

# ISGAN Regulatory Sandbox 2.0 Project

## Policy Messages to the Clean Energy Ministerial

May 2021

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# Role of Regulatory Experimenting for Climate and Energy Policy

## Introduction

Innovation is among the most important levers to successfully cope with the challenges of climate and energy policy. Therefore, it is important to complement conventional approaches of piloting technological solutions and to make sure that regulation facilitates innovation. Innovative solutions like Smart Grids can entail higher risks that not all regulatory frameworks recognize. In several countries, regulators have put in place regulatory mechanisms to support innovation, both in demonstration and in deployment (roll-out) stages. Regulatory experiments can be a useful additional tool for testing innovative Smart Grid solutions under future regulatory framework conditions.

Thus, Regulatory Experimenting offers an effective measure to enable innovation and pathway discovery for all of the actors involved in realizing an inclusive and sustainable energy future.

## What are Regulatory Experiments?

Broadly speaking, regulatory experiments can be defined as a means to deliberately deviate from the current regulatory framework to try out new or different rules in a real-world setting. General characteristics are: the key role of public regulations, the involvement of government actors and/or regulatory bodies (national level or also local level in some countries), and the generation of learning processes.

There are regulatory experiments that provide a framework for socio-technical experiments, i.e. experiments with new technologies, business cases or social innovations. There are also regulatory experiments where regulation itself is the main object of experimentation and learning.

When speaking of “regulation” and “regulatory experiments”, we mean the whole range of public policy instruments, procedures and organizational structures.

Regulatory experiments can be found in a range of sectors around the world<sup>1</sup>.

Experiments rooted in the real world enable policy learning and innovation with an eye on social and economic benefits of Smart Grids for individuals, communities and for all stakeholders in society.

Given the relationship between legislation, policy making and regulation, Regulatory Experimenting requires strong leadership from policy makers in order for it to be effective and for the experiments to potentially result in any lasting change. When considering the role of

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<sup>1</sup> How to design and evaluate Regulatory Experiments? A guide for Public Administrations. March 2021, [https://reragi.files.wordpress.com/2019/04/regulatory\\_experiments-guide\\_for\\_public\\_administrations.pdf](https://reragi.files.wordpress.com/2019/04/regulatory_experiments-guide_for_public_administrations.pdf).

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regulation within clean energy transitions, the same principle holds true. Regulatory processes can bring clarity by interpreting policy; importantly they can inform policy, but they do not create policy. Thus, the capacity to orchestrate new and incumbent players, as well as interest groups and stakeholders will rely on policy-making processes to provide alignment for the various stakeholder efforts toward new directions or targets if required. That said, regulators can play an important complementary role in making the processes of informing policy more accessible or inclusive to various stakeholder groups. This description of the relationship between policy and regulation relevant to the energy transition was validated across countries during a recent ISGAN workshop series.

The relationship between policy-making and regulatory processes is not always so productive however, and it became clear in the discussion that regulatory bodies, which in some cases have already started to support innovation, still need to be empowered in many cases, by a more active role in innovation as well as policy learning and development. A vision emerged from the ISGAN workshop series wherein productive relationships between regulators and policy-makers, each leveraging the capabilities and tools offered by the other, can accelerate electricity sector modernization and transition, leverage greater societal value offered by Smart Grid capabilities, and enable the broader energy sector transformations, in particular with respect to decarbonizing heat and transportation. The following policy messages describe the nature of regulatory experimentation more specifically to the clean energy transition and Smart Grid adoption as reported by participating countries.

## Four Policy Messages

Building on the first initiative on Experimental Sandboxes (2019), ISGAN has organized a follow-up project (2021) with a series of interactive knowledge transfer workshops and accompanying activities on maximizing policy-learning from Regulatory Experimenting programs or initiatives.

