impact of existing EU climate policy for 2050 (from 2011 roadmap communication)**

**Figure 1: EU GHG emissions towards an 80% domestic reduction (100% =1990)**



Source: European Commission (2011a), 5.

The roadmap also included results from modeling exercises on possible pathways toward 2050, identifying milestone values to 2020, 2030, and 2040. According to the roadmap results, a cost-effective pathway for the European Union was a 25 percent reduction in 2020, followed by 40 percent and 60 percent in 2030 and 2040, respectively. One implication of establishing a long-term target was that it would be in the European Union's economic self-interest to increase its 2020 target despite the lack of a new international treaty with equivalent reductions by others. Moreover, the unforeseen additional emissions reductions that had taken place due to the economic crisis made an increased pledge easier to achieve.

The link between the long-term strategy and the push for the revision of the 2020 target made the 2050 roadmap itself politically controversial—and ultimately meant that the strategy was never formally endorsed by the EU Member States. Most prominently, Poland vetoed joint declarations to endorse the 2050 roadmap on several occasions in 2011 and 2012 (cf. Görlach et al. 2016).

Regardless of its formal status, the roadmap became an influential reference point. Its publication and the UN context triggered national 2050 planning processes in several countries (although not all of them were completed—see overview in Figure 2), which shows that approximately half of the existing national strategies stem from this period.

As a complement and follow-up to the low-carbon roadmap, the “Energy Roadmap 2050” was published by the European Commission in 2011 (European Commission 2011b) but spearheaded by different representatives of the EC than those responsible for the low-carbon roadmap. The publication of several policy strategy documents with an explicit 2050 focus was evidence of a growing recognition in EU policy circles of the need for a long-term perspective in addressing the fundamental rebuilding of the energy system and other transformational changes.

In 2013, the European Union included long-term strategies (at the time called “low-carbon development strategies”) in its internal legislation by introducing them in the so-called Monitoring Mechanism Regulation (MMR) (European Parliament and Council 2013). The MMR updated procedures for the Union and its Member States to report and verify information relating to their commitments under the UNFCCC and the Kyoto Protocol.<sup>4</sup> The legislation was further meant to ensure the timeliness, completeness, accuracy, comparability, and transparency of this reporting. Article 4 of the MMR

made the creation of and reporting on LTSs legally binding but set no deadline for completion and offered no obligatory template for the strategies themselves. This was in part due to foreseen specification from higher governance levels, that is, the international climate regime. The MMR provided additional momentum for national LTS development in EU Member States, but, without a deadline and further guidance from the UNFCCC and the EC, not all Member States carried out the 2050 planning exercises (see Figure 2 for completion dates of existing national 2050 plans).

## Current situation (2015–20: Post-Paris)

With the inclusion of long-term strategies in Article 4 of the Paris Agreement, a new impulse in favor of LTSs was generated in Europe. Several Member States, including the Czech Republic, France, and Germany, carried out planning, some with considerable effort to involve stakeholders and the general public (see, e.g., Sartor et al. 2017; and Duwe et al. 2017b). At the same time, the European Commission took up the request made to all Parties in Paris to develop “long-term low greenhouse gas development strategies” and included a binding obligation on all Member States to develop a national LTS by January 1, 2020, in a legislative proposal published in late 2016 (Duwe et al. 2017a). The “Regulation for the Governance of the Energy Union and Climate Action” (commonly referred to as the Governance Regulation) (European Parliament and Council 2018) sets out the European Union's post-Paris climate and energy governance framework. The Governance Regulation has a strong focus on achieving the 2030 EU targets but puts these into a long-term 2050 context by requiring that 2030 actions be consistent with 2050 objectives.

Upon initiative by the European Parliament, in the negotiations on the Governance Regulation, this obligation was transferred also to the European Commission on behalf of the Union (European Parliament 2018a). In fact, even the EU heads of state and government took up the call, giving a specific mandate to the EC in a March 2018 joint statement, requesting that the EC propose a strategy by the first quarter of 2019 (European Council 2018). This obligation was then included in the final version of the Governance Regulation, which entered into force in December 2018.

