

THE DAWN OF REGULATORY SANDBOXES IN ENERGY LAW

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Abstract: *In the last few years, regulatory sandboxes were adopted to facilitate deployment of innovative technologies. These legal regimes enable the testing of innovative technologies in a real-life environment, products, services or approaches that are not fully compliant with the existing legal and regulatory framework. They are operated for a limited time and in a limited part of a sector or area. The purpose of regulatory sandboxes is to understand the opportunities and risks that a particular innovation carries and to develop the correct regulatory environment to accommodate it. This article aims to discuss a recent proposal in the field of energy law that aims to promote the emergence of new technologies, in the light of these developments.*

Keywords: *energy law, experimental legislation, regulatory sandboxes, innovative technologies, energy transition*

INTRODUCTION¹

In February of 2023, a draft of an *Amendment to the Energy Act* was prepared by the Ministry of Industry and Trade and submitted for further approval to the Government. In this draft, a new type of regulatory framework fully appears for the very first time in the law of the Czech Republic. The draft provides for a special regime of so called “*pilot projects*”, which are both experimental and temporary in their nature.²

The Explanatory Memorandum, which was submitted along with the draft by the Ministry (thereinafter: “the Explanatory Memorandum”), argues that introduction of this new type of experimental regime represents one of the tools to cope with energy problems arising in the aftermath of the aggression of the Russian Federation against Ukraine. The Explanatory Memorandum argues that, under the applicable law, any experimental operation of these innovative technologies would either be hindered or disallowed.

Therefore, the Explanatory Memorandum claims the introduction of a special regime for these innovative technologies represents a legal response to the challenges arising. At the same time, the draft is presented to follow the call of the EU energy law for introduction of “*demonstration projects*”³ within the internal electricity market.

Pursuant to the draft, an experimental operation (a “*pilot project*”) for testing of a new energy technology may be permitted by the Energy Regulatory Authority. The draft provides that such experimental operation must be temporary. While the draft fails to provide

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² Draft of the Amendment to the Energy Act, §§ 21-21c.

³ See the Regulation (EU) 2019/943 on the internal market for electricity, art. 2.24 (‘*demonstration project*’ means a project which demonstrates a technology as a first of its kind in the Union and represents a significant innovation that goes well beyond the state of the art).

for an explicit maximum time span of such experimental operation, it provides that a “pilot project” is to be permitted for a time necessary for gaining the planned outcomes.

At the same time, such experimental operation must not have any impact on energy markets and also, must not contradict the targets of the European Union with respect to the development of the energy infrastructure. Further, the draft provides that the outcomes of each experimental operation must be reflected in a written statement. This statement is to be submitted to the Energy Regulatory Authority within 3 months after the termination of each operation.

There are some examples of experimental regimes that already exist in the public law of the Czech Republic.⁴ Despite these parallels, the regime, as recently proposed, represents the very first attempt to introduce experimental legislation in the field of energy.

This article aims to put the recently proposed legislation into the wider context of a scholarly discussion on the newly emerging “*regulatory sandboxes*”. In this respect, this article aims to argue that the recently proposed experimental regime in the Czech Republic does not represent an isolated feature. On the contrary, the special regime for “*pilot projects*”, as proposed by the Ministry of Industry and Trade in February of 2023 belongs to a much wider tendency, existing in various legal regimes worldwide (Chapter 1).

Further, the recently proposed draft also implies several questions which haven’t been answered by the Explanatory Memorandum. The authors of this article also aim to identify these gaps of the proposal (Chapter 2). In this respect, the authors also aim to present a wider context of these uncertainties which, in principle, relate to the difficult mutual relationship between law and newly emerging technologies.

Lastly, the article aims to reflect the current discussions on potential risks arising from the currently emerging regulatory sandboxes in various jurisdictions (Chapter 3). Reflecting this discussion, the authors aim to identify those risks that may potentially arise in case the proposed experimental scheme will be incorporated into the national legislation of the Czech Republic.

With this article, the authors aim to contribute to the recent discussion on regulatory sandboxes in the international academy, as well as hope this article will trigger discussion on experimental legislation, regulatory sandboxes and, in more general terms, on the mutual relationship between public law and emerging technologies, in our own legal academia.

1. A VENTURE IN EXPERIMENTAL LEGISLATION: REGULATORY SANDBOXES

In the last few years, experimental legislation has been adopted to facilitate the deployment of emerging technologies. These newly established legal regimes enable the testing of innovative technologies, products, services or approaches in a real-life environment, which are not fully compliant with the existing legal and regulatory framework. They are operated for a limited time and in a limited part of a sector or area.

