



Streamlining planning and reporting requirements in the EU Energy Union framework

An opportunity for building consistent and transparent strategies

Report for the European Climate Foundation

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Executive Summary

This report:

- **takes stock** of the existing planning and reporting regime in the Energy Union field up to 2020 in order to identify overlaps and gaps, and
- **assesses opportunities and risks** of four streamlining options based on criteria derived from overarching principles of good governance and from the expectations that member states and EU institutions have formulated for the new 2030 energy governance.

The study's empirical foundation is an **analysis of gaps, overlaps and inconsistencies in the existing planning and reporting regime**. This analysis revealed that formalised mid-term planning requirements are restricted to the renewable energy and energy efficiency policy field as well as high-voltage grid planning. Strategic forward-looking planning at national level is missing for the greenhouse gas reduction and interconnection targets while a regional approach is dominant in the efforts for completing the internal energy market. Overlaps and duplications exist between the planning and reporting requirements under the Monitoring Mechanism Regulation, the Energy Efficiency Directive and the Renewable Energy Directive. Duplications concern the listing of policy measures and the deployed baseline scenarios for future greenhouse gas emissions and energy use. Overlaps also can also be detected between reporting on electricity market rules and grid reliability and the related requirements under the Renewable Energy Directive. As market and grid integration progresses, these overlaps are poised to grow. Similarly, new duplications could arise if EU security of supply legislation is extended to address the long-term resilience of the electricity sector and gas supplies.

Reflecting these results as well as evaluations of the existing system, the following options for streamlining the existing P&R regime were assessed:

1. **Energy Union strategies:** Integration of the existing R&R for the full Energy Union portfolio into one plan and one report which would replace all existing P&R;
2. **Low-carbon strategies:** P&R based on the GHG target integrating existing P&R under ETS, ESD, MMR, RED, EED and in the field of LULUCF (while keeping IEM and SoS as separate reporting strands).
3. **Sustainable energy strategies:** Integrating P&R from the current EED and RED (while keeping GHG, IEM and SoS plans and reports separate).
4. **Sector-specific strategies:** Reorganising the existing P&R under the Energy Union into five sector-specific plans and reports on electricity, transport, buildings, waste and industry and agriculture and land-use.

Table: Results of the multi-criteria analysis of four streamlining options

	Energy Union strategies	Low-carbon strategies	Sustainable energy strategies	Sector-specific strategies
Coherence	Theoretically +++	++	+	+++
Consistency	Theoretically +++	++	+	++
Admin. burden	+++	++	+	-
Practicability	---	++	++	+
Effectiveness	--	++	++	Potentially +++
Accountability	--	++	++	- / +
Investor security	--	+	++	++
Overall	--	++	+	++

From the assessment of the four streamlining options presented in the table above, **option 2 (low-carbon strategies) and option 4 (sector-specific strategies)** emerge as the **most promising approaches**. By contrast, option 3 (sustainable energy strategies) misses most of the opportunities for improved coherence and option 1 (Energy Union strategies) risks to be either impractical – if the current level of detail is kept – or very superficial and therefore ineffective. Low-carbon strategies appear to be a promising approach for increasing coherence between the various P&R requirements developed under the 2020 climate and energy package while filling the gap of a strategic forward-planning on climate change mitigation. This option's main drawback is that it would not reflect the increasing interlinkages with planning and reporting requirements under Internal Energy Market and Security of supply legislation. The sector-specific strategies proposed under option 4 would deliver exactly this type of integration, thereby proactively addressing the challenges of the next phase in the EU energy transition. Due to that reason the option also appears most suitable for integrating the planned additional legislation and strategies, e.g. on energy market design and security of supply in the electricity sector. The downside is the inherent risk that would come with such a drastic reorganisation of the existing planning and reporting regime. At least initially, administrative burden is also likely to be higher than for the low-carbon strategies.

A potential way for combining the respective benefits of the most promising options with of the idea an overarching Energy Union reporting mechanism would be a **modular approach**. Thereby, national governments would produce a high-level, annual report on all five dimensions of the Energy Union strategy, followed by Commission review and recommendations. This report would however not replace the existing issue-specific plans and reports, but streamlined low-carbon strategies or sector-specific strategies would – like chapters to a summary – underpin the high-level report with detailed data and information.

Table of content

1	Introduction	8
2	Effective planning and reporting as an instrument for good governance.....	13
2.1	Objectives of streamlined P&R according to EU institutions and Member States	13
2.2	Requirements for streamlining based on principles of good governance	14
2.3	Overview of criteria used in the assessment of streamlining options and P&R processes.....	15
3	Stocktaking of current planning and reporting requirements under the Energy Union framework.....	18
3.1	Typology of elements in plans and reports	18
3.2	Duplication and gaps in the existing EU and member state planning and reporting duties up to 2020.....	19
4	Assessing options for streamlining planning and reporting requirements under the Energy Union framework.....	24
4.1	Options for the scope of future planning and reporting under the Energy Union and the 2030 energy and climate framework.....	24
4.2	Assessment of streamlining options	28
4.3	Possible combination of streamlining options	32
5	Conclusions and policy recommendations.....	33
6	References.....	36

List of Figures

Figure 1:	Objectives and targets of the EU 2030 framework and the Energy Union	8
Figure 2:	Overview of assessed streamlining options	27

List of Tables

Table 1:	Criteria used for the assessment of streamlining options, P&R content and processes	16
Table 2:	Type of elements in an ideal-type plan at member state level	18
Table 3:	Overview of existing P&R regime under the 2020 climate and energy package and in the field of IEM and SoS	23
Table 4:	Multi-criteria analysis of streamlining options	28

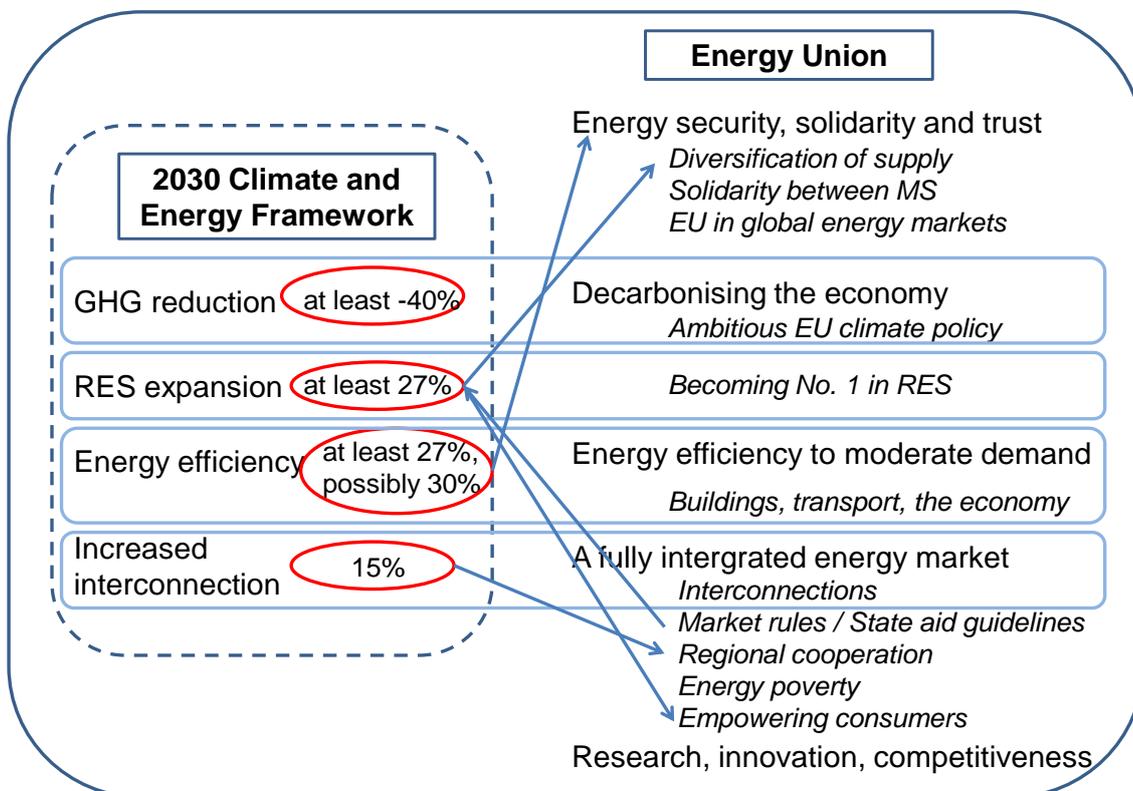
Abbreviations

ACER	Agency for the cooperation of energy regulators
COM	European Commission
EEA	European Environment Agency
EED	Energy efficiency directive
ENTSO-E	European network of transmission system operator for electricity
EPBD	Energy performance of buildings directive
BR	Biennial report
ESD	Effort sharing decision
ETS	Emissions trading system
EU	European Union
EUCO	European Council
GHG	Greenhouse gas emissions
IEM	Internal energy market
LDCS	Low-carbon development strategies
LULUCF	Land use, land use change and forestry
MMR	Monitoring mechanism regulation
MS	Member state
NC	National communication
NCEP	National climate and energy plan
NEEAP	National energy efficiency action plan
NIR	National inventory report
NRA	National regulatory agency
NREAP	National renewable energy action plan
P&R	Planning and reporting
PAMs	Policies and measures
PCI	Project of common interest
RED	Renewable energy directive
REFIT	Regulatory fitness and performance programme
REMIT	Regulation on wholesale energy market integrity and transparency
RES	Renewable energy sources
RES-E	Renewable energy sources in electricity
RES-H/C	Renewable energy sources in heating and cooling
RES-T	Renewable energy sources in transport
SoS	Security of supply
TSO	Transmission system operator
TYNDP	Ten-year network development plan
UNFCCC	United Nations framework convention on climate change

1 Introduction

In the realm of climate and energy policy, the European Union (EU) is currently discussing two overlapping policy frameworks: The **Climate and Energy Framework for 2020 to 2030** (European Commission 2014a) and the **Energy Union strategy** (European Commission 2015a). When Poland's former prime minister Donald Tusk presented the idea of an Energy Union for the first time in April 2014 (Tusk 2014), his proposal which was triggered by the Ukraine crisis focused exclusively on security of energy supply (SoS), with a particular emphasis on gas supplies. By contrast, the Commission's 2015 "Strategy for a Resilient Energy Union" takes a much broader approach, fully encompassing the EU 2030 targets on reducing of greenhouse gas (GHG) emissions, improving energy efficiency, expanding renewable energy sources (RES) and increasing interconnections which were adopted by the European Council in October 2014 (European Council 2014). As a result, three of the Energy Union strategy proposal's five dimensions now reflect the objectives of the EU 2030 framework while the other two dimensions on energy security and research and innovation go beyond the core targets of the 2030 framework (see Figure 1). However, both topics are interlinked with the 2030 framework in various ways. The most prominent interactions and mutual reinforcements are indicated by the blue arrows in Figure 1. Whereas the Energy Union consists of objectives and action points and has a long-term perspective, the 2030 framework is focused on the mid-term and encompasses two binding and two indicative quantified targets (marked in red in Figure 1).