In addition to the long-term strategies, the new governance framework implements other elements from the Paris Agreement. These include a five-year cycle of review and revision, akin to the “ambition mechanism” established for NDCs

under Paris, which lays out a process to continuously improve climate policies and strengthen action and ambition over time. Moreover, the Governance Regulation includes a dedicated link to the global stocktaking process, the Paris Agreement's mechanism to review and assess collective progress toward achievement of its goals (Article 45 Governance Regulation). The following section further specifies the requirements established by the Governance Regulation; key messages from the EC proposal for an EU 2050 strategy are laid out in a later section.

## LEGAL OBLIGATIONS ON 2050 PLANS: WHAT IS IN THE GOVERNANCE REGULATION?

The Governance Regulation contains a dedicated section on long-term strategies (Chapter 3, Article 15), which mandates the creation of such strategies both for the European Union and its Member States.

The regulation contains a mild reference to the five-year iterative ambition cycle of the Paris Agreement by requiring Member States to submit their strategies every 10 years and update them “where necessary” every five years (Article 15.1). This update is not a requirement for the overall EU strategy.

The Governance Regulation further spells out key content features and minor process points that should be included or followed. Some of these are meant to be adhered to by both the national and the EU strategies, others are specific to either type.

### Provisions applying to both EU and national strategies

The legislation specifies (in Article 15.3) that both types of strategies should contribute to the EU and Member State commitments under the Paris Agreement. It emphasizes the need to achieve long-term GHG emissions reductions and enhancements of removals by sinks in pursuit of the temperature goals included in the Paris Agreement, going into negative emissions thereafter “as appropriate” (Article 15.3.c).

### Provisions that only apply to the EU strategy

The European Commission is only given a few further specifics for the content and process of its proposal for a Union-wide strategy: a submission deadline of April 1, 2019 (the actual draft was published four months early, on November 28, 2018),

the need to include a net-zero scenario, and a requirement to consider the scenarios' implications for the global carbon budget and the EU carbon budget (Article 15.2). The Governance Regulation text does not directly link the latter to the Paris Agreement and thus its temperature targets, but the connection is implied, since the strategy should be “consistent with the Paris Agreement” and the national and EU strategies must contribute to “fulfilling the objective of the Paris Agreement of holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1,5°C above pre-industrial levels” (Article 15.3).

### Provisions that apply to the national strategies

In a key change from the previous legislation, the MMR, the Member States are now required not only to produce a long-term strategy but also to present it by a specific deadline: January 1, 2020. A number of specifications are provided in the legislation on what LTSs should cover. The national strategies should have broad sectoral coverage, that is, goals for emissions reductions and enhancement of removals in a number of individual sectors. The documents should also include links to other national long-term objectives as well as existing policies, measures, and investments. To the extent feasible, the strategies should consider the socioeconomic effects of the planned decarbonization measures. A template for the national strategies is provided in an annex to the legislation, but its use is not mandatory (Article 15.4).

Importantly, the European Commission is required to support Member States in their preparation of long-term strategies (such as by providing guidance and opportunities for sharing knowledge and best practices as well as scientific knowledge). Such support can prove important especially for smaller Member States that might have limited resources and capacity to develop such far-reaching strategies (in parallel with a multitude of other planning documents), which need to be based on sound and detailed analytical inputs.

Another essential provision is the requirement that Member States' NECPs, which focus on 2030 targets and policies, be consistent with a corresponding LTS (Article 15.6). In its initial proposal for the Governance Regulation, the EC had indicated that it was the long-term strategies that should be consistent with the NECPs, but this was reversed in the negotiations in order to underscore the need for long-term emissions reductions

in the 2030 plans, underlining the need for transformative policies rather than only incremental change. Due to the close proximity of the submission deadlines for the final NECPs (December 31, 2019) and LTSs (January 1, 2020) (another change from the original proposal, according to which the LTSs were to be submitted one year after the NECPs), joint planning and a strong degree of consistency should be possible in principle (see also Duwe et al. 2017a). However, many Member States have focused on preparing draft NECPs first, especially countries where a long-term strategy did not yet exist. Moreover, lead responsibilities for the two planning tools are often split, for example between environment ministries (for LTS) and economy or energy ministries (for NECPs), which presents an additional obstacle to coherent planning. Thus actual consistency is not necessarily guaranteed. A follow-up process starting in 2020 may have to align the 2030 and 2050 dimensions better between the two planning documents (possibly as input to a mandatory review of the NECPs in 2023).