The purpose of these experimental regimes is to learn about the opportunities and risks that a particular innovation carries and to develop the most accurate regulatory environ-

⁴ For example, the Act 373/2005 Coll., provides in its art. 2. p for an experimental regime, allowing for innovation of fuels on the base of heavy gas oils.

ment to accommodate it. While these innovative legal regimes were originally tailor-made for emerging technologies in the sector of finances, they were gradually introduced in many other fields of regulation, such as energy law and medical law.⁵ In the scholarship of law, these experimental regimes are referred to as “regulatory sandboxes”.⁶

A number of potential benefits of these newly established regulatory sandboxes have been identified so far in existing literature.⁷ Firstly, it was argued that regulators can acquire a better understanding of innovative products through regulatory sandboxes, which allows them to develop adequate rule-making, supervision and enforcement policies.⁸ Further, a regulatory sandbox will allow innovators to develop their products and services in a regulation-compliant way, avoiding potential legal risks.⁹ At the same time, regulatory sandboxes may help innovators to develop a better understanding of supervisory expectations.¹⁰ Lastly, in the long run, consumers benefit from the introduction of new and potentially safer products, as regulatory sandboxes foster innovation and consumer choice.¹¹

According to a World Bank study,¹² more than 50 countries were experimenting with fintech sandboxes in 2020. Japan introduced a sandbox regime as early as in 2018, open to organisations and companies both in and outside Japan willing to experiment with new technologies, including blockchain, AI, and the internet of things (IoT), as well as in fields such as financial services, healthcare and transportation. In Europe, both Norway and the United Kingdom represent pioneers in introducing regulatory sandboxes to explore new technologies such as voice biometrics and facial recognition technology and their related data protection issues.

The United Nations Secretary-General’s Special Advocate for Inclusive Finance for Development, identified regulatory sandboxes as an approach that allows time-bound testing of innovations under a regulator’s oversight.¹³ It provides for the direct testing of innovative products, services, or business models in accordance with a specific test plan, usually involving a degree of regulatory forbearance combined with certain safeguards.

⁵ See PARACAMPO, M. T. The development and expansion of regulatory sandboxes, from FinTech to other areas in the near future. *Federalismi*. 2022, Vol. 2022, No. 18, pp. 207–232.

⁶ See BUTOR-KELLER, A., POLASIK, M. The role of regulatory sandboxes in the development of innovations on the financial services market: the case of the United Kingdom. *Economics and Law*. 2020, Vol. 19, No. 4, pp. 620–637; VESELI, A., MOSER, S., Kubezko, K., MADNER, V., WANG, A., Wolfsgruber, K. Practical necessity and legal options for energy regulatory sandboxes in Austria. *Utilities Policy*. 2021, Vol. 73, p. 101296; Heskova Bojmirová, S. FinTech and Regulatory Sandbox: New Challenges for the Financial Market. The Case of the Slovak Republic. *Juridical Tribune*. 2022, Vol. 12, No. 3, pp. 399–411.

⁷ See eg. TRUBY, J., BROWN, R. D., IBRAHIME, I. A., CAUDEVILLA PARELLADA, O. A Sandbox Approach to Regulating High-Risk Artificial Intelligence Applications. *European Journal of Risk Regulation*. 2022, Vol. 13, No. 2, pp. 270–74.

⁸ For instance, in the banking industry, the sandbox may result, in certain circumstances, in amending the rules on identity verification without face-to-face meetings.

⁹ See ALLEN, H. Regulatory Sandboxes. *George Washington Law Review*. 2019, Vol. 87, No. 3, p. 578.

¹⁰ See MADIEGA, T., VAN DE POL, A. L. Artificial intelligence act and regulatory sandboxes. *European Parliamentary Research Service*. 2022, pp. 2–3.

¹¹ *Ibid.*, p. 3.

¹² See International Bank for Reconstruction and Development (ed.). *Global Experiences from Regulatory Sandboxes*. FinTech Note 8, 2020, pp. 6–7.

¹³ See UNGSA (ed.). *Briefing on Regulatory Sandboxes*, UNSGSA’s Fintech Sub-Group on Regulatory Sandboxes, 2017, p. 1.

The possibility to test innovative technologies under some lenience or supervisory discretion differentiates regulatory sandboxes from other innovation facilitators, such as innovation hubs, under which actors can only raise questions and ask supervisory authorities for clarifications or non-binding guidance.¹⁴ Despite the models of regulatory sandboxes in different countries displaying differences, several common features have been identified.

From the above definition, it follows that the main characteristics of regulatory sandboxes are ongoing administration and trial duration, describing the regulatory sandboxes as a safe place for testing new technologies. Further, regulatory sandboxes can be characterized by derogation from existing regulations, the existence of selection criteria, and orientation to learning, which is usually the primary motivation for launching a regulatory sandbox.