Three international workshops and several interlinked workshops at national level have focused on questions regarding relevant actors, the orchestration of actors, the role of transformation strategies, effective policy learning processes and legal prerequisites for Regulatory Experimenting.<sup>2</sup>

During the course of the project, it became clear that a broader view on experimenting helps to position national initiatives without losing focus on how to maximize learning from these. Therefore, the concept of Regulatory Experimenting was adopted, which contains a wide range of tools for supporting innovation.

The following messages were formulated by the ISGAN Project Team and the transdisciplinary group of participants in the workshops, with the intention to bring it to the attention of the Clean Energy Ministerial. Four policy messages are of high relevance for CEM 12.

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<sup>2</sup> For more background about the project, see page 7.

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**Message #1: There is no *one-size-fits-all* model for experimenting; policy makers, together with regulatory bodies, can deploy different types of experiments to suit their needs.**

- There is no off-the-shelf model for experimenting, but rather a toolbox of different experiment types. This can be further refined, based on the best practice already available.
- At one end of the spectrum are sandbox programs and sandbox support services that help innovators to deliver their trials and bring to market new products, services, methodologies and business models. Sandbox programs may have different objectives e.g. emphasizing more innovation than regulatory aspects. Policy learning is important, but its role depends on the goal of the program. Policy learning tends to be less formal, with less accountability to the results of the experiments themselves.
- At the other end of the spectrum are regulatory experiments that are specifically designed to explore new solutions for evolving regulatory frameworks in a consistent manner with system transformation. Policy learning is a key driver of the experiment, with greater accountability to the results of the experiments.

**Message #2: Regulatory experiments are about learning and are particularly strong if they are not stand-alone, but aligned with a broader transition strategy.**

- Experimenting for accelerating the energy transition needs to be aligned to a transformational strategy and a long-term vision for meeting net-zero commitments if it is to be an effective contributor for change. A vision of a future energy system, a strategic mission as well as a clear agenda (roadmap) and competences should build the basis for designing innovation programs that support regulatory experiments.
- In order to maximize learning from the experiment, experimental design is key<sup>3</sup>.
- It should be taken into account which regulatory barriers market participants encounter. However, any regulatory option that is tested in an experiment should also be linked to a vision of the overall system. The regulatory experiment should be designed and evaluated to learn about the effectiveness and efficiency of regulatory options.
- Without such a clear vision, just introducing regulatory exemptions makes it difficult to learn from the experiment for future regulation.
- Considering policy learning as the main aim of regulatory experiments, alternative regulatory options should ideally be tested. With such an aim in mind, introducing exemptions only on request of innovators, who might not be interested in the benefits of

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<sup>3</sup> See the guide for public administrations:  
[https://reragi.files.wordpress.com/2019/04/regulatory\\_experiments-guide\\_for\\_public\\_administrations.pdf](https://reragi.files.wordpress.com/2019/04/regulatory_experiments-guide_for_public_administrations.pdf).

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testing alternative regulatory options for the future energy system, would reduce the potential learning effects.

- Therefore, alternative regulatory options should be tested, rather than just introducing exemptions on request of innovators only.
- Moreover, it is important to consider the impact of the experiment if scaled up to the national scale and in future scenarios.

### **Message #3: Regulatory experiments are all the more powerful, the more a broad range of actors get involved as well as orchestrated.**

- Stakeholder involvement and orchestration needs to be explicitly organized.
- Policy makers with a clear mandate always play a key role. Clearly defined roles for national governments, sub-national governments and regulators are needed. The range of competences of national administrations varies significantly (e.g. market regulation competences in larger countries are in the responsibilities of states/provinces/territories).
- Different stakeholders should be involved in the experiments, and program owners and engaged regulatory authorities are encouraged to extend the dialogue to other stakeholders than regulated companies. It is recommended to also include stakeholders that are not considered as incumbent actors and stakeholders, e.g. energy communities, cities, and actors from other sectors such as the mobility sector.
- Experimenting is meaningful if associated with institutional learning across multiple actors. A wider range of interests and players associated with academic as well as research-rooted evaluation frameworks are key factors, if a fruitful learning is expected to stem from regulatory experiments.