## Provisions regarding the connection between the two strategy levels

The governance framework created by the regulation does, to an extent, consider the integration between the EU-level and national-level processes regarding long-term strategy preparation. For example, the Governance Regulation requires the European Commission to take into account the draft National Energy and Climate Plans (NECPs)—documents detailing how countries plan to meet their 2030 climate and energy targets—while preparing the EU-wide long-term strategy (Article 15). The EC is also tasked with assessing the extent to which the national long-term strategies are adequate to achieve the targets set at the EU level and provide information on the gap between declared and required emissions reductions (Article 15.9). However, no further details for this process or what should happen after such an assessment are specified in the legislation—which does establish, in significant detail, such procedures for the NECPs.

Moreover, the Governance Regulation does not explicitly require the EC to consider the content of existing national long-term climate strategies (which have already been published by nearly half of the EU Member States) in the drafting of the EU LTS. Ensuring consistency between the EU- and national-level efforts could offer important synergies and opportunities for emissions reductions that would otherwise fall by the wayside in strategies that only account for domestic resources (Iwaszuk and Duwe 2018). A lack of sufficient provisions to ensure consistency and

reconcile potential gaps between the national and the EU-level objectives may become a key shortcoming of the Governance Regulation, especially since it has been recognized that the interaction of climate governance at the EU and national levels will be critical for moving beyond current levels of ambition (Rüdinger et al. 2018).

In sum, there is little guidance for the development of national LTSs, and no dedicated process for alignment between them foreseen in the legislation. Also, there is no explicit consideration of the potential need to integrate the national and the EU-level strategies.

## STATE OF PLAY ON 2050 CLIMATE PLANS AT THE NATIONAL AND EU LEVELS

This section presents the overall situation and early insights gained in the European Union so far, starting with national LTS experiences, of which there are many, and then providing details on the proposal for an EU 2050 strategy.

### National-level perspective: Diversity in 2050 LTS

#### *Overall situation*

From creating an analytical basis to organizing an initial stakeholder consultation, nearly all EU Member States have undertaken some activities to inform their long-term climate planning. As of February 2019, 12 out of the 28 Member States had officially published long-term climate strategies with a perspective of 2050 and 4 more had published draft versions (see Figure 2). Analysis of the existing strategies shows that they differ widely in many respects.

The European Environment Agency (EEA) has analyzed the reports on progress with long-term strategies (or LCDs) that Member States have to provide every two years under the MMR, to establish the state of 2050 planning and identify commonalities and differences. In the EEA's assessment, the existing strategies fall short in several respects. More specifically, the strategies “fail to systematically address important elements such as: clearly defined targets or objectives, coverage of sectors other than energy, key policies and measures to achieve the strategy's objectives, political commitments, information on financing aspects, impact assessment, cost and benefit analysis, and details on progress monitoring” (EEA 2018, 5). However, the report points to the requirements of the Governance Regulation

and the deadline of January 1, 2020, for LTS submissions as a window of opportunity to replace the existing strategies with better ones.

## Specific insights: Commonalities and differences

### ***2050 ambition: A Paris momentum for net zero***

One area in which the strategies published thus far differ is the overall target level for 2050 (see Figure 2). Those with the most ambitious emissions reductions targets—Denmark, Finland, Germany, and Netherlands—plan for a GHG emissions reduction of between 80 and 95 percent below 1990 levels by 2050, which is in line with the existing EU target for 2050 established in 2009.<sup>5</sup> Portugal’s original strategy, published in 2012, includes a significantly more modest target of 50–60 percent emissions reduction by 2050. However, Portugal is currently reviewing its strategy to include the more ambitious goal of reaching carbon neutrality by 2050 (Iwaszuk and Duwe 2018).<sup>6</sup> A similar process was launched in France, where the then environment minister announced in early 2018 a revision of France’s low-carbon strategy, taking into account the plan to further reduce emissions and make France carbon neutral by 2050.

It should be noted that the data contained in Figure 2 refer only to already formally published and adopted strategies. Some countries have already announced their long-term climate targets but have yet to produce a strategy that would show how they plan to reach it. This includes, for instance, Sweden, which has established target of reaching net-zero emissions by 2045 and adopted a general climate change law in its support (Duwe et al. 2017b).

### ***Scope of the strategies***

While most strategies have broad sectoral coverage, including decarbonization pathways and sectoral goals and milestones for sectors such as energy, industry, buildings, transport, waste, agriculture, and land use change, Greece’s strategy, published in 2012, only covers the energy sector.

### ***Stakeholder engagement***

Involving organized stakeholders or the public has been a feature of most long-term strategy processes. Scale and approach have differed significantly from country to country. It is uncertain to what extent public engagement will be a priority for those countries that currently do not have a strategy, but given that all countries are required by the EU legislation to prepare a strategy by January 1, 2020, countries only starting to prepare their strategies in 2019 will have little time. Previously, several

countries (including France and Germany) have used the stakeholder consultation in the LTS preparation process as a means to kick-start a broader debate among stakeholders and the public, raising awareness of the issues involved and building capacity among various stakeholder communities in the process (cf. Duwe et al. 2017b; and Rüdinger et al. 2018).

### ***Legal form***

The existing strategies come in different legal forms. In some countries, the strategies are published as a requirement under an existing law (France, Ireland, United Kingdom) or the strategy itself is a legally binding document, published as a legal act (Finland). In others, the strategies are officially adopted by a government or a parliament resolution (Czech Republic, Estonia, Germany, and Lithuania). In several cases, the strategies take the form of a report from a ministry, government, or environment agency and have no legal power (e.g., Greece, Netherlands, Portugal). Moreover, the formal ownership of the strategies varies: most strategies are prepared by ministries responsible for climate and environmental affairs, but in Italy, Finland, and the United Kingdom, the development of the strategies lies within the competence of ministries dealing primarily with economic affairs.

### ***Governance through legal frameworks***

Only in a few cases are governance elements (such as reporting and progress monitoring) directly included in the strategy documents. A growing number of EU Member States are putting in place overarching climate laws to establish governance frameworks for their long-term climate goals. These usually include the adoption of a long-term strategy as one of several key building blocks (see Rüdinger et al. 2018); in the other cases a monitoring and reporting system and a process for implementation policies is to be identified. The UK 2008 Climate Act was the first long-term, legally binding, comprehensive climate framework of its kind. Apart from setting targets, the law includes a number of innovative governance elements, which have become incorporated into other national climate laws. Among those are the creation of an independent advisory committee whose advice is binding for the government and the introduction of legally binding five-year “carbon budgets” to ensure the country is on track to meet its long-term target (Duwe et al. 2017b). Since the UK law was first introduced 10 years ago, similar bills have been passed in Finland and Denmark (2014), Ireland and France (2015), and Sweden (2017). Spain, the Netherlands, Latvia, and Germany are currently preparing climate laws, which are expected to be passed in 2019. These legal frameworks should strengthen the impact of long-term strategies.

Figure 2. Overview of published and adopted long-term strategies in EU Member States (as of February 2019)

	Member State	Long-term strategy status	Year	Reduction target <sup>1</sup>	Legal form
Pre-Paris	Denmark	Published (2011–16) <sup>2</sup>	2011	80–95%	Governmental policy plan
	Netherlands	Published (2011–16) <sup>2</sup>	2011	80–95%	Government report
	Greece	Published (2012)	2012	60–70% (2005)	Ministry report
	Lithuania	Adopted (2012)	2012	80%	Parliament resolution
	Portugal	Published (2012), under review	2012	50–60%	Environment Agency report; 2030 goals as Government Decree
	Cyprus	<i>Draft published (2014)</i>	2014	80%	
	Finland	Adopted (2014)	2014	80–95%	Parliamentary Committee Report & Climate Change Act
Post-Paris	France	Adopted (2015), under review	2015	75%	Published as a requirement of an existing law
	Germany	Adopted (2016)	2016	80–95%	Government resolution
	Croatia	<i>Draft published (2017)</i>	2017		
	Czech Republic	Adopted (2017)	2017	80%	Government resolution
	Estonia	Adopted (2017)	2017	80%	Parliament resolution
	Ireland	Published (2017)	2017	80%	Published as a requirement of an existing law
	Malta	<i>Vision published (2017)</i>		<i>no target</i>	
	United Kingdom	Reviewed (2017)	2017	80% <sup>3</sup>	Published as a requirement of an existing law
	Latvia	<i>Draft published (2018)</i>	2018	80%	<i>Final document to be adopted by the Cabinet of Ministers</i>

Notes:

<sup>1</sup> Percent reduction by 2050 compared to 1990 levels (unless stated otherwise).

<sup>2</sup> Strategy consists of more than one document, published over several years.

<sup>3</sup> Target currently under review.

EU Member States that have not published a strategy or a draft strategy are not included in this overview.

Source: Ecologic Institute, based on information from Iwaszuk (2019).



## **Shared visions**

Some Member States have noted conflicts between the conclusions drawn from the 2050 climate planning processes aiming to achieve a certain 2050 objective and the sectoral long-term development projections done on the basis of the status quo (e.g., for energy, regarding fossil fuel infrastructure needs). The discrepancies may create tensions between different ministries (e.g., environment and energy) but can also trigger a useful dialogue on these differences. Ultimately, identifying such potential diversions from “business-as-usual” pathways is a key function of 2050 climate planning.

## **Conclusion**

The variety of approaches to 2050 planning at the national level reflects the different national circumstances and the lack of ex-ante guidance on the planning process or requirements on what the strategies should contain—to which the Governance Regulation has only added very little detail. The current diversity is thus a product of 28 individual parallel national processes to find answers to the question common to all of them: How can the transition to a low-carbon economy be realized? While these individual planning processes have generated a wealth of experience and have thus many potential insights and lessons, there is no formal process in evidence at the time of writing for future alignment of them. This gap should be filled at the very latest by 2020, when all Member States should have produced a national 2050 strategy.

## **EU-level perspective: A net-zero vision**

### **Overall situation**

The European Commission presented a proposal for a long-term strategy for the European Union as a whole on November 28, 2018, four months earlier than was required. The proposal consists of a shorter policy paper and a 400-page in-depth analysis. The strategy is titled “A Clean Planet for All: A European Strategic Long-Term Vision for a Prosperous, Modern, Competitive and Climate Neutral Economy” (European Commission 2018).

The proposal works through the justification for long-term climate planning, citing the latest climate science (including the Intergovernmental Panel on Climate Change Special Report on 1.5°C) and lists several benefits of reducing emissions, including a reduction in energy import dependency worth several billion euros and an overall higher gross domestic product (due to the increase in investments required to effect the necessary changes).

Overall, eight scenarios were considered, of which two aim to achieve net-zero emissions by 2050 (as per the requirement of the Governance Regulation, as explained above). The EC’s summary makes net zero the overarching long-term objective for the vision it spells out. This represents a shift from previous rhetoric and is not a goal commonly endorsed for the European Union as a whole, thus making it a key point for discussion among Member States. A debate at the meeting of EU environment ministers on March 5, 2019, revealed a variety of views among Member States, but not one explicitly rejected the notion (*ENDS Europe Daily* 2019).

Overall, the summary paper spells out a narrative of technical feasibility and economic affordability of a net-zero future for Europe, while pointing out key areas for action that need to be tackled to make such a future a reality (cf. UBA 2018).

The strategy proposal does not provide detail on what the process and timeline for adoption should be, instead referring to other processes already in motion (see more below) and noting that the European Union should submit a strategy to the UNFCCC in 2020. Discussions on the merits of the proposal commenced soon after its publication. These occurred at the Member State level in internal EU working groups to prepare debates among ministers and also inside the European Parliament, which even saw two committees compete for the opportunity to draft a resolution. In the end, the European Parliament adopted a resolution on March 14, 2019, in which it endorsed the net-zero objective and called upon Member States to do the same—even showing disappointment that no scenario was analyzed that reached net-zero emissions earlier than 2050 (European Parliament 2019).

It is expected that one of the meetings of EU heads of state and governments in 2019 will decide the main parameters of the EU 2050 strategy. Whether this could already happen in the second quarter of the year is uncertain at the time of writing. At the European Council meeting in March, EU leaders mentioned the importance of the strategy, specifically referencing the objective of “striving for climate neutrality in line with the Paris Agreement” (the first mention of the term *climate neutrality* at this level) and called for intensified negotiations “ahead of a further discussion in the European Council in June 2019” (European Council 2019a).