Figure 1: Objectives and targets of the EU 2030 framework and the Energy Union



Source: Ecologic Institute based on European Council 2014 and European Commission 2015a.

For both frameworks, many **key questions still need to be answered**. One of those questions which both have in common is how their respective implementation will be governed. For the EU

2030 climate and energy framework, the Commission originally proposed a new governance mechanism centred on national plans (European Commission 2014a). This approach differs from the current governance mechanism under the 2020 package, responding to changed preferences in some member states, particularly with respect to renewable energies. While the 2020 EU RES target is broken down to national binding targets for all member states, the 2030 target will be binding on the European level, but will not be divided up into national targets.

The idea of **national climate and energy plans** (NCEPs) that provide information on member states' existing and future measures for achieving climate and energy goals has been reiterated in several EU documents since. The Energy Union Strategy refers vaguely to the need for "an integrated governance and monitoring process" and announces "annual reporting to the European Parliament and the Council on the state of the Energy Union" (European Commission 2015a: 17f.). In this context, the 2030 and the Energy Union communications both champion the intention of **streamlining existing planning and reporting requirements** (P&R) in the climate and energy policy field. Streamlining is expected to reduce administrative burden on member states and to increase overall coherence. In October 2014, the European Council endorsed the idea of bringing together various P&R strands (European Council 2014, para. 6.1) and EU energy ministers reaffirmed it during their June 2015 Council meeting in the context of the Energy Union debate (Transport, Telecommunications and Energy Council 2015). The streamlining process is in line with the Commission's overarching Regulatory Fitness and Performance programme (REFIT) that aims at simplifying EU regulation.

In addition, the Commission proposed to complement P&R processes at national level with a set of **key indicators** to be monitored at EU level in order to capture the EU's progress towards a competitive, secure and sustainable energy system. In a preliminary list, the Commission suggested to monitor energy prices, diversification of energy imports, smart grids and interconnections, energy market coupling and concentration, as well as technology innovation (European Commission 2014a: 13f.).

Based on this mandate, the Commission has finalised a process of taking stock of existing requirements. In parallel, the Commission has started to provide member states with so-called **country fiches** that encompass key indicators and a SWOT analysis of each country's energy policy. In various presentations and internal documents, the Commission presented these fiches which are not publically available as a first step leading up to the development of future national plans. The important caveat is however that to date the fiches only present a snapshot of the current status. With the exception of a limited number of identified 'opportunities', the fiches do not contain any indications of future measures, projections or targets (as evidenced by drafts of country fiches for Germany and Belgium leaked in June 2015). Therefore, **the scope, legal status and any potential review mechanism for the future NCEPs still needs to be specified** – as well as their relationship to the existing P&R practice. The Commission has issued several internal discussion papers and the Luxemburg Presidency has produced draft Council conclusions on this issue – all of which have added some information, but remain far from delivering clarity on key building blocks of the future P&R process.

For ambitious decarbonisation policy in the EU, the endeavour of streamlining the existing P&R entails both **risks and opportunities**. On the one hand, key elements of the *acquis* that have allowed the 20-20-20 package of 2009 to yield good progress towards target achievement should not be abandoned in an exercise of cutting what some consider as "red tape". On the other hand, a more integrated, rationalised and coherent P&R regime holds the opportunity of improving consistency between member states' various energy and climate policies, aligning the

reporting cycles, avoiding duplication and potentially increasing the documents' accuracy and overall transparency (Meyer-Ohlendorf 2015: 15; O'Leary et al. 2014: 36f.). The planning and consultation process with its strong emphasis on regional cooperation could also become "a driver for bottom-up coordination and energy policy convergence" across the EU (Szulecki et al. 2015: 13). Finally, streamlining creates the potential for developing a P&R regime better able to respond to the increased complexity of the post-2020 world, a regime better equipped to respond to the challenges of the next phase of the low-carbon transition.

The governance system has to respond to member states' right to flexibility and to the huge variations at national level, but also to greater complexity in the nature of P&R, integrating energy and climate planning with planning to meet the Energy Union objectives. Ideally, the process could lead to full-fledged low-carbon strategies that are anchored in a long-term perspective, deliver sufficient detail on medium-term projections and measures and – through inclusive processes – hold member states and the EU accountable.

In this debate the present report has two main aims:

- 1) It **takes stock of the existing P&R regime** in the Energy Union field up to 2020 in order to identify overlaps, gaps and inconsistencies.
- 2) It **assesses opportunities and risks** of four different streamlining options based on criteria derived from overarching principles of good governance and from the expectations that member states and EU institutions have formulated for the new 2030 energy governance.

Entering into this topic, it is useful to clearly distinguish the two **key terms** at the heart of it. When referring to '**planning**', we mean forward-looking strategies that specify how one or several policy objectives or targets are expected to be achieved. Examples of the 2020 climate and energy package include the National Renewable Energy Action Plans (NREAPS) and the National Energy Efficiency Action Plans (NEEAPs). '**Reporting**', on the other hand, denotes a monitoring exercise that takes stock of achieved implementation and tracks current progress towards the target or objective. The national and EU-level Renewable Energy Progress Reports are an example. Reporting is mainly a backward-looking exercise. It can however also include projections on the expected future progress as well as proposals for corrective measures where progress is insufficient.

The report focuses on the **scope and content of the P&R requirements at national and EU level** and how the system could be reorganised after 2020 in light of new challenges at this more advanced stage of the low-carbon transition. The extremely relevant question of the appropriate legal form for the future P&R regime is not covered here, since it is extensively discussed elsewhere (O'Leary 2015). Similarly, while the report builds on the assumption that any forward-looking planning should be informed by the EU's long-term objective of cutting GHG emissions by 80 to 95 % by 2050 (European Council 2009: 2), its main focus is on the P&R regime for the decade 2020-30. Detailed options for embedding the long-term perspective are presented e.g. by Sartor et al. (forthcoming). Finally, the choice of key indicators which are expected to accompany the monitoring of progress towards the 2030 targets is of key importance so as to ensure a holistic view of the energy system and early detection of unfavourable developments. Where existing statistics are insufficient, the future P&R needs to provide the necessary data. A full discussion of the appropriate indicator selection is outside the scope of this paper, but available e.g. in Werner et al. (2015), Bergamaschi et al. (2014) and Holmes and Bergamaschi (forthcoming).

The core of this study is a multi-criteria-analysis of **four idealised options** for streamlining P&R:

1. **Energy Union strategies:** Integration of the existing R&R for the full Energy Union portfolio into one plan and one report which would replace all existing P&R;
2. **Low-carbon strategies:** P&R based on the GHG target integrating existing P&R under ETS, ESD, MMR, RED, EED and in the field of LULUCF (while keeping IEM and SoS as separate reporting strands).
3. **Sustainable energy strategies:** Integrating P&R from the current EED and RED (while keeping GHG, IEM and SoS plans and reports separate).
4. **Sector-specific strategies:** Reorganising the existing P&R under the Energy Union into the following sector-specific plans and reports:
 - a) **Low-carbon electricity strategies:** Integration of P&R in the realm of IEM completion, including the interconnection target, renewable electricity (RES-E), demand response (currently covered under the EED) as well as potential new P&R under electricity market legislation and legislation on security of electricity supply.
 - b) **Low-carbon buildings strategy:** Integration of P&R related to EED and other energy efficiency regulation with P&R on renewables used for heating and cooling (RES-H/C).
 - c) **Low-carbon transport strategy:** Integration of P&R related to renewables in transport (RES-T) with regulation on car and vans emissions as well as potential future P&R under the road transport package.
 - d) **Sustainable industry and waste strategy:** Integration of P&R related to energy efficiency and GHG reduction measures in industry and waste sectors currently covered in the EED, ESD and – for the EU-level only – also under the ETS.
 - e) **Sustainable agriculture and land-use strategy:** Integration of P&R related to energy efficiency and GHG reduction measures in agriculture, forestry and land use practices currently covered under the ESD, EED and the LULUCF decision.¹

For analytical reasons, these four options are treated as mutually exclusive in the assessment, but in reality, combinations and variations of the proposed options are of course possible and might even be desirable. One possibility for combining options is discussed in section 4.3.