### **Message #4: Regulatory experiments for Smart Grids need an effective legal basis.**

- As compared to pilot projects focusing on technological solutions, regulatory experiments are more demanding in terms of legal preconditions.
- The emerging business cases and business models with Smart Grid technologies often challenge the existing regulatory constructs and associated legislation, which was designed with a very different role for customers, utilities and the private sector in mind. For the energy sector, programs for Regulatory Experimenting need to be designed in a way that maintains customer protection and a fair level playing field. Regulatory bodies, like those operating in the energy sector, are in most cases in charge of such purposes and therefore may design appropriate regulatory experiments, to avoid undesirable effects of innovation.

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- On that basis, legislators should entitle regulatory bodies, where they aren't yet, to handle some flexibility for experimenting, in addition to their principal duty to set regulatory frameworks.
  - A principle-based regulatory approach might allow for more experimenting and thus helping to accelerate an inclusive energy transition. Such an approach would also open new space to consider inclusion, affordability, fairness along with energy and climate objectives.
  - Regulatory experiments can be initiated both by governments as well as regulatory bodies, yet regulatory bodies will be crucial for experiments in the energy sector in many countries.
  - Regulatory bodies often cannot grant regulatory exemptions, given the lack of a legal basis. Thus, in some countries there is a need for providing the legal basis for regulatory bodies first.
  - If regulatory bodies should play a role in accelerating the energy transition aligned to a transformational strategy and a long-term vision for meeting net-zero commitments, they need to be provided with a legal mandate. In most countries involved in the workshop series, regulatory bodies lack such explicit authorities or capabilities. Thus, there is a need for assessing whether changing the legal basis for regulatory bodies is required in order for regulatory processes to contribute more productively to the transition process for a net-zero energy future.
  - Finally, where there may not be a legal barrier to regulatory experiments, there may be a practical barrier in that regulatory bodies are often resource constrained when considering the amount of effort required to stay on top of the amount and pace of change being observed with electricity sector modernization and transformation. Regulators may require legislative or policy authority to properly resource these activities.

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# Background: ISGAN Sandbox activities

Given the high attention in the policy discourse on regulatory sandboxes, an ISGAN Inter-Annex team from Annexes 2, 4, 7 and 8 initiated a first project in 2018 to advance the international dialogue and knowledge exchange around good practices and new approaches on Regulatory Experimenting. Activities started with the successful ISGAN Knowledge Exchange in 2019<sup>4</sup>(involving more than 20 countries), arranged in partnership with the International Confederation of Energy Regulators (ICER). The outcomes from this event, as well as from other project activities such as interviews, online surveys, and the collection of country cases, lead to an ISGAN Casebook publication, an ISGAN Academy Webinar and policy messages for the Clean Energy Ministerial (CEM10).

The continued interest for international knowledge exchange on this topic, led to the Sandbox 2.0 project, including a series of international workshops in 2021 in alignment with national workshops and consultations in ISGAN member countries with several stakeholders from ministries, regulatory bodies, funding agencies and research actors, followed by an update of the Casebook and further dissemination activities. The following focus questions have guided the international knowledge exchange:

- How to coordinate between the different actors/stakeholders in implementing sandbox programs and in learning?
- How to align Sandbox programs as step in the longer-term process of the transformation of energy systems?
- How to plan in advance the (evaluation) process for policy learning, in order to change rules of the game after the sandbox program?
- How to come to adequate exemption laws allowing for the learnings we want to achieve?

The workshop series engaged participants from 15 countries: Austria, Canada, Denmark, Finland, France, Germany, Italy, Israel, Malaysia, Netherlands, South Korea, Spain, Sweden, United Kingdom, and Vietnam.

The Project Reference Group included:

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<sup>4</sup> <https://www.iea-isgan.org/knowledge-exchange-on-experimental-regulatory-sandboxes-to-enable-smart-grid-deployment/>