### **Specific features and challenges**

**Stakeholder engagement:** Official opportunities for input to the drafting were limited before the draft strategy was published. A two-day initial conference was held in July 2018, and an online

consultation was open for three months thereafter. More than 2,800 responses and over 100 position papers were received in the consultation. In addition, the European Commission organized some smaller technical workshops early on, including one on modeling assumptions, but it did not pursue a larger outreach process (such as the European Climate Change Programme, which was established to identify the main policies for the original Kyoto targets). Having published the draft strategy, the EC is currently trying to engage a range of actors in providing feedback by touring national capitals, organizing small citizen dialogue events, and presenting the draft strategy to international partners outside of the European Union.

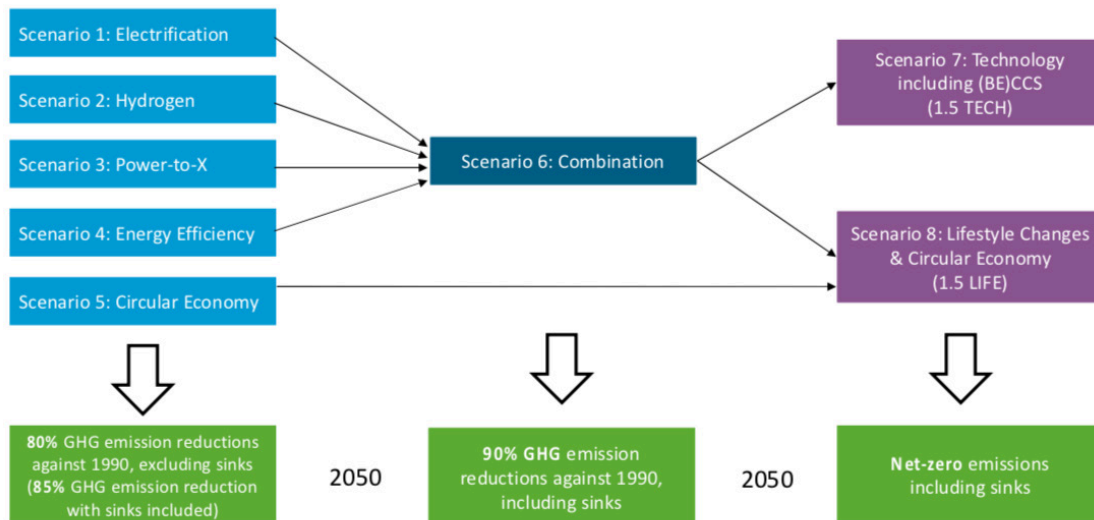
**Analytical basis:** The analysis presented has been organized around eight scenarios, all of which feature different main emissions reduction options. Whereas the first five achieve around 85 percent reductions from 1990 levels by 2050, if absorption from sinks is taken into account, a combined options scenario gets to 90 percent. The last two feature different ways of further enhancing reductions and increasing absorption of GHGs from the atmosphere to reach 100 percent or a net-zero emissions balance. One of those focuses on the use of

carbon capture and storage technology in combination with biomass, while the other focuses on additional lifestyle changes and reductions arising from greater circularity in economic processes, while relying on increased sequestration potential from forests and soils. The diversity of options presented, combined with the results on what happens with a range of other parameters under each of the eight scenarios, brings a wealth of information to the debate on which path to choose toward 2050.

**Key action areas:** The proposal identifies several strategic priorities for action by the European Union as a whole in order to realize a net-zero emissions economy. These are energy efficiency (including net-zero buildings), renewable energy, mobility, industry and circular economy, network infrastructure and interconnections, the bioeconomy, carbon sinks, and carbon capture and storage technology.

**Legal obligations:** In terms of timing, the European Commission has clearly outperformed the requirements established by the Governance Regulation by providing the proposal four months early. Unfortunately, this meant it could not take into account draft NECPs, which were only submitted

**Figure 3. Three types of scenarios were used in the EU 2050 strategy proposal**



Source: UBA (2018), 3. Elaborated by Ecologic Institute, drawing on the EC In-Depth Analysis document.

after the 2050 vision had already been published. The EC did comply with the demand to include a net-zero scenario, providing two instead of just one—and taking the feasibility of net zero as a key message for the strategy as a whole. The analysis of the carbon budget, however, seems to have been only partially realized. For example, the issue does not feature at all in the summary communication of the strategy. Furthermore, an assessment was not carried out in the spirit that the European Parliament had intended, which involved establishing cumulative emissions as a central concept for deciding future pathways and targets for the European Union (Duwe 2017).