Having outlined these specific features of a “*regulatory sandbox*”, the following sections aim to argue that the recently proposed draft represents a salient example of a newly emerging sandbox in energy law.

1.1. A safe place for testing new technologies

At the beginning, securing the effective use of the regulatory sandbox regime is necessary. For this purpose, the regulator should set clear selection criteria for the responsible authority to choose participating projects. The Council of European Energy Regulators observed that, in most cases, these applications are assessed against previously established criteria, whereas the draft is a manifestation of this majority approach. Only in a minority of cases can the regulator establish an “*ex-ante regulatory framework*” under which the regulator adopts a pilot regulation for a trial period and then changes the regulation according to the result of the pilot.¹⁵

According to the recently proposed draft, a project may be approved as a pilot project if it aims to test new technology or innovative procedures. Despite this, the draft need not provide extensive selection criteria nor the definition of innovativeness. The criterium of *innovation* appears to be essential and must be considered each time derogation from the standard legislative rules is granted. The pilot project exception should not be granted if the technology or procedure is already permitted under the current legislative framework or does not bring significant changes or improvements. Furthermore, the exception cannot be granted if the proposed project violates certain public interests.¹⁶

One may argue that the nonexistence of strict selection criteria and the definition of innovativeness are not obstacles to the existence of the sandbox regime and it can support innovation, as the proposed regime will also be applicable when new technologies will emerge in future.¹⁷ This problem will be addressed in more detail below.

¹⁴ See European Parliament’s ECON Committee (ed.). *Regulatory Sandboxes and Innovation Hubs for FinTech*. p. 9.

¹⁵ See Council of European Energy Regulators (ed.). *CEER Paper on Regulatory Sandboxes in Incentive Regulation*. Brussels: Council of European Energy Regulators, 2022, p. 10.

¹⁶ For example, the proposal cannot be in contradiction of the European Union’s energy infrastructure development objectives.

¹⁷ See European Parliament’s ECON Committee (ed.). *Regulatory Sandboxes and Innovation Hubs for FinTech*. p. 33.

I. 2. Derogating from the standard rules for a limited period of time

Suppose the project succeeds in the established selection criteria. In that case, the Energy Regulatory Authority allows use of a specific technology, while derogating from the standard rules for a limited period. Such derogation is an essential part of the pilot project, because its subject will always be a technology or procedure that is, for some reason, not allowed by applicable law. The applicant for the pilot project approval already specifies in the application the exemptions from legal obligations he hopes to obtain.

The arising question might be whether the Energy Regulatory Authority could approve the pilot project with a narrower range of statutory exemptions. In purely practical terms, this solution could make it impossible to run the pilot project. Thus such a limitation should be made only after consultation with the applicant, which is also in line with the essence of regulatory sandboxes, as these should generally be based on communication and cooperation between the regulator and innovator.

The draft does not stipulate an automatic expiration date on the pilot project; however, it is limited to the time and extent necessary to achieve its intended purposes. Therefore, unless the approval granted is extended, the authorisation expires at the end of the period for which it was granted. The most significant advantage for the public of the time limit might be that it forces the involved persons to guide the innovation process as efficiently as possible, since the legislative burden is more relaxed only for the period of time necessary to test the innovation in operation. Therefore, it should not only be used as a way to avoid the fulfilment of statutory obligations.

1.3. Ongoing administration

After approval is granted, a responsible body must carry out ongoing administration, which is considered to represent one of the major characteristic features of a “regulatory sandbox”.¹⁸ The body responsible for continuous control under the recently proposed draft will be the Energy Regulatory Authority. Hence the same body both approves and controls the authorized activities. According to the proposed draft, the pilot project participants are expected to actively communicate to the Energy regulatory authority all relevant changes of information that are stated in the decision to approve the pilot project or other information relevant to the approval of the pilot project.¹⁹

The proposal does not include specific obligations that should be fulfilled when the pilot project is in process. However, the holder of the pilot project approval must comply with the obligations set out in the Energy Act for the type of installation that is technologically closest to the subject of the pilot project.²⁰ The decision on approval of the pilot project stipulates the conditions for running the pilot project, including the scope of exemptions from these legal obligations.

¹⁸ See BROMBERG, L., GODWIN, A., RAMSAY, I. Sandboxes and bridges – the impact of Fintech on regulatory convergence and coordination. In: Lucyna Czechovska – Andriy Tyushka – Joanna Piechowiak (eds.). *States, International Organizations and Strategic Partnerships*. Cheltenham: Edward Elgar, 2019, pp. 547–568.

¹⁹ Draft of the Amendment to the Energy Act, § 21 (2).

²⁰ *Ibid.*, § 21c (2).

The draft does not contain a detailed mechanism for evaluation and scrutiny for the regