

POLICY BRIEF

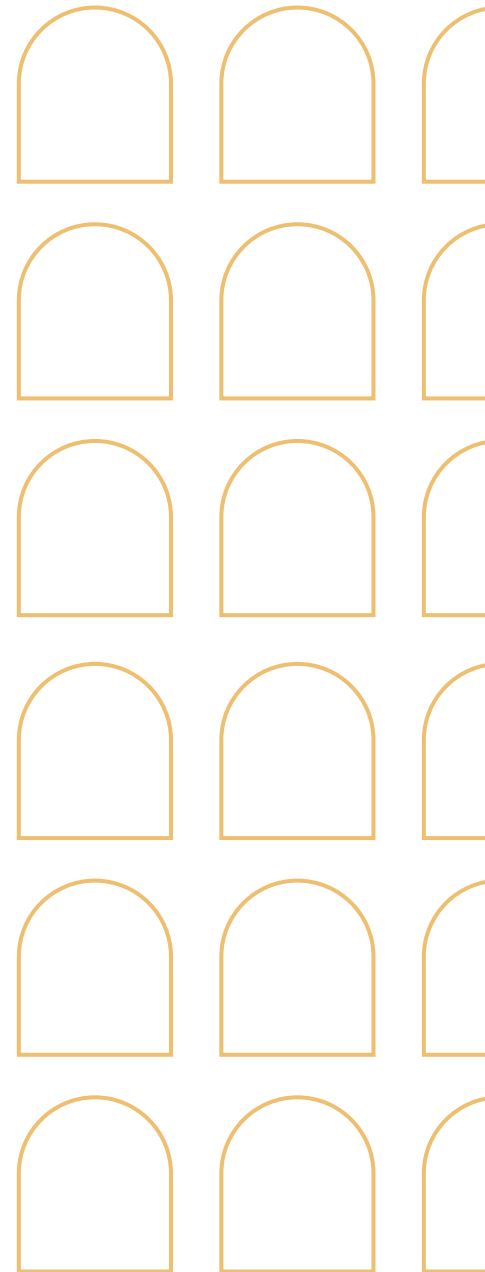
Energy policy ideas for the next European Commission: from targets to investments

Highlights

- Energy (and climate) will be high on the agenda of the next European Commission. EU citizens and industry expect a supply of energy that is affordable, secure, and sustainable. The National Energy and Climate Plans suggest that there is a widening gap between what Member States are willing to commit to at the national level, and what they think the European Union should achieve collectively for investments in energy efficiency and renewable energy. We run the same risk for the EU targets for clean tech manufacturing, and for critical raw materials extraction, processing and recycling.
- To address the gap, the next European Commission could: make Member States more accountable to live up to their national investment potential for energy efficiency and renewable energy; promote multilateral cooperation (and solidarity) among Member States for network infrastructure, resource adequacy and flexibility; strengthen the management of our global dependencies; and reinforce the EU institutional setup.
- Ideas to achieve these objectives include: an EU Energy and Climate Plan with investment progress tracking and recommendations for Member States; the modernization and Europeanization of capacity mechanisms; an upgraded European Resource Adequacy Assessment exercise beyond electricity and adequacy; a top-down EU networks vision; more EU funding and more powers for EU entities to allocate costs among Member States; more capacity building for national administrations; a reinforced ACER; a merger of the ENTSOs and ENNOH (and the EU DSO Entity) into a EU Energy Networks Entity; the creation of an EU Energy Agency (and an EU framework for national energy agencies).
- At FSR, we think these ideas merit a more thorough discussion, and we look forward to contributing to that discussion in the coming months.

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1. Introduction¹

Energy (and climate) will be high on the agenda of the next European Commission. EU citizens and industry expect a supply of energy that is affordable, sustainable, and secure. The EU Green Deal has translated the sustainability ambition into important targets for 2030 and 2050. Russia's invasion of Ukraine exposed the security risks of having one dominant natural gas supplier. The impact of high energy prices on households and industry during the crisis reminded us that we cannot have an affordable energy system if we do not address our security challenges. The increasing rivalry between the US and China has also focused our attention to the security issues we might face in the manufacturing of energy technologies, and the critical raw materials that are used in the energy supply chain.

The next European Commission will need to work on energy security. By integrating our energy markets and infrastructure across borders, we increase our resilience against shocks, but we also increase our interdependencies. We therefore need to avoid that Member States can voluntarily or involuntarily free-ride on our shared energy security at the expense of others. Member States have been able to agree on ambitious targets, and the regulatory instruments have been sharpened, but more is needed to live up to the ambitions. The National Energy and Climate Plans (NECPs) indeed suggest that there is a widening gap between what Member States are willing to commit to at national level, and what they think the EU should achieve collectively for investment in energy efficiency and renewable energy. We run the same risk for the investment in clean tech manufacturing, and for critical raw materials extraction, processing and recycling.

To address the gap, the next European Commission could: 1/ make Member States more accountable to live up to their national investment potential for energy efficiency and renewable energy; 2/ promote multilateral cooperation (and solidarity) among Member States for network infrastructure and resource adequacy; 3/ strengthen the management of our global dependencies; 4/ reinforce the EU institutional setup. In this brief, we will introduce the current approach for each of these topics, the possible issues with this approach, and our main ideas for new or improved instruments to handle them.

2. Make Member States more accountable to live up to their national investment potential for energy efficiency and renewable energy

Current approach?

In the NECPs, Member States translate the EU targets into national pledges for decarbonization. The plans include chapters on greenhouse gas emissions, renewable energy, energy efficiency, energy security, internal energy market, and research, innovation and competitiveness. There is a process to check if these national pledges are sufficiently ambitious to reach the EU targets, and Member States also submit annual and biennial progress reports to the European Commission.²

Possible issues with the current approach?

In 2019, when the first versions of the NECPs were submitted, they fell short of reaching the EU targets for 2030.³ In 2023, the NECPs had to be updated, and the gap between the EU targets and the

1 We thankfully acknowledge the feedback received during the process of developing these ideas. A brainstorm took place at the meeting of the FSR Policy Advisory Council in June 2023. In October 2023, we also discussed an advanced draft of this brief in an FSR workshop, and in a meeting with senior FSR experts.

2 For a more detailed discussion of the current approach, see: Hancher, L., 2022. EU energy governance—moving targets and flexible ambitions between opacity and opportunism? *Yearbook of European Law*, Volume 41, 2022. & Bureau, D., Glachant, JM, Schubert, K., 2023. The reform of the European electricity market: a triple challenge. *Les notes du conseil d'analyse économique*, no 76.

3 According to the Commission assessment of initial draft plans in 2019, the energy efficiency, renewable energy, and non-ETS greenhouse gas reductions, were not collectively met (see <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:%3A52019DC0285>). The final revised plans did meet (and slightly exceed) the renewable energy and non-ETS targets (at the level they were then), but still fell short of the energy efficiency target (see <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1600339518571&uri=COM:2020:564:FIN>)

willingness to act at the national level is widening.⁴ The widening is largely due to the fact that Member States (under the Fit-for-55 Package) have agreed to more ambitious targets at the EU level for 2030, but Member States have not yet translated that commitment into increased ambition at the national level.

Between 2010 and 2020, carbon prices in the EU Emission Trading Scheme (EU ETS) were relatively low, which was partly due to the strong push for renewable energy in combination with a relatively low-ambition decarbonization target (and free allowances).⁵ Looking forward, we seem to be in the opposite situation. We have more ambitious greenhouse gas emission reduction targets for 2030 and 2050, while we have a relatively weaker EU regulatory framework for investments in renewable energy and energy efficiency. If this were to result in unsustainably high carbon prices with interventions in carbon markets (as we have recently experienced in energy markets), this could undermine investors' confidence.

Investments in energy efficiency and renewable energy should not be a topic that divides us. Besides being a crucial pillar for reaching our sustainability goals, they can also help us achieve our energy security objectives (by reducing the dependency on imported fossil fuels) and affordability objectives (with self-consumption and a reduction of consumption).

Main ideas for new or improved instruments?

An excellent feature of the binding national targets for renewable energy for 2020 was the burden sharing approach. Countries that were richer in renewable energy and/or economic resources

agreed to contribute more to reaching the EU target. We do not have a national burden sharing for the EU 2030 targets for energy efficiency and renewable energy, but we could still make Member States accountable to live up to their investment potential.

If we then look at the instruments we have, there is a need to improve certain instruments, and there is also a case for new instruments:

- An EU Energy and Climate Plan with investment progress tracking⁶ and recommendations for Member States. It can help counter the fragmented reporting we currently have, and the recommendations can also promote cross-border cooperation. Besides the EU Governance Regulation with the NECPs, reporting is also foreseen in the Renewable Energy Directive, Energy Efficiency Directive, Energy Performance in Buildings Directive, etc. Progress could be captured in key performance indicators and investment statistics. This effort can also be extended to the decarbonization and/or electrification of industry, heat, and transport sectors. The plan can also be used to guide EU funding.
- Existing EU funding for Member States, such as the EU Regional Development Fund, the EU Cohesion Fund, or the NextGenerationEU instrument, could be (partly) redirected towards renewable energy and energy efficiency investment⁷. Future EU funding for Member States could also be made conditional upon reaching their potential for renewable energy and energy efficiency. More guidance could be given to Member States to identify decarbonization priorities at country level.

4 European Court of Auditors, 2023. Special report on the EU climate and energy targets: 2020 targets achieved, but little indication that actions to reach the 2030 targets will be sufficient. & Bank Watch, 2023. National energy and climate plans: catalyst for the energy transition or box-ticking exercises?

5 See for instance: Marcantonini, C., Ellerman, D., 2015. The Implicit Carbon Price of Renewable Energy Incentives in Germany. *The Energy Journal* 36(4), pp. 205-239. & Roach, M., Meeus, L., 2023. An energy system model to study the impact of combining carbon pricing with direct support for renewable gases. *Ecological Economics*, volume 210, pages 107855.

6 To check if Member State investments constitute a "fair share", we can use of the formulas that have been included in the annexes of the relevant legislation (e.g. formula for renewable energy in annex 2 of the Energy Union Governance Regulation, formula for energy efficiency in annex 1 of the Energy Efficiency Directive in conjunction with art 4(4)). The experience with the Energy Union indicators webtool can also be leveraged.

7 There are already precedents: 30% of EU Budget 2021-2027 must be spent to fight climate change. https://climate.ec.europa.eu/eu-action/funding-climate-action/supporting-climate-action-through-eu-budget_en; 37% of the money that Member States Receive from the Recovery and Resilience Facility must contribute to climate objectives https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/green.html.

- A dedicated EU fund could be set up to directly finance projects in Member States that have an abundance of renewable energy resources, but lack the public budgets to support the investments. Member States that have the economic strength, but do not have the renewable energy resources, or do not live up to their investment potential at the national level, could be expected to contribute to the fund. This is already possible, but we could make it mandatory⁸.

3. Promote multilateral cooperation and solidarity among Member States for network infrastructure, resource adequacy and flexibility

Current approach?

The NECPs inform the national transmission and subnational distribution network plans. Via the Ten-Year Network Development Plans (TYNDPs) for gas and for electricity, there is an EU consistency check for the national plans. The Trans-European Networks for Energy (TEN-E) Regulation includes several instruments to identify and support Projects of Common Interest.⁹ There is also a European Resource Adequacy Assessment (ERAA) that monitors the need for investments in electricity generation, storage, and demand response. The ongoing electricity market reform also refers to a Flexibility Needs Assessment. There are also processes in place to encourage solidarity and stress testing, like the Risk Preparedness Regulation for electricity, and the Gas Security of Supply Regulation. During the crisis, emergency measures were also introduced at EU level, such as gas saving targets, and gas storage filling obligations.

8 We could build on the experience with: statistical transfers and the EU renewable energy financing mechanism, which is a voluntary scheme (article 33 of the Energy Union Governance Regulation); and on the European Renewable Energy Auction Scheme that was proposed by the European Parliament in the Electricity Market Reform process.

9 For a more detailed discussion, see: Schittekatte, T., Pototschnig, A., Meeus, L., Jamsab, T., Llorca, M., 2021. Making TEN-E Regulation Compatible with the Green Deal: Eligibility, Selection, and Cost Allocation for PCIs. *Energy Policy*, 156, 112426.

10 E.g. IEA and ENTSO-E statistics show that it can take 10 years or more to develop a new transmission line, while the development time for renewable technologies, such as solar and wind, is much shorter.

11 Meeus, L., Battle, C., Glachant, JM., Hancher, L., Pototschnig, A., Ranci, P., Schittekatte, T., 2022. The 5th EU electricity market reform: a renewable jackpot for all Europeans package? FSR Policy brief. & Meeus, L., 2023. Electricity market reform: what is (not) in the European Commission proposal. FSR Policy Brief.

Possible issues with the current approach?

Coming out of this crisis, we are in a new context. The promise that governments will not intervene in markets when prices go up has been broken. We need to restore investors' confidence. Investing in networks is also increasingly challenging.¹⁰ If we are not proactive in expanding networks and using existing networks better, they will become the bottleneck for the energy transition. Regulators are good at scrutinizing network investments and costs within a given policy framework. But, the framework or the mandate under which they have to make their decisions is not clear due to the gap between the EU and national ambitions.

Main ideas for new or improved instruments?

If we then look at the instruments we have, there is a need to improve some of them, and there is also a case for new instruments:

- Modernization and Europeanization of capacity mechanisms. These mechanisms are associated with the willingness of some Member States to use security as an argument to keep dirty old power plants into operation. As argued in previous briefs¹¹, they can however play an important role by de-risking consumers as well as investors. By modernizing them, we can make sure that they promote solutions that are compatible with our net-zero ambitions and that go beyond the electricity sector. Europeanizing them is to ensure coordination between Member States. Depending on their stance towards technologies like nuclear and carbon capture and storage, Member States might rely on different technologies to reach an adequate and flexible energy system, but they should all contribute to the security of the system.

- Upgraded European Resource Adequacy Assessment. This assessment could evolve into a multi-vector security assessment beyond electricity, and beyond adequacy to include all system needs. The focus of this assessment could be to make sure that each Member State contributes to a secure energy system in Europe. It can help to identify systemic risks, like the dependency of Russian gas.
- EU networks vision and new instruments for network cost allocation. The TYNDPs and TEN-E Regulation have served us well when it was relatively easy to discuss the costs and benefits of individual projects, and how to allocate them. Future network investments in offshore networks, a hydrogen backbone, seasonal storage, and carbon capture and storage infrastructure are more complex.¹² The technology costs are more uncertain. The interdependencies between projects are stronger, we need more multilateral cooperation and solidarity. We could complement the bottom-up TYNDP network planning exercise, with a top down EU networks vision exercise based on a robust needs assessment. We could also evolve from cross-border cost allocation decisions for individual projects towards the approval of a regional portfolio of projects. If a group of countries benefits, but it is complex to identify who benefits the most, a regional (or EU) tariff component could be considered to socialize some of the costs.

4. Strengthen the management of our global dependencies

Current approach?

The Net Zero Industry Act (NZIA) and the Critical Raw Material Act (CRM Act) are both new instruments in an emerging policy domain. Both acts have been proposed in March by the European Commission, so they can still change after negotiations between the European Parliament and the Council of the EU.

¹² Kneebone, J. T., Piebalgs, A., 2023. Are pipelines and ships an 'either or' decision for Europe's hydrogen economy? FSR Policy Brief. & Jones, C., Piebalgs, A., 2022. The role of CCUS on the EU road to climate neutrality, FSR Policy Brief. & Meeus, L., 2015. Offshore grids for renewables: do we need a particular regulatory framework. Economics of Energy & Environmental Policy, IAEE 4(1).

¹³ For an overview of the situation in the Europe and the rest of the world, see for instance: JRC, 2023. Supply chain analysis and material demand forecast in strategic technologies and sectors in the EU. A foresight study. & IRENA, 2021. Critical materials for the energy transition. Technical report. & IEA, 2023. Critical Minerals Market Review.

The NZIA includes measures to keep and develop a European clean tech industry, with a target to manufacture 40% of the EU's clean tech needs in Europe.

The CRM Act will lead to an action plan with the identification and streamlining of strategic projects that can reduce our global dependencies. The ambition is to restart mining (by 2030 at least 10% of the annual EU's CRM consumption is to be extracted locally) and increase processing (by 2030 at least 40% of the annual EU's CRM consumption will be produced locally), and recycling (by 2030 at least 15% of the annual EU's CRM consumption will be recycled locally) in the EU. By recycling, we combine our sustainability objectives with security of supply objectives.

Note that these percentages apply to the 16 CRM (out of a total of 36 CRM) that are considered to be of particular strategic importance for the twin transition (energy and digital). Note also that we refer to them as targets in this Brief, but they are benchmarks rather than binding EU targets.

Possible issues with the current approach?

The EU paid a high price for its dependency on Russian gas imports, which put the topic of global dependencies higher on the agenda. The NZIA and the CRM Act include EU targets, but this has not yet been translated into national targets. We do not know how realistic these targets are for the different technologies or materials that are targeted. For some, the target might be relatively easy to achieve, while for others it might be too difficult. The risks we are exposed to can be very different depending on the concerned CRM, assessing this properly will require a lot of detailed technical knowledge.

China has issued its 14th Five-Year Plan (2021–2025) for National Economic and Social Development, and it has included critical raw materials in it. In comparison with China, the EU is starting relatively late.¹³ The US Inflation Reduction Act (IRA) provides more funding than the EU NZIA according to some observers, but this is also disputed, more

analysis is needed.¹⁴ Note finally that the EU NZIA was introduced towards the end of the mandate of the current European Commission within the constraints of the Multiannual Financial Framework (MFF) 2021-2027.¹⁵

Main ideas for new or improved instruments?

If we then look at the instruments we have, there is a need to improve certain measures, and there is also a case for new instruments:

- When the discussions for the next MFF start, it will be important to assess to what extent Member States collectively want to invest in industrial policy and CRM. Do we want this to be our apollo program?
- Compulsory origin labelling or marking could engage customers to be part of the solution.
- As discussed in the next section, maybe we need specialized agencies at the national and at the EU level, to track and manage our global dependencies. Similar to the situation with the NECPs, the NZIA and CRM include ambitious union-wide targets that Member States agreed to collectively, but there is a high risk that we will not get there with the national willingness to act.

5. Reinforce the EU institutional setup¹⁶

Current approach?

During the last energy crisis, European energy markets acted as an automatic solidarity mechanism bringing energy to where it was most needed. In a renewable-based system with an increasing number of decentralized energy resources, markets are the best guide to decide when to use certain assets, when to consume energy, and how to trade across borders, etc. The continued development and integration of our energy markets will therefore remain a focus area for the EU energy policy.

Regarding the issues that we discussed in this brief, the current approach is the following: the NECPs are handled and updated by Member States, and are assessed by the European Commission. The ERAA is conducted by ENTSO-E with supervision by ACER. The TYNDP process is led by the ENTOSOs with supervision by ACER. Distribution network planning is done by DSOs with supervision of their national regulatory authorities and with a more limited involvement of the EU DSO Entity. The coordination between the EU and the national level will be organized via a “European net zero platform” for the NZIA and via a “European Critical Raw Materials Board” for the CRM Act. Other relevant entities, include the European Scientific Advisory Board on Climate Change, the European Environment Agency, the European Climate Infrastructure and Environment Executive Agency, etc.

Possible issues with the current approach?

There is a fragmentation of reporting efforts across different legislative files, and national administrations are struggling with the NECPs. The European Commission has limited resources to track progress, and limited powers to intervene if the national willingness to act is insufficient. During the last energy crisis, we also struggled to get timely and strategic information. We often referred to the International Energy Agency for information and advice.