The assessment focuses on the **potential for improving coherence, consistency, transparency and practicability**. Yet, the most important benchmark for judging the appropriateness a governance framework overall is of course its effectiveness in achieving the policy objectives. While the chosen streamlining approach can clearly make a difference in this respect, it is only one factor. A number of additional policy choices, particularly on the legal status of the P&R process, on the concrete formulation of targets and the measures enshrined in revised legislation, the agreed burden sharing mechanisms and follow-up procedures in case of insufficient action at member state level are poised to have a bigger impact on the final policy outcome. They can make each of the options described above a success or a failure. Conscious

¹ It is important to note that the integration of P&R requirements would not imply merged accounting of agriculture and LULUCF emissions or the inclusion of LULUCF emissions and removals in the national GHG reduction targets to be agreed under a revised ESD.

of this limitation, this report aims to provide a rather technical assessment to feed into more strategic discussions about the future Energy Union and 2030 governance framework.

The analysis is informed by a **characterisation of the existing acquis of plans and reports, evaluations** reviewing their performance to date, **stakeholders' experience** with the existing instruments and processes and **expert judgement**. It builds on previous work done by Ecologic Institute in 2014 (led by Matthias Duwe), which analysed the existing P&R landscape and outlined options for the implementation of the Commission's January 2014 governance proposal; and in 2015 (led by Nils Meyer-Ohlendorf), which put the 2030 governance discussion into the context of the existing acquis and defined key criteria for an effective system.

The report is structured as follows. Section 2 introduces the criteria for assessing streamlining options based on good governance principles and the expectations formulated by governments and EU institutions. Section 3 analyses the existing planning and reporting requirements in the energy and climate field in order to identify duplications, gaps and inconsistencies in the current system. Section 4 defines the four potential idealised options for streamlining P&R in the period 2020-2030 while section 5 presents the results of the multi-criteria analysis. The report closes with policy recommendations.

2 Effective planning and reporting as an instrument for good governance

What are the ideal outcomes of a streamlined P&R regime for energy and climate policy in the EU? This section attempts to address this question by first analysing the specific objectives that EU institutions and member state governments have stated as rationale for pursuing streamlining. In a second step, we compare these findings with the principles of good governance outlined in ECF (2015), O'Leary et al. (2014 and 2015), Meyer-Ohlendorf (2015).

2.1 Objectives of streamlined P&R according to EU institutions and Member States

In its proposal for the 2030 framework, the European Commission formulated the following expectations for a consolidated governance process with streamlined reporting and the national plans as central planning tool (European Commission 2014a: 12):

- ▶ Effectiveness: Ensure that EU climate and energy policy objectives are delivered based on provision of a basis for EU coordination and surveillance;
- ▶ Greater coherence of national approaches;
- ▶ Further market integration through regional consultation and cooperation;
- ▶ Provision of investor certainty;
- ▶ Greater transparency;
- ▶ Allowing for flexibility in respect of member state sovereignty over their energy mix.

With the exception of the focus on EU coordination and surveillance, these objectives are echoed in a less detailed fashion in the Energy Union strategy. In addition, the strategy mentions the following objectives (European Commission 2015a: 17f.):

- ▶ Initiation of an energy dialogue with stakeholders to inform policy making and
- ▶ Provision of data, analysis and intelligence to underpin the Energy Union as a basis for the Commission's annual State of the Energy Union report to be published from 2015 onwards.

When the European Council discussed the 2030 dossier in October 2014 it reiterated the expectation of reliability, transparency, flexibility and predictability for investors, as well as the call for regional cooperation. To this list the Heads of State and Government added the following objectives for a streamlined P&R regime (European Council 2014: para 6):

- ▶ Avoiding unnecessary administrative burden;
- ▶ A step up in the rights for citizens, linked *inter alia* to the objective of affordable energy.

In position papers on the 2030 governance framework, a few Member States have expressed their preferences. The UK and the Czech Republic emphasised the objectives of member state flexibility, predictability for investors, market integration, facilitation of regional cooperation, greater transparency through stakeholder consultation, and very strongly, lower administrative burden. As means of achieving this last aim, the leaked non-paper refers to the option of allowing existing national plans to be used and reducing prescription on the detailed elements to be covered. Furthermore, said non-paper also calls for a lower overall number of member state

and Commission reports and requests aligned reporting cycles. As new elements, the non-paper adds the following objectives (UK and Czech Republic 2015):

- ▶ Consistency with the long-term decarbonisation goal for 2050;
- ▶ Adaptability to changing circumstances;
- ▶ An emphasis on collective progress towards EU targets (as opposed to individual member state responsibility).

The German government in its position on the subject has reiterated most of the objectives mentioned above, but placed specific emphasis on coherence, investor certainty and regional cooperation (Germany 2015a). Unlike the European Council and the non-paper by the UK and Czech governments, Germany also strongly supported the Commission's call for governance that ensures reliable implementation of energy policy targets. In a second non-paper from July 2015, the German government more concretely called for early clarity on the follow-up process if member states voluntary contributions to the EU-level RES target do not add up to the 27 % target (Germany 2015b).

2.2 Requirements for streamlining based on principles of good governance

The expectations for the P&R regime formulated by the European Commission, the European Council and member states are necessarily influenced by their respective interests, by the current political setting and by what appears to be politically feasible. While these are valid drivers and constraints a comprehensive analysis needs to be aware of these motivations but not be limited by them *a priori*. As a benchmark that is less influenced by current political dynamics and feasibility concerns this report builds therefore on the set of good governance principles proposed by O'Leary et al. 2014 building on the Commission's 2001 White Paper on European Governance (European Commission 2001) complemented by concrete ideas for operationalisation proposed by ECF (2015), Meyer-Ohlendorf (2015) and Skillings (2015). Based on these sources, the following objectives and operationalisations for a successful P&R regime can be identified:

- ▶ Effectiveness understood as delivery of targets based on:
 - The use of the rule of law;
 - Enforceability through use of infringement procedures based on a clear legal mandate for the Commission;
- ▶ Accountability of member states and the Commission based on:
 - Commission and third party rights to initiate enforcement procedures at EU and national levels respectively to challenge lacking or inadequate plans and reports by member states or the European Commission;
 - Independent expert review (in addition to Skillings 2015, also see Falconer et al. 2012: 7);
- ▶ Transparency based on:
 - Disclosure of all relevant documents by EU institutions and member states;
- ▶ Legitimacy based on:

- Participation of all stakeholders that are concerned;
- Regional consultation of concerned member states;
- Independent expert advice;
- ▶ Certainty for investors based on:
 - Credibility of national-level targets;
 - Binding long-term commitment and forward planning at EU and national level;
- ▶ Coherence and consistency based on:
 - Long-term pathways informing short- and medium-term milestones and action;
 - Integration across objectives and policy fields;
 - Integration of regional effects and regional cooperation;
 - Comparable and consistent data basis.
- ▶ Respect of the principles of subsidiarity and proportionality in sharing power over energy policy between the Commission and Member States (ECF 2015: 1).

As an additional objective for P&R in particular, O'Leary et al. 2014 and Skillings (2015) also propose:

- ▶ Responsiveness to changing circumstances or policy failure allowing for timely decisions on corrective measures and risk management (O'Leary et al. 2014: 37f., Skillings 2015: 5).

2.3 Overview of criteria used in the assessment of streamlining options and P&R processes

The requirements for a reformed P&R regime that have been formulated by EU institutions and member states overlap with the principles of good governance presented above. However, they differ in the hierarchy implied between the objectives, their operationalisation and the emphasis on accountability and legitimacy, an element largely missing in the current Commission proposals. Given the aim of producing policy-relevant advice on ambitious future climate and energy policy, this study proposes a set of criteria for assessing streamlining options and P&R processes that build on the good governance principles, but also include the objectives that dominate the political debate. For each overarching objective, the criteria mentioned in the documents are also presented. They are then translated into concrete operationalisations in the context of P&R that can serve as guiding questions for an assessment. Where applicable, a set of potential operationalisations is presented in increasing level of ambition.

Table 1: Criteria used for the assessment of streamlining options, P&R content and processes

Objective	Criteria	Operationalisation in the context of P&R
Effectiveness	EU climate and energy targets for 2030 are met.	Information and data provided by MS P&R allow COM and third parties to assess if MS contribution to each EU target is adequate based on national circumstances (potential, starting point, GDP, resource base).
		COM has clear legal mandate to request adjustment of MS pledge if it is deemed to be inadequate based on national circumstances.
		Information and data provided by MS P&R allows the Commission and third parties to assess what contribution each MS (or region of MS) will make to meeting EU 2030 targets and is based on prior agreement with COM via an iteration process.
		Sufficient information and data provided by MS P&R to allow the COM to assess likely MS progress towards delivering their contribution to meeting EU targets.
		Mandatory P&R templates are defined or referenced in legislation.
Accountability	Enforceability is ensured.	COM has a clear legal mandate to initiate infringement procedures if MS plans and reports are late, missing or incomplete.
		COM has a clear legal mandate to initiate infringement proceedings if MS fails to make sufficient progress in implementing their plans.
	An effective process for initiating course corrections is in place.	COM commitment to give annual State of the Energy Union report is enshrined in law which prescribes the obligation to provide country specific reviews of progress towards 2030 targets and contributions to Energy Union objectives and obligation to highlight need for course correction by EU and/or MS.
	Independent expert provide review.	MS plans and reports are reviewed by independent experts, either by a newly founded body or by the EEA. Based on the review of MS plans and reports, independent experts can propose corrective actions if they judge target achievement to be in jeopardy.
Transparency	All interested parties have access to information on planned actions at EU and MS level.	P&R provides detailed and quantified information on MS plans for achieving energy and climate targets (see Table 2 for more detail).
	All relevant documents are publically disclosed.	All plans and reports as well as all underlying documentation on assumptions, methods and relevant data are publically available.
Legitimacy	All relevant stakeholders participate.	Planning processes facilitate and are the product of participation by all relevant stakeholders, including communities, cities, local government, national parliaments and the European Parliament and contain a reflection on the outcome of that public participation process.
		Planning processes facilitate consultation with affected MS in the region and contain a reflection on the outcome of regional consultation.
		Planning processes are based on independent expert input.
Certainty	Commitment to implementation of 2030	Planning processes are binding and deliver sufficient detail on planned measures and implementation to be sufficiently credible for

Objective	Criteria	Operationalisation in the context of P&R	
	targets binding and stable and therefore is credible.	<p>market participants to plan investment activities.</p> <p>Reporting is reliable in tracking progress.</p> <p>R&P cycle foresees early corrective action in cases where target achievement is in jeopardy.</p>	
	Commitment to implementation of 2050 decarbonisation target is credible.	<p>Plans contain national vision for implementation of 2050 decarbonisation goal.</p> <p>Measures planned for 2020-2030 are consistent with 2050 vision.</p>	
	Coherence	National climate and energy policies are coherent across sectors and policy fields.	Streamlined P&R regime brings together previously separated strands that have large interlinkages and thus potential for synergies and affect similar sectors, technologies and actors. The integrated documents avoid contradicting assumptions, double-counting or burden shifting between sectors.
		Climate and energy policies across MS increase in coherence and contribute to market integration.	<p>P&R is based on indicators and data sets that allow comparison and aggregation of planned actions for the EU-28.</p> <p>P&R process involves regional consultation aiming at identifying impacts of national measures on other MS. As a result of regional consultations, adverse effects are minimised and synergies maximised.</p>
Lower administrative burden	The number of plans and reports is reduced.	Streamlined P&R aligns P&R cycles.	
		Streamlined P&R avoids duplication by combining previously separate, but related P&R strands.	
		Where appropriate shared reference scenarios are used or provided by the COM.	
		The level of detail is reduced based on the condition that changes do not undermine the fulfilment of above mentioned criteria – in particular for effectiveness, accountability and certainty for investors.	
		The implementation of the streamlined R&P regime is institutionally feasible, also in smaller MS.	
Adaptability	Planned measures for target fulfilment can be adapted to changing circumstances if required.	Reporting at MS and EU level is frequent enough to provide early warning signals in case of policy failure, technological changes or other factors substantially affecting planned implementation strategies.	
		Planning pre-emptively includes risk analysis and alternative corrective action as back-up solution in case of deviations.	
Flexibility	MS retain sovereignty over national energy mix.	COM cannot challenge MS plans based on choice of energy sources as long as MS effectively implement national targets and contribute appropriately to EU target achievement.	
	MS are free to go beyond EU-level targets.	COM cannot challenge MS plans based on planned measures that go beyond EU-level ambition.	

3 Stocktaking of current planning and reporting requirements under the Energy Union framework

3.1 Typology of elements in plans and reports

In order to adequately discuss streamlining it is important to define what type of elements plans and reports encompass. The following list offers a **set of ideal elements** based on the criteria defined in section 2. The list also delivers a structure for the stocktaking exercise of the existing P&R system under the 2020 regime.

Table 2: Type of elements in an ideal-type plan at member state level

Element	Definition	Quality criteria	Example from NREAP
Objective	Defines the policy objective that the plan aims to implement.	Objective is consistent with EU legislation and with objectives of related policies.	<i>Increase the share of energy provided from RES</i>
Target(s)	Provide one or several quantified indicators that allow to measure implementation success and – where appropriate – defines how this target contributes to a collective EU target. For longer time horizons, interim targets are defined so as to allow for regular progress assessment.	Targets are appropriate to the policy objective; Indicator is unequivocally defined and can be aggregated at EU level to calculate whether MS commitments add up to meeting EU target; data for the indicator are publically available in a timely fashion.	<i>Providing 20% of all final energy consumption from RES, indicative interim targets every two years.²</i>
Reference scenario	Defines assumed development of relevant indicator in case of a business-as-usual scenario without additional policy measures.	Assumptions for the reference scenario are clearly stated and appropriate.	<i>Projection of final energy consumption with and without additional energy efficiency measures</i>
Planned measures	Measures planned to ensure target achievement.	Measures are clearly described with extent, timeline, budget, legal form and allocation of responsibility. ³ Measures ensure national implementation of all measures foreseen in the relevant EU legislation.	<i>National support schemes for RES</i>

² The mid-term evaluation of the RED has shown that the specific value of the indicative interim targets „consists in ensuring that measures to achieve the national targets are introduced timely, and in allowing for continuing assessment whether MS are on track“ (Kampman et al. 2015: 20). RES industry representatives do, however, propose to replace the current exponential growth trajectories with „more linear ones“ (BEE 2015: 2).

³ Based on a review of national climate change mitigation strategies from 15 EU countries, Casado-Asensio and Steurer (2015: 7) have shown that despite methodological difficulties in assessing the impact of such strategies, the level of detail provided on planned policy measures „gives at least hints about who the frontrunners and laggards are.“ Thereby, the level of detail for each policy description is more indicative than the ambition level of the included objectives.

Element	Definition	Quality criteria	Example from NREAP
		All relevant barriers and potentials are addressed. Expected contribution of each measure is quantified where appropriate or explained. Measures explicitly acknowledge effects on other MS and include joint measures in a regional setting where appropriate.	
Projections with measures	Quantifies ex-ante expectation of how target indicator will progress towards target achievement.	Assumptions and methodology are clearly stated and appropriate to ensure comparability. Disaggregation by sector, technology or measure is sufficient. Metrics are unified across MS.	<i>Technology-specific trajectories for RES expansion</i>
Supporting indicators	Supporting indicators provide information on co-benefits and monitor potential adverse effects of the policy.	Supporting indicators address relevant adverse effects without creating necessary administrative burden.	<i>Sustainability criteria for use of liquid biomass</i>

Source: Ecologic Institute.

The **main role of reports** is to monitor progress in implementation of targets and specific objectives. They should therefore include a comparison of ex-ante expectations and intentions with the current status for each of the plan's element. Thus the elements of the report closely mirror the elements proposed in Table 2. In case of directives where member states have leeway in implementing provisions in line with national circumstances, reports have the important additional function of tracking in a transparent and accessible manner if and how member states governments have implemented measures foreseen in a directive.

In addition, reports should provide an analysis of the observed trends. A key question relates to the cause of observed deviations compared to the assumptions in the plan. Are the deviations caused by factors that are external to the policy areas – for example changes in fossil fuel prices or unexpected economic developments? Do they represent policy results that are different from the ex-ante expectation – for example a slower-than-expected expansion of cross-border interconnectors? Or do they result from belated or insufficient implementation of originally planned measures? This assessment is key to allow for appropriate course corrections.

Finally, ideal-type reports should contain an outlook on planned measures over the remaining planning period (either remaining measures from the original plan or additional ones that respond to deviations) and – where required – adapted projections.

This analysis points to the inherent connection between plans and reports with the last ones mirroring the former and updating them as necessary.

3.2 Duplication and gaps in the existing EU and member state planning and reporting duties up to 2020

In the following table, the typology proposed above was used as an assessment matrix for taking stock of the existing P&R requirements in the policy fields covered by the Energy Union. In addition, P&R are classified based on the sectors and technologies that are covered in the

relevant plans and reports in order to enable the identification of potential overlaps and gaps. The table presents the summary of a more detailed inventory provided as an accompanying material to this report (Excel file with citations of the relevant legal provisions).

The stocktaking exercise points to the following **general observations**:

- ▶ The effort for **streamlining doesn't start from scratch**, but the EU has already achieved synchronisation and combinations of P&R requirements in some areas. The most prominent example is the MMR which combines reporting duties following from the EU's international commitments under the UNFCCC with reporting under the ESD. Similarly, the LULUCF reports on LULUCF accounting and planned actions are in accordance with international accounting rules. In the field of energy efficiency, member states can include reports actions planned for moving towards zero-emission buildings in their NEEAPs.
- ▶ In the field of GHG reduction, most of the current reporting duties implement **international requirements**. The future P&R regime will equally have to retrace the further development of monitoring and reporting under a post-2020 agreement. The EU streamlining exercise is in this respect constraint by decisions taken under the UNFCCC (for more detail: Bodle and Umpfenbach, forthcoming).
- ▶ P&R requirements are **not limited to member state governments and the Commission**. NRAs, ACER, ENTSO-E and energy market participants play a key role in providing valuable data and information on the progress towards completing the IEM. Market participants also provide data in other fields, for example industrial installations and power plants covered by the ETS or car and van manufacturers. A future P&R regime will equally be dependent on this type of input, possibly even to a larger extent given the rising number of diverse actors that are for example involved in electricity markets.

The analysis yields the following observations on **gaps in the existing system**:

- ▶ **Formalised ex-ante planning** at member state and EU level is **most prevalent in the policy fields of energy efficiency and renewable energies**. In the realm of IEM completion, ex-ante planning is used for electricity grid planning under the TYNDP. However, no formal planning requirements exist for the implementation of the interconnection target aside from the listing of Projects of Common Interest (PCIs) which are not in themselves sufficient to fulfil the interconnection target. Similarly, there is no requirement on MS governments to devise a strategy on how and when they intend to contribute to a fully integrated energy market in other areas than interconnection, e.g. through advances in market coupling, further liberalisation and harmonisation of market and technical rules. In this field, the EU has instead used a regional approach where groupings of member states such as the Pentalateral Energy Forum or the Regional Electricity and Gas Initiatives move at different speeds (Umpfenbach et al. 2015). For ensuring security of gas supplies, member states draw up preventive action plans. Although these plans represent an ex-ante planning exercise, they are exclusively focused on short-term reactions to acute crises, mainly in cases of gas supply interruptions. In their current form, they do not include a long-term strategy for reducing structural vulnerability in EU energy supply chains or economic risks arising from a high and volatile energy import bill.
- ▶ With respect to planning, the detailed requirements under the EED and RED contrast with a relatively **loose approach under the ESD** (O'Leary et al. 2014, Duwe 2014). Ex-ante planning of GHG mitigation measures is limited to the lists of policies and measures (PAMs) to be provided under the MMR. In the PAMs, Member state governments tend to focus on

measures in the energy-using sectors. By contrast, planning for measures in the agriculture and waste sectors, related to industrial emissions and cross-cutting issues is less comprehensive and the level of detail is substantially lower for than in the NREAPS and NEEAPs – with huge differences in the style and detail of information across member states (Barkman 2014). By providing a detailed template for PAMs in 2014, the EU is aiming to improve this quality, completeness and coherence of information provided (Implementing Regulation No 749/2014). Nonetheless, a strategic and detailed forward-looking strategy for implementation of national targets under the ESD is clearly still missing – a gap that a streamlined P&R regime could fill.

- ▶ Overall, the analysis also shows that **binding templates** like the NREAP template or the new MMR's template for PAMs **are the exception**. While several pieces of legislation list the elements to be covered in mandatory reports or plans (e.g. the LULUCF decision or the SoS Regulation and Preventive Action Emergency Plans for gas supplies), templates with detailed data requirements are rare.

The analysis shows the following **overlaps and duplications**:

- ▶ Clear overlaps in coverage exist between the P&R required under the **MMR, energy efficiency regulation and the RED**, since energy efficiency measures and expansion of renewables provide a significant share of overall GHG reductions and therefore need to be listed in the lists of policies and measures (PAMs) required under the MMR. Another duplication lies in the **underlying scenario data** required in each field. GHG projections, as required under MMR, include assumptions on future energy demand, on demand by sector and the technologies and fuels used for satisfying it (as they all result in different levels of GHG emissions). This is a clear duplication with the energy-specific planning exercises (see also next point) and presents a risk of inconsistency due to variations in assumptions or more practically due to different starting points of the projections, differences in the historical data used (arising from the date of preparation of the particular projection), in sector aggregations and timelines covered.
- ▶ More restricted and specific overlaps exist between the P&R regime for **energy efficiency and RES**. Both plans require scenarios of future energy use with and without additional energy efficiency measures.⁴ Moreover, given the importance of building codes for both energy efficiency of building and the expansion of renewable heating and cooling technologies, P&R on specific rules in building codes on these matter have to be covered in both NREAPs (see Annex VI of Directive 2009/28/EC) and NEEAPs. This is a clear overlap, even though not a full duplication.
- ▶ Overlaps also exist between the **P&R on renewable electricity** and reporting requirements for National Regulatory Agencies (NRAs) specified in **Directive 2009/73/EC on market rules** for electricity. Member states need to report on “measures to [...] extend or reinforce existing infrastructure to facilitate the integration of the quantities of energy from renewable sources needed to achieve the 2020 national target, [...and] measures to reduce non-

⁴ While the RED demands final energy use projections, member states can chose between primary energy or final energy use projections in the NEEAPs – depending on their indicator choice for the national efficiency target (for more detail on the respective benefits and drawbacks of the indicators and the PRIMES projections underlying the formulation of the EU energy efficiency target see Bergamaschi et al. 2014).

technological barriers” according to Annex 6, para. 3b of the Renewable Energy Directive (RED). Under the IEM Electricity Directive, NRAs need to report *inter alia* on network security and reliability, on the time it takes grid operators to connect generators as well as on electricity storage and contractual relations. Moreover, Art. 4 of the Electricity Directive stipulates that member states (or NRAs on their behalf) monitor the balance of power supply and demand on the national market – another overlap with the scenarios on future demand to be carried out for NREAPs and NEEAPs. It is to be expected that for the period 2020-2030 these overlaps will gain in importance, as renewable electricity provides a larger share of total electricity generation, is increasingly integrated into the market and provides ancillary services to the electricity grid.

- ▶ In addition, there is a relation – rather than a direct overlap – between member state and Commission reporting on state aid and all measures reported under EED, RED, ESD and MMR that count as horizontal aid according to EU competition rules. It is an interlinkage rather than a duplication since state aid reporting is focused almost exclusively on figures, as it aims at quantifying the economic advantage passed on in Euro per year per type of state aid (European Commission 2014c). These figures are not included in the policy-field specific plans.
- ▶ Under the current framework, direct overlap exists between P&R in the field of SoS and other plans and reports are relatively limited, although both energy efficiency and RES considerably contribute to improving security of supply. As described above, the existing planning for gas supply crises and EU monitoring of crude oil and petrol stocks aims only at improving preparedness for acute and sudden supply disruptions. A long-term strategy is missing. Looking forward, however, stronger interlinkages are likely to arise, in particular with respect to the planned legislation on security of electricity supply which will have to reflect the rising importance of variable renewable electricity. Also, the proposed resilience and diversification package for gas (European Commission 2015a: 19) should include energy efficiency measures (particularly of buildings) and RES as core elements. In this case, care should be taken that any potential new P&R requirement under this package is consistent with the 2030 targets and with the projections used for monitoring the implementation of the RES and energy efficiency targets. The new approach should also reflect all planned measures without duplicating existing planning processes. Any duplication with existing energy demand and supply projections as described above should be avoided.

Table 3: Overview of existing P&R regime under the 2020 climate and energy package and in the field of IEM and SoS

	Legal basis	Objective/ target	MS plan				MS report	EU report	Sectors	Technologies
			Name	Template	Projections	Measures				
GHG	ETS Dir. 2009/29	-20 %	No, only optional plans for Art. 10c	No	No	No	Yes, on auctioning rules	COM, annual	Power, industry, aviation	Fossils, planes
	ESD Dec. 406/2009		Yes, under MMR	No	Yes, under MMR	Yes, under MMR	Yes, under MMR	Under MMR	Buildings, agriculture transport	RES, heating, insulation, vehicles, husbandry, fertiliser
	MMR Reg. 525/2013		PAMs, 2-yearly	Yes	GHGs	Yes	NIRs, annual	COM to UNFCCC	All	All
			LDCS	No	No	Yes	Yes, 2-yearly	COM to UNFCCC	All	All
	LULUCF Dec. 529/2013	planned	NCs, 4-yearly and BRs, 2-yearly	Yes, non binding	Covered by PAMs	Yes	Combined w/ plan	COM w/ EEA, annual	All	All
			Planned actions, annual as of 2016	No	LULUCF removals and emissions	Yes	Yes	Optional, review in 2017	Forestry, agriculture	Land management
EE	EED Dir. 2012/27	-20%	NEEAPs, 3-yearly	Yes, non binding	Yes for indicator used for EE target	Yes	Yes, annual	Review 2014, reports on single art.	All	All energy using technologies
	EPBD Dir. 2010/31		Yes, Zero energy bldgs plans	No	No	Yes	Yes, can be in EED reports	COM, 3-yearly	Buildings	Heating, cooling, insulation
	Eco-design Dir. 2009/125		No	No	No	No	No	No, review in 2012	Households	Appliances
	Cars & Vans Reg. 333+253/2014	(95/ 147g CO ₂ /km)	No	No	No	No	No	COM, annual	Transport	Cars, vans
RES	RED Dir. 2009/28	20%	NREAP	Yes, binding	Final energy cons. /RES expansion	Yes	Yes, 2-yearly	Yes, 2-yearly	Power, bldgs, transport	RES-E, RES-H/C, RES-T, power grids
IEM	Interconnection EUCO 03/2002	10%	No	No	(TYNDP)	(PCIs)	NRA Monitoring, annual	COM Single Market Progress Report	Power, gas	Power grids, RES-E, fossils, nuclear
	Market Rules Dir. 2009/72+73 ACER Reg. 713/2009		No	No	No	No	NRA Monitoring, annual	COM Single Market Progress Report, ACER Monitoring Report, annual		
	REMIT Reg. 1227/2011	Complete IEM by 2014	No	No	No	No	(Market participants data)	ACER Monitoring Report, annual		
	ENTSO-E Reg. 714/19		TSOs provide national TYNDP	No	Scenarios on future generation	No	No	TYNDP by ENTSO-E, annual	Power	Power grids, RES-E, fossils, nuclear
	State Aid guidelines Com. 2014/C200/01 Reg. 794/2004		No	No	No	No	Yes, annual	COM synopsis ("Scoreboard"), annual	Energy sector, transport	All
SoS	SoS gas Reg. 994/2010	Ensure SoS	Emergency Plan, 2-yearly	No	Risk assessment	Yes	No separate reporting	COM Assessment, annual	Buildings, power	Gas grids, gas supply
	SoS electricity grids, Dir. 2009/72		No	No	Expected future demand & capacity	No	Yes, NRA or gvt. 2-yearly	No	Power	Electricity grids
	Crude oil/ petrol Dir. 2009/119		No	No	No	No	If stocks <30 day supplies	Reporting on stocks	COM data summary	Transport, buildings, chem. industry

Source: Ecologic Institute building on Duwe 2014 and O'Leary et al. 2014: 36. All targets are for 2020 unless stated otherwise.

4 Assessing options for streamlining planning and reporting requirements under the Energy Union framework

4.1 Options for the scope of future planning and reporting under the Energy Union and the 2030 energy and climate framework

The stocktaking exercise in section 3 gives a first impression of the number and diversity of the existing P&R requirements. When trying to define suitable options for merging requirements, overlaps and gaps in the existing system are one relevant indication. At the same time, the proposals for the period 2020-30 also have to take into account potential future changes in the scope of existing regulation and potential new additions to the regulatory landscape – despite the fact that these future changes are still uncertain at the time of writing. Based on the priorities mentioned in the Energy Union strategy potential future new elements could include (European Commission 2015a: 19-21):

- ▶ Legislation or non-legislative action on electricity market design, including the market integration of renewable energies, to be proposed in 2016 based on the results of the consultation process initiated by the Communication on energy market design in 2015 (European Commission 2015c),
- ▶ A resilience and diversification package for gas revising the existing Regulation on security of gas supply, to be proposed in 2015-2016,
- ▶ Legislation on SoS for electricity to be proposed in 2016,
- ▶ Strategy to facilitate investment in heating and cooling (no date specified),
- ▶ Road transport package (no date specified),

Based on these reflections and building on ideas developed in previous work, we propose the following streamlining options for assessment (see also Figure 2). It is important to reiterate that these options present different ways forward for reorganising the *content* of current P&R requirements. They do *not* imply judgements on appropriate ways to structure the underlying legislation or the burden sharing and pledging mechanisms.

- 1. Energy Union strategies:** Integration of the existing R&R for the full Energy Union portfolio into one plan and one report which would replace all existing P&R.

This option represents a maximum streamlining approach. It would - in theory at least - cater to the expectation of fully integrating P&R relevant for monitoring progress on the five dimensions of the Energy Union. It reflects the scope that the Commission chose for the country fiches and the proposed NCEPs which equally cover the five dimension of the Energy Union. However, if such an encompassing P&R process were to replace all or at least most the of the current plans and reports listed in Table 3, the level of detail would of course have to be dramatically higher than in the current version the country fiches.

- 2. Low-carbon strategies:** P&R based on the GHG target integrating existing P&R under ETS, ESD, MMR, RED, EED and in the field of LULUCF.

This second option would integrate all P&R requirements that exist under the current 2020 climate and energy legislation into one low-carbon strategy and a regular progress report which could then also include P&R related to LULUCF emissions. This option has been discussed by

various experts (Toporek 2015: 8; Meyer-Ohlendorf 2015: 16; O'Leary 2015: 31f.) and is also one of several options proposed to member states in an internal Commission document. However, it is important to note that the integration of P&R requirements into a common document would not imply the inclusion of LULUCF emissions and removals in the national GHG reduction targets to be agreed under a revised ESD. The very different nature of LULUCF emissions and removals compared to other emission sources points to the need to keep accounting separated. However, synergies might arise from thinking about abatement measures in a more integrated approach given that the concerned stakeholders and practices overlap significantly with those targeted for abatement measures in non-CO₂ agricultural emissions covered under the ESD.

The low-carbon strategies could be anchored in a revised MMR which already today brings together international P&R requirements under the UNFCCC and EU ones emanating from the ESD. Alternatively, a new governance directive or regulation could also be an option. P&R related to the completion of the IEM and energy security would remain separate. This option would address the identified gap in the current system: a missing strategic planning for achievement of the national ESD targets that integrates all relevant sectors at equal level of detail.

- 3. Sustainable energy strategies:** Integrating P&R currently under the EED and RED as well as potentially the P&R requirements of the Directive on the energy performance of building (EPBD), the Ecodesign Directive and the regulation on car and van emissions.

This third option would integrate energy-related P&R in the field of energy efficiency and RES expansion, while P&R related to the GHG target and LULUCF would remain separate. Just as in option 2, P&R related to the IEM and energy security would also be kept separate. This option reflects the shared data basis of RES and energy efficiency planning, in particular with respect to projections on future energy use with and without policy measures. Moreover, the synergies between efficiency measures and RES could be more clearly accounted for.

- 4. Sector-specific strategies:** Reorganising the existing P&R under the Energy Union into the following sector-specific plans and reports:
 - a) Low-carbon electricity strategies:** Integration of P&R in the realm of IEM completion, including the interconnection target, renewable electricity (RES-E), demand response (currently covered under the EED) as well as potential new P&R under electricity market legislation and legislation on security of electricity supply.
 - b) Low-carbon buildings strategy:** Integration of P&R related to EED and other energy efficiency regulation with P&R on renewables used for heating and cooling (RES-H/C).
 - c) Low-carbon transport strategy:** Integration of P&R related to renewables in transport (RES-T) with regulation on car and vans emissions as well as potential future P&R under the road transport package.
 - d) Sustainable industry and waste strategy:** Integration of P&R related to energy efficiency and GHG reduction measures in industry and waste sectors currently covered in the EED, ESD and – for the EU-level only – also under the ETS.

- e) **Sustainable agriculture and land-use strategy:** Integration of P&R related to energy efficiency and GHG reduction measures in agriculture, forestry and land use practices currently covered under the ESD, EED and the LULUCF decision.⁵

This fourth and last option is most the ambitious one with respect to the reorganisation it proposes compared to the existing regime. Rather than merging P&R along the delineation of existing policy instruments, it reorganises P&R by separating it according to the main sectors relevant of energy use and GHG emissions: electricity generation, buildings and transport, waste and industry and agriculture and land use. The main departure with the current system – and therefore the main challenge – would be the splitting of P&R on the 2030 targets on GHG reductions, RES and EE into sector-specific strands. Unlike options 2 and 3, however, this approach would aim at closer integration of the 2030 agenda with the completion of the IEM and long-term approaches to improving energy security. Planning for increasing renewable electricity built-up as well as grid and market integration of renewable electricity would be placed at the heart of the IEM completion and SoS considerations for the power sector.

For the purpose of the assessment the options defined above are treated as mutually exclusive approaches, so as to allow for teasing out the respective benefits and drawbacks of each, relatively extreme option. In reality, however, **combinations and variations of the options are of course possible and might even be preferable**. Pertinent examples of possible combinations are discussed in section 4.3.

It is assumed that in each option the existing plans would be replaced by one comprehensive new planning exercise followed up by one regular report mirroring the plan. The exception to this rule are documents that respond to the EU's international commitments under the UNFCCC. The analysis on the NREAPs has shown that plans outdate quickly when circumstances change. Their value for market participants seeking a reliable market outlook and investor security significantly decreases as an effect (Kampman et al. 2015: 21). It has been proposed to address this problem by requiring regular updates, e.g. every three years in line with the current requirement for NEEAPs (O'Leary 2015: 37) or by requiring partial updating of the plans in the progress reports whenever major deviations from the original plan occur (Kampman et al. 2015: 21). For the purpose of the assessment in this report, it is assumed that the plans under each option will be updated every 3-4 years and reports are issues annually or biannually.

⁵ As in option 2, this option does not imply that LULUCF emissions and removals would be included in national ESD targets.

Figure 2: Overview of assessed streamlining options

		MS plans	MS reports	COM reports
GHG	ETS	-	-	EU inventory
	PAMs		NIRs	EU PAMs
	MMR (incl. ESD)	LDCS	-	EU LDCS programme
			← NCs →	EU NCs
			← BRs →	EU BRs
	LULUCF	Planned actions	Report	Progress update
EE	EED	NEEAPs (incl. EPBD)	Report	Progress report
	EPBD	-	-	Progress report
	Ecodesign	-	-	Progress update
	H/C strategy	Planned action	Progress report	Progress update
	Cars & vans	-	-	Progress report
	Road transport package	Planned action	Progress report	Progress update
RES	RED	NREAP	RES-T RES-H/C RES-E	Progress report
				Progress report
IEM	Interconnection TYNDP	Planned action	Progress report	Single market progress report
	Market rules / REMIT	Planned action	NRA report	Acer monitoring
	State aid	-	Report	State aid synopsis
	Electricity market design	-	-	Progress update
SoS	SoS electricity	Planned action	Progress report	Progress update
	SoS gas	Emergency plans	Progress report	COM assessment
	SoS crude oil & petrol	Planned action	Progress report	Progress update
—	Option 1: Energy Union strategies	P&R requirements:		
—	Option 2: Low-carbon strategies	Existing P&R requirements		
—	Option 3: Sustainable energy strategies	<i>Potential new P&R requirements</i>		
- . - . - .	Option 4a: Low-carbon electricity strategies			
.....	Option 4b: Low-carbon buildings strategies			
- - - - -	Option 4c: Low-carbon transport strategies			
=====	Option 4d: Sust. industry & waste strategies			
=====	Option 4e: Sust. agriculture & land use strategies			

Source: Ecologic Institute.

4.2 Assessment of streamlining options

Based on the review of general requirements for an effective P&R regime presented in Table 1 the **most relevant objectives for streamlining** are to increase coherence and consistency and to reduce administrative burden without losing effectiveness, accountability and certainty for investors. In this respect, it is important to note that REFIT, a key driver of the EU streamlining agenda, aims first and foremost at ensuring effectiveness of EU policy – to be achieved at lowest cost possible and through simple and modern regulation (European Commission 2015b: 4). As described in the introduction and detailed in Table 1, the question if the governance framework is effective and ensures accountability and investor security crucially depends on additional policy choices that are independent of the scope chosen for P&R. The assessment presented here can therefore only cover these criteria to a limited extent and the results are more speculative than for the other criteria.

The following table presents the results of the multi-criteria analysis for the four options.

Table 4: Multi-criteria analysis of streamlining options

	Energy Union strategies	Low-carbon strategies	Sustainable energy strategies	Sector-specific strategies
Coherence	Theoretically +++	++	+	+++
Consistency	Theoretically +++	++	+	++
Admin. burden	+++	++	+	-
Practicability	---	++	++	+
Effectiveness	--	++	++	Potentially +++
Accountability	--	++	++	- / +
Investor security	--	+	++	++
Overall	--	++	+	++

Option 1: Energy Union strategies

The maximum streamlining would consist in replacing all existing P&R requirements by one single national Energy Union strategy and regular progress reports which could then feed into the Commission’s annual State of the Energy Union report. On the face of it, such an approach promises the highest level of coherence and consistency of all options, because all strands of climate and energy policy would be integrated and agreed jointly. Szulecki et al. (2015: 15) argue that in principle the national plans “would allow for a more coherent overview of how member states intend to fit the different elements together into a coherent whole”, while the Commission could then make member states “face their own contradictions”.

In practice, however, the coordination effort for governments risks to be enormous – even if the level of detail for each policy field were to be reduced compared to the current requirements. There is a serious risk that internal disagreement on single issues stalls adoption of the whole strategy, leading to more severe delays than those already experienced today. Alternatively, governments might adopt superficial documents limited to vague political declarations.

In any case it is to be expected that the required level of detail in such an encompassing strategy would have to be substantially lower than under the current regime – to fulfil the promise of simplification and reduced burden on administration, but more importantly to keep the process manageable. As a consequence, accountability for implementation of concrete measures would very likely be lower than under the current system. The European Commission would deprive itself of a crucial source of information on how and to what extent member states implement mandatory measures included in the current and future directives. Investor security would also suffer since market participants would receive less information on future policy measures and their impact on the relevant market segments. Politically, it might prove challenging for the Commission to propose a stringent review process for a P&R process that covers national energy and climate policy in its entirety rather than focusing on national contributions to targets agreed at EU level. This in turn could hamper the Commission's ability to follow up if member states' commitments do not add up to the ambition set at EU level. Overall, the approach is therefore likely to be less effective in achieving Energy Union objectives than the other options.

Since it is quite obvious from the ongoing political debate that the Commission and the Council are aiming for a more joint-up P&R mechanism, it appears promising to keep the idea of Energy Union strategies (or National Climate and Energy Plans), but conceive them as a high-level and concise document that builds on more detailed strategies as proposed in the next options (see also section 4.3).

Option 2: Low-carbon strategies

A maximum streamlining approach under the 2030 climate and energy framework would consist in merging all existing P&R for GHG mitigation, energy efficiency and RES under the roof of a revised ESD or MMR or under a new governance instrument. Member states would be required to draw up comprehensive low-carbon strategies that cover all sectors of the economy. A uniform baseline scenario could be used, thereby effectively address the identified duplications between the current GHG projections under the MMR and the energy demand projections in the NREAPs and NEEAPs as well as the duplication in listed policy measures. As a consequence, overall administrative burden would be reduced. Consistency e.g. in the methodology used for estimating GHG reductions of single measures that to date tends to be much less accurate and comparable than e.g. the tracking of past emissions (Falconer et al. 2012: 1) could be expected to increase – particularly if the European Commission concentrates all support and capacity building effort on this one P&R process. Another advantage would be that this option would bring together all P&R related to the climate and energy targets under the one target that remains binding on EU and national level in 2030: the GHG reduction target – thereby ensuring that the process receives the appropriate political attention at national level. This being said, the low-carbon strategies would of course have to include a distinct statement of member states' contributions to the EU level targets for EE and RES in addition to all other measures planned for reaching the national GHG reduction target. Also, a long-term orientation – even though far from a given – could be achieved easier than in other options since the objective of a 80 – 95 %

GHG reduction by 2050 is politically agreed in the EU and more concrete and measurable than the long-term objectives for any other dimension of the Energy Union strategy.

While coherence between energy-related measures and GHG reductions in other sectors and the reduction of other gases than only CO₂ could increase, the option would miss the opportunity to strengthen the growing number of interlinkages that exist between decarbonisation measures on the one hand and efforts to complete the IEM and improve energy security. With respect to investor security, the outcome will depend on the level of detail required in the new plans. It is clear that a planning tool responding to the overall ESD target alone will not suffice to address all relevant GHG mitigation potential. Complimentary policy measures and reporting on their national implementation will still be required (Roberts et al. 2015: 7).

Option 3: Sustainable Energy Strategies

Of all options assessed, the sustainable energy strategies merging P&R obligations currently enshrined in the EED and RED represents the least ambitious one in terms of streamlining. Consequently, the reduction in administrative burden can be expected to be lower than in the first two options and the increase in coherence and consistency is likely to be the lowest of all options. However, the option does offer parts of the coherence and consistency benefits mentioned in the assessment of option 2, in particular with respect to rationalising data needs. A concentration on sustainable energy alone could also allow drawing more attention to the synergies that exist between ambitious energy efficiency and RES policies, e.g. in the transport sector where a stronger focus on reduction of energy demand could reduce the pressure to scale up controversial production of first generation biofuels (Kampman et al. 2015: 20).

Option 4: Sector-specific strategies

The fourth option – a reorganisation of existing Energy Union P&R requirements into sector-specific strategies – has both the highest potential for effectively addressing the challenges of the more advanced stage of energy transition and, at the same time, considerable risk since it breaks most drastically with the existing P&R regime.

The potential for increasing coherence and consistency is highest in the **electricity sector**. According to the Commission's Impact Assessment for the 2030 framework the 27 % RES target is expected to result in a RES-E share of 49 % (European Commission 2014b), a large share of which will be provided from variable wind and solar energy. This number illustrates the step change that is currently taking place in the power system: From being a niche technology RES move on to become the central pillar of power generation in a span of only 15 years from today. The regulatory framework needs to accompany and enable this fundamental transition process. While RES promotion under the 2020 package focused on developing RES technology through support schemes, guaranteed dispatch and priority grid access alongside the more or less unchanged conventional system, the next phase of the process will have to transform the power generation, distribution and trading in its entirety. This is of course first and foremost a question of legislation and regulation at national and EU level. First steps are already being taken in national markets, within ENTSO-E and ACER, in regional initiatives and by the European Commission, most prominently through the initiative for a new energy market design (European Commission 2015c). For the purpose of this report, the question is what role a reorganisation of P&R requirements could play in supporting this process.

Based on various evaluations of the RED, it is clear that more proactive engagement with grid planning for RES expansion, i.e. a better integration between the type of planning carried out in the NREAPs and the Ten-year-network development plan (TYNDP), but also with planning of distribution grids, is a key priority when revising both RES and IEM legislation. Moreover, the way the grid is managed needs to respond to the different characteristics of variable and distributed RES by enabling flexibility, storage and smart grids (Kampman 2015: 29f., Knopf et al. 2015: 58, Boie et al. 2014: 182f., Wyns and Khatchadourian 2015: 12f., Egenhofer et al. 2015: 3). In this respect, cross-border connections are of key importance highlighting the links between the interconnection target, security of supply in the electricity sector and RES-E expansion. Wyns and Khatchadourian (2015: 27) therefore even propose to combine the RES and grid expansion target into one target and to complement it with a demand response objective. Finally, market integration of RES is another crucial challenge and a complete blindspot of the existing RED (Kampman et al. 2015: 30). The electricity strategies could take these issues up in an integrated approach that convenes all relevant actors. In the planning process, regional cooperation and consultation would be central, including the possibility of regional RES-E and interconnection targets (Umpfenbach et al. 2015, Gephardt et al. 2015).

The potential coherence and consistency gains are, however, not limited to the electricity sector alone. A **sustainable buildings strategy** that integrates P&R requirements on energy efficiency in buildings (including household appliances) with measures to support RES-H/C and makes them consistent with the scenarios used for the future resilience strategy for EU gas supplies could rationalise and focus the efforts for making buildings more sustainable. Limited success so far in integrating requirements for providing a share of overall heating and cooling demand from RES as mandated by the RED and the need to train building professionals (Kampman et al. 2015: 7, 23) could be addressed jointly with efforts to define and promote zero-carbon buildings (Braungart et al. 2014: 10), reducing duplications and administrative burden.

In the **transport sector** where renewable expansion has been fraught with controversy about the environmental impacts of first generation biofuels and low progress in developing cost-effective second generation biofuels (Kampman et al. 2015: 20), a sustainable transport strategy could allow to address mitigation potential in the sector in a more holistic fashion. It could redirect the attention towards options for reducing demand for energy use in transport, not only through improving vehicles' efficiency, but also through wider measures aiming at modal shift and behaviour change. A transport-sector strategy would also cover electric mobility. On this issue, it would overlap with the power sector strategy, particularly with respect to projections of future electricity demand.

For **industry, the waste sector, agriculture and land-use**, sector-specific strategies could have the advantage of drawing more attention to the specific energy efficiency gains and GHG abatement potential that remain to be tapped in these sectors, but are often neglected in discussions about economy-wide strategies where energy-focused measures tend to take centre stage. Moreover, agriculture and LULUCF measures target a similar (even though not identical) stakeholder group which may allow for synergies when addressed in joint process. The flipside of this opportunity is the risk that the political pressure (particularly from member states like Ireland and Denmark) to include LULUCF emissions and removals in the ESD budget would increase under such a scenario.

A **complete redesign of the existing P&R requirements** as proposed in option 4 thus appears promising in the way it proactively **reflects the needs of the energy transition's next phase**. Of all options, it is most suitable to integrate the new initiatives that the Commission is planning.

Notwithstanding this potential the option also has **significant risks**. Firstly, the P&R on the 2030 targets for GHG reductions, RES and EE would be scattered across sector-specific processes, potentially reducing accountability on member states' overall contribution to the collective EU targets. Moreover, such an approach would force administrations to reorganise processes quite substantially which at least initially is likely to increase administrative burden compared to a system that is based on continuity of existing formats. There is also a more fundamental challenge in merging the different governance approaches that have so far dominated the RES and the IEM regime. Different actors are involved with a stronger role for market participants, TSOs, regional groups and ACER in the current IEM governance approach. On the other hand, it is in any case inevitable that these actors give priority to RES integration and that environmental groups and RES stakeholders engage more closely with these institutions. Finally, the option raises the political and strategic question whether the P&R regime could be reorganised in this way while maintaining the existing laws and regulations underlying it.

These challenges highlight the potential added-value of combining the sector-specific strategies with a concise and high-level version of option 1 in a modular approach.

4.3 Possible combination of streamlining options

From the multi-criteria analysis option 2 (low-carbon strategies) and option 4 (sector-specific strategies) emerge as the most promising approaches. By contrast option 3 (sustainable energy strategies) misses most of the opportunities for improved coherence and option 1 (Energy Union strategies) in its extreme form of replacing all currently existing P&R requirements risks to be either impractical – if the current level of detail is kept – or ineffective.

A potential way for combining the respective benefits of the most promising options with the idea an overarching Energy Union P&R mechanism would be a **modular approach**. National governments would produce a high-level plan outlining their overarching vision for energy and climate policy – anchored in a long-term strategy for 2050 (see Sartor et al. forthcoming). Member States would state their planned contributions to the EU RES, EE and interconnection targets and other Energy Union objectives as well as list crucial ongoing and future measures at national and regional level. The plan would then form the basis for annual progress reporting which would also include data required for the set of accompanying key indicators.

The Commission and potentially also an independent expert group would **review** the documents, and both would issue a small set of high-level recommendations that should be discussed with energy ministers. In addition, affected Member States should also have the opportunity to comment. A core element of the Commission's review would be the aggregation of national quantitative targets to verify if contributions add up to the EU's collective targets. This review would provide the basis for a clear follow-up process if a gap arises. Depending on the rules and mechanisms agreed in the underlying legislation, the review process could be more light-touch on other Energy Union objectives that are not subject to binding targets. Based on this material, the Commission would draft its own annual State of the Energy Union report.

Yet, unlike in option 1, these high-level plans and reports would not replace the existing issue-specific documents. Rather, those would be streamlined into low-carbon strategies with separated P&R for IEM and SoS (as proposed in option 2) or sector-specific strategies (option 4) and would underpin the high-level documents with detailed data and information – like **chapters to a summary**. Thereby, the high-level document would have the additional function of ensuring overall consistency between the more detailed strategies.

5 Conclusions and policy recommendations

Going from the 2020 climate and energy package towards the 2030 targets, the EU can reap the fruits of its first comprehensive effort to initiate a low-carbon transformation, but it is also facing new challenges and increased complexity. The next stage of the transition towards full decarbonisation in 2050 requires more fundamental changes in the EU economy than the 2009 package. At the same time, consensus between member states on the best way forward is currently frail, particularly with respect to energy policy. Finding low-carbon ways to power our economy while improving energy security and maintaining competitiveness is the central challenge that the EU faces over the next decades. In an attempt to address this complex challenge, the Energy Union strategy defines five dimensions for action that fully encompass the 2030 climate and energy targets on GHG mitigation, improved energy efficiency and RES expansion. When now tackling legislation and other instruments to translate the objectives of the Energy Union strategy into concrete action, the EU member states and the Commission need to agree on an effective governance framework that can ensure implementation.

As a contribution to this searching process, this study has assessed **opportunities and risks of four different options for streamlining** the existing planning and reporting regime used to monitor progress towards Energy Union objectives. The multi-criteria analysis was based on overarching principles of good governance and on the expectations that member states and EU institutions have formulated for the new governance approach. The study's empirical foundation is an analysis of gaps, overlaps and inconsistencies in the existing P&R regime.

The **gap analysis** revealed that mid-term planning requirements are restricted to the RES and energy efficiency policy field and high-voltage grid planning through the TYNDP. Strategic forward-looking planning at national level is missing for the ESD and interconnection targets while a regional approach is dominant in the efforts for completing the IEM.

Overlaps and duplications exist between the P&R requirements under MMR, EED and RED with respect to listing of policy measures and in terms of baseline scenarios used. In addition to duplicating work, the last point also holds the risk of inconsistencies in approaches and data used. Overlaps also exist between requirements for NRAs to report on market rules, expected future demand, future capacity and grid reliability in the context of IEM legislation and the related requirements under the RED. As market and grid integration of RES progresses, these overlaps are poised to grow. Similarly, new duplications could arise if EU security of supply legislation is extended to address the long-term resilience of the electricity sector and gas supplies. Although the state aid guidelines for energy and environment play an increasingly central role in shaping RES policy in particular, no significant overlap between the respective reporting requirements could be detected.

Reflecting these results as well as evaluations of the existing system, the following options were assessed (treated as mutually exclusive for the purpose of a clear-cut assessment):

5. **Energy Union strategies:** Integration of the existing R&R for the full Energy Union portfolio into one plan and one report which would replace all existing P&R;
6. **Low-carbon strategies:** P&R based on the GHG target integrating existing P&R under ETS, ESD, MMR, RED, EED and in the field of LULUCF (while keeping IEM and SoS as separate reporting strands).
7. **Sustainable energy strategies:** Integrating P&R from the current EED and RED (while keeping GHG, IEM and SoS plans and reports separate).

8. **Sector-specific strategies:** Reorganising the existing P&R under the Energy Union into the following sector-specific plans and reports:
- a) **Low-carbon electricity strategies:** Integration of P&R in the realm of IEM completion, including the interconnection target, renewable electricity (RES-E), demand response (currently covered under the EED) as well as potential new P&R under electricity market legislation and legislation on security of electricity supply.
 - b) **Low-carbon buildings strategy:** Integration of P&R related to EED and other energy efficiency regulation with P&R on renewables used for heating and cooling (RES-H/C).
 - c) **Low-carbon transport strategy:** Integration of P&R related to renewables in transport (RES-T) with regulation on car and vans emissions as well as potential future P&R under the road transport package.
 - d) **Sustainable industry and waste strategy:** Integration of P&R related to energy efficiency and GHG reduction measures in industry and waste sectors currently covered in the EED, ESD and – for the EU-level only – also under the ETS.
 - e) **Sustainable agriculture and land-use strategy:** Integration of P&R related to energy efficiency and GHG reduction measures in agriculture, forestry and land use practices currently covered under the ESD, EED and the LULUCF decision.⁶

From the assessment, **option 2 (low-carbon strategies)** and **option 4 (sector-specific strategies)** emerge as the **most promising approaches**. By contrast, option 3 (sustainable energy strategies) misses most of the opportunities for improved coherence and option 1 (Energy Union strategies) risks to be either impractical – if the current level of detail is kept – or very superficial and therefore ineffective. Low-carbon strategies appear to be a promising approach for increasing coherence between the various P&R requirements developed under the 2020 climate and energy package while filling the gap of a strategic forward-planning exercise on climate change mitigation. This option's main drawback is that it would not reflect the increasing interlinkages with P&R under IEM and SoS legislation. The sector-specific strategies proposed under option 4 would deliver exactly this type of integration, thereby proactively addressing the challenges of the next phase in the EU energy transition. Due to that reason the option also appears most suitable for integrating the planned additional legislation and strategies, e.g. on energy market design and SoS in the electricity sector. The downside is the inherent risk that would come with such a drastic reorganisation of the existing P&R regime. At least initially, administrative burden is also likely to be higher than for the low-carbon strategies.

A potential way for combining the respective benefits of the most promising options with of the idea an overarching Energy Union reporting mechanism would be a **modular approach**. Thereby, national governments would produce a **high-level**, annual report on all five dimensions of the **Energy Union strategy** highlighting progress on the 2030 targets and key Energy Union

⁶ It is important to note that the integration of P&R requirements would not imply merged accounting of agriculture and LULUCF emissions or the inclusion of LULUCF emissions and removals in the national GHG reduction targets to be agreed under a revised ESD.

objectives as well as crucial policy measures at national and regional level. The Commission and potentially also an independent expert group would then review the reports and issue recommendations that should be discussed with energy ministers. A core element of the review by the Commission would be the aggregation of national quantitative targets to verify if contributions add up to the EU's collective targets. This review would provide the basis for a clear follow-up process if progress proves to be insufficient. Depending on the rules and mechanisms agreed in the underlying legislation, the review process could be more light-touch on other Energy Union objectives that are not subject to binding targets at EU level. Unlike in option 1, this report would however not replace the existing issue-specific plans and reports. Rather, those would be streamlined into low-carbon strategies with separated P&R for IEM and SoS (as proposed in option 2) or sector-specific strategies (option 4) and would underpin the high-level report with detailed data and information – **like chapters to a summary**.

No matter which solution the EU chooses for reorganising planning and reporting for 2020 to 2030, this study's findings highlight a set of improvements that could be implemented independently of the specific option choice:

- ▶ There is a clear case for **rationalising and unifying scenario building on expected future energy use and GHG emissions** to avoid duplication of effort and inconsistencies. At the same, transparency on assumptions and underlying data need to be improved. It remains to be seen to what extent the Commission's new reference scenario can help member states in this process.
- ▶ With the introduction of **strategic ex-ante planning** based on binding templates, the EU has created a valuable **governance innovation** in the 2020 climate and energy package. The Energy Union agenda presents the unique opportunity to apply this innovation – together with the lessons learnt – in other areas of energy policy, namely efforts to improve long-term energy security and to complete the IEM.
- ▶ One of the central challenges of the next phase of the low-carbon transition is to maintain and increase ambition on GHG emission abatements, energy efficiency improvements, and expansion of renewable. More fundamentally, however, the challenge is to reshape the energy system in particular so that energy efficiency and renewables become the organising principles of the system as a whole. For the P&R regime, this means that the **2030 targets need to move to the heart of all five dimensions of the Energy Union**. For this to happen, stakeholders in the environmental community and in RES and energy efficiency industries need to engage more proactively with the governance processes in the fields of IEM completion and energy security.

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