### **Future process**

Discussions on the content and format of an EU long-term climate strategy take place under the influence of a range of other political debates and connect with several other important European processes. In many cases, the specific nature of their relationships with each other cannot be identified very precisely.

- ◆ A new European Parliament will be elected in mid-2019 and a new European Commission appointed later that year. The new EP could see a reduction of seats for the largest political groups in the center and wins for both ends of the spectrum, including more anti-EU, right-wing groups who are often opposed to climate action, as well as green parties, its strongest proponents. A possible outcome could be a stronger polarization of the debate on climate change in the EP. Voting majorities in favor of stronger climate action may still be possible but could be more uncertain.
- ◆ Negotiations on the next EU budget for the period covering 2021–27 have been ongoing since the EC presented its proposals in May 2018. Climate features ever more strongly, but the long-term dimension is weak in the legal details. In 2019–20, programming of the funding for use in Member States is meant to start—which would provide an opportunity to ensure that this is invested in favor of the 2050 transition (cf. Duwe 2018a, 2018b).
- ◆ Despite civil society expectations and a push from some EU Member States (see, e.g., *EURACTIV* 2019), the 2050 vision was not featured in the conclusions of the “Future of Europe” debate process, which culminated with a special summit on May 9, 2019, in Sibiu, Romania. The declaration issued as a conclusion of the summit only mentions “fighting climate change” in passing, as an example of global issues Europe wants to lead on in the future (European Council 2019b). However, “working towards climate neutrality” (with no mention of a date) was included as one of the

priorities in a note on the European Union’s strategic agenda 2019–24 (the next iteration of the Union’s five-year work programme). The strategic agenda is to be adopted by the European Council in June 2019 (European Council 2019c).

- ◆ A very present uncertainty exists over the timing and nature of the exit of the United Kingdom from the European Union, and as a constantly evolving news item it has dominated the reporting about Europe in many EU countries since the publication of the draft strategy. With the United Kingdom, a strong proponent of ambitious climate policy would be leaving the Union’s internal negotiating table—which would weaken the choir of voices in favor of a clear 2050 vision.
- ◆ As a direct climate policy process, the 2050 vision could be connected with the debate on a possible review of the European Union’s Paris target, the so-called NDC, in 2020 and a potential increase of the target beyond the current 40 percent reductions in 2030 from 1990 levels. Some progressive Member States have asked for such a change (Green Growth Group 2018), and the European Parliament (largely) supports it—with a number of 55 percent emissions cuts receiving support (European Parliament 2018b). The European Commission’s analysis on 2050 assumes already that around 45–46 percent of reductions will take place under current energy policy targets, so an increase seems straightforward. However, as the post-Copenhagen phase showed, a connection between the long-term strategy and a debate on a target increase could also poison the atmosphere and make agreement on the strategy difficult or impossible. Any such link is thus both seemingly obvious and at the same time politically sensitive.

Taken together, these parallel and connected processes could result in a variety of scenarios regarding the adoption of an EU-wide 2050 climate strategy. Due to the pace of the political process, the situation may yet change rapidly. After the net-zero target was not included in the conclusions of the Sibiu summit, missing the opportunity to highlight the climate transformation as an integral part of a positive vision for Europe’s future, an agreement at the European Council in June could still send a signal to international partners ahead of the September 2019 UN summit and pave the way for a more rational debate on an increased 2030 NDC for Europe a few months later. However, the decision could also be postponed to the autumn or pushed to 2020 entirely, if a common position turns out to be difficult to reach.

## SUMMARY AND CONCLUSIONS

The description of the state of play on LTS at the national and EU level has shown that 2050 planning is receiving a high degree of political attention in the European Union.

The Paris Agreement request for such strategies to be developed has in fact been established as a commitment in EU law as part of a package of measures adopted to implement the European Union's 2030 goals and key elements of the Paris Agreement's processes.

At the national level though, 2030 policy plans (NECPs) have been in the spotlight—but the 2050 dimension is gaining ground, also thanks to the elevation to heads of state and government's attention by the discussion on an EU LTS.

The debate on a 2050 EU strategy was prompted by the Paris Agreement, and the process is therefore aiming for conclusion by 2020, the date referenced in the agreement. National LTS processes are more clearly defined in the EU legislation, but the level of detail is rather low.