The ERAA exercise is focused on electricity, it has not been setup to look at the interdependencies across energy vectors. ENTSO-E and ENTSO-G already develop joint scenarios for the TYNDP, but they clearly see the future differently, respectively defending the interests of electricity and gas network companies. The EU DSO Entity is relatively new, so it is unclear how the planning efforts of DSOs will be coordinated with TSOs. A new entity will also be setup for hydrogen (ENNOH). The ENTOSOs and EU DSO Entity are not always neutral when looking at the tradeoffs between network solutions or non-network solutions for future challenges.

14 Kleimann, D., Poitiers, N., Sapir, A., Tagliapietra, S., Véron, N., Veugelers, R., Zettelmeyer, J., 2023. How Europe should answer the US Inflation Reduction Act', Bruegel Policy Contribution.

15 Jones, C., 2023. The net-zero industry act and the reform of the Green Deal State aid rules: A convincing reaction to the Inflation Reduction Act? FSR Policy Brief.

16 Dealing with third-countries in the European setup (UK, Switzerland..) is also an important issue that should not be forgotten, but it goes beyond the scope of this brief.

It remains to be seen whom Member States will appoint as competent authorities for the issues related to the EU CRM Act and the EU NZIA, and to what extent these authorities will have the necessary resources and power to act in this domain.

Main ideas for new or improved entities?

- More organized capacity building for national administrations is an obvious priority. They all face the same challenges, need more support, and will also benefit from exchanging experiences. DG Reform can play a critical role with flagship projects to build administrative capacity and prepare the next generation of civil servants in the European Union.
- The Joint Research Centre of the European Commission can also play a role in supporting Member States with their reporting requirements, for instance, by providing the necessary modelling tools and resources to run these energy models.
- Stronger energy system analysis competences and resources for ACER could help to improve the technology neutrality of the TYNDPs and ERAA. ACER can also support the cross-border cost allocation decisions for portfolios of network projects. A merger of the ENTSOs, ENNOH, and the EU DSO Entity into one EU Energy Networks entity could also be considered. If that EU Networks entity could be made more independent of its members, it would also reduce the bias between network and non-network solutions in energy system analysis and network planning. The alternative is to give a bigger role to a reinforced ACER (and/or the EU Energy Agency) for the development of an EU networks vision. An EU Energy Agency could also play a role in the developing the scenarios and assumptions that are a starting point of such an exercise.
- The creation of an EU Energy Agency should be considered.¹⁷ It could be responsible for the EU Energy and Climate Plan with investment

progress tracking and recommendations for Member States. Tracking progress could be for the targets in the scope of the NECPs, but could also include the targets of the NZIA and CRM Act. Many countries already have national energy agencies that support their national administration with information, policy assessments and recommendations, but the scope of their mandate varies a lot.¹⁸ An EU framework for national energy agencies and their role at the EU level via an EU Energy Agency could help the European Commission and national administrations with some of their more technical tasks. An EU Energy Agency could reinforce the governance of the NECPs, and could replace the “European net zero platform” and the “European Critical Raw Materials Board” that are referred to in the NZIA and CRM Act. It can also support policy makers with strategic information, assessments, and advice during a crisis. To avoid the creation of a new agency, this set of tasks could also be assigned to an existing agency, which could be ACER.¹⁹ The Board of Regulators could continue to oversee the regulatory tasks of ACER, and a new board of national energy agencies could be setup for the new tasks. The new tasks could also be without board oversight, which is already possible in the governance of ACER.

- It is also essential that we make sure that existing entities or new entities that we might create are properly resourced to execute the powers they have, which is not always the case. Reducing the total number of entities can also help simplify the governance framework.

17 This idea was first proposed to address the information problem we experienced during the last crisis: Tagliapietra, S., Zachmann, G., 2023. Green transition: create a European energy agency. Nature journal.

18 The European Energy Network is a voluntary association of national energy agencies (see <https://enr-network.org>). In addition to these national agencies, there are also energy agencies that work at a subnational or local level where they help with the implementation of projects, and provide advice to citizens and businesses.

19 There are already many agencies, and it would take long to setup a new agency, which are important arguments to consider adding these tasks to an existing agency. We intend to do follow-up work on the different options and their pros and cons.

6. Conclusions

In what follows, we highlight the main ideas, and reflect on the tricky question of governance.

Main ideas

- An EU Energy and Climate Plan with investment progress tracking and recommendations for Member States. They have to be made accountable for investments that are needed to reach our EU targets in renewable energy, energy efficiency, clean tech manufacturing, and critical raw materials.
- Complement the bottom-up processes of the TYNDP and TEN-E Regulation with a top-down EU networks vision. Upgrade the ERAA exercise beyond electricity and beyond adequacy. Europeanize and modernize capacity mechanisms.
- More EU funding and more powers for EU entities to allocate costs among Member States. This applies to the investment costs for renewable energy and energy efficiency, as well as, the costs for networks, and the resource adequacy and flexibility of the EU energy system. The negotiation for the next Multiannual Financial Framework is also the moment to discuss the level of ambition we want to have for collective investments in an affordable, secure and sustainable energy system. Do we want this to be our industrial policy apollo program?

Reflection on governance

- More organized capacity building for national administrations is an obvious priority with a critical role for DG Reform of the European Commission.
- Reinforcing ACER, merging the ENTSOs and ENNOH (and the EU DSO Entity), and the creation of an EU Energy Agency (with an EU framework for national energy agencies) deserve to be discussed.
- Reducing the number of entities can also help to simplify and strengthen the governance framework.

The Florence School of Regulation

The Florence School of Regulation (FSR) was founded in 2004 as a partnership between the Council of the European Energy Regulators (CEER) and the European University Institute (EUI), and it works closely with the European Commission. The Florence School of Regulation, dealing with the main network industries, has developed a strong core of general regulatory topics and concepts as well as inter-sectoral discussion of regulatory practices and policies.

Complete information on our activities can be found online at: fsr.eui.eu

Robert Schuman Centre for Advanced Studies

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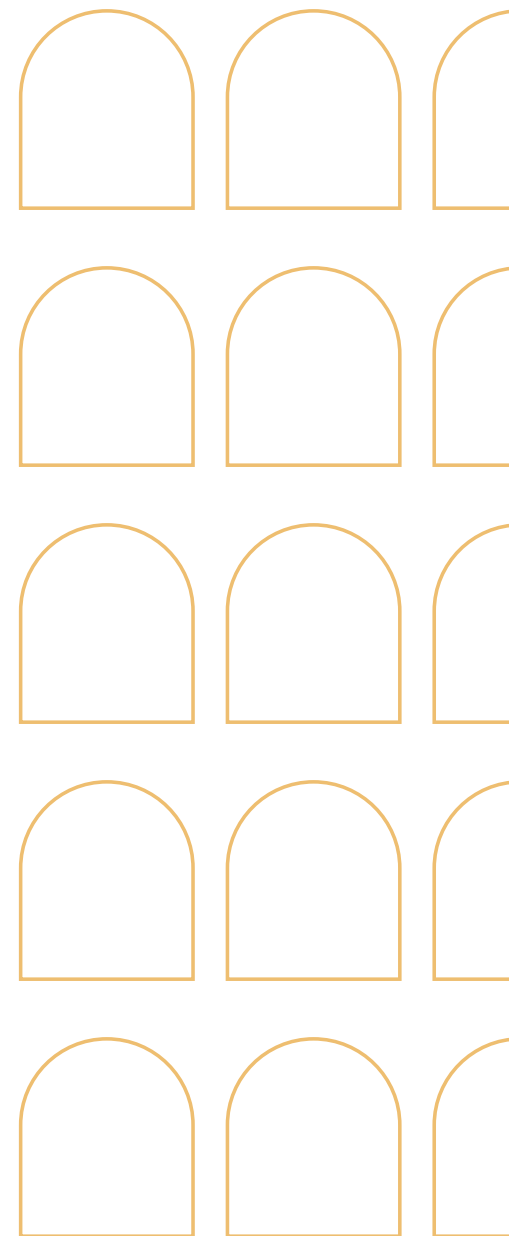
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