This state of affairs has led to the creation of 28 individual and largely parallel national processes with little central guidance. There is also an imbalance in capacity and access to resources and information among Member States. The strategies will vary in substantial ways, likely including variation in key parameters such as assumptions on technical options and their cost. The resulting differences in the national LTSs are already obvious and cannot be undone immediately, but the implications of this merit consideration going forward.

While some diversity is merited on the basis of national circumstances, the process could produce incompatible results even in neighboring countries. Moreover, an uncoordinated and purely national perspective is bound to miss out on areas where common planning across borders (at the EU level or at least on the regional level) may reveal more effective and efficient options. Such opportunities should be identified and taken into account for future updates.

The EU 2050 strategy and the national processes are also largely disconnected, and the relationship between the LTSs at both levels is unclear. Again, differences in assumptions and resulting strategic choices are likely—at least for some Member States. A closer integration could help reveal areas in which common approaches and joint EU action are most effective and

desirable. It is unclear at the time of writing what the assessment foreseen in the legislation will look like and what it would result in. Such a process could be a vehicle for a dialogue process for mutual learning and alignment among countries and across the European Union.

If it can capitalize on it, the European Union stands to gain in many ways from the investment in 2050 planning that has been and is being made—as these are exploratory processes that cannot rely on off-the-shelf blueprints—and multiple, parallel enquiries could yield more robust answers. Ideally, the current political interest would result in a rational assessment of the options and a clear long-term objective in line with the science on 1.5 degrees Celsius, which for the Union would have to be at least net zero by 2050. This could define the direction of travel for further decisions on interim milestones and concrete implementation measures.

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## ENDNOTES

1. EU heads of state and government gather four times a year at the European Council.
2. Decisions on EU legislation do not usually involve heads of state. The standard procedure is a structured negotiation process between coordinated joint positions of the European Parliament (whose individual members are elected every five years by EU citizens) and the Council of Ministers, a gathering of the respective national ministers responsible (on climate change, this tends to be the "Environment Council"). Both the Parliament and the Council establish their internal position through formal voting procedures.
3. For further detail on the history of EU climate policy, see Oberthür and Pallemmaerts (2010); and Görlach et al. (2016).
4. The MMR built on (by updating and expanding) previous legislation containing details on such procedures, called the Monitoring Mechanism Decision (European Parliament and Council 2004).
5. The existing EU 2050 target was first formally referenced in European Council conclusions in October 2009, just ahead of the 2009 climate summit in Copenhagen (European Council 2009).
6. For more information, also see <https://descarbonizar2050.pt/en/roadmap/>.

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## ABOUT THE AUTHORS

### MATTHIAS DUWE

Matthias Duwe is Head, Climate at Ecologic Institute. His main role involves the coordination of the institute's climate change related work strands. His work focuses primarily on the European Union's energy and climate policies and their connections to national policy and the international regime, with a wealth of expertise on long-term climate planning and governance at national and EU levels. Matthias Duwe has actively followed the international climate negotiations since 1999. He has acquired extensive knowledge on a variety of issues related to climate policy and has gained experience interacting with stakeholders in a range of high-level dialogues, making him an accomplished speaker and facilitator.

### EWA IWASZUK

Ewa Iwaszuk is a Researcher at Ecologic Institute, working across its Climate and Urban Governance teams. Ewa Iwaszuk's work focuses on long-term climate strategies and implementing long-term climate governance frameworks at EU, national and local level as well as cross-cutting projects combining topics of sustainable urban development, nature-based solutions and climate protection. Ewa Iwaszuk holds MSc Degree in Environment and Sustainable Development from University College London (UCL) and has a background in interdisciplinary academic research in the fields of climate protection and urban governance, acquired through her work at the Development Planning Unit, University College London and the UCL's Department for Science, Technology, Engineering and Public Policy.

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This vision and direction of the project is guided by the project's advisory committee: Monica Araya, Richard Baron, Ron Benioff, Pankaj Bhatia (co-chair), Yamil Bonduki, Rob Bradley, Carter Brandon, Hakima El Haite, Claudio Forner, Stephen Gold (co-chair), Emmanuel Guerin, Ingrid-Gabriela Hoven, Dr. Martin Kipping, Carlos Nobre, Siddharth Pathak, Samantha Smith, Marta Torres Gunfaus, Laurence Tubiana, and Pablo Vieira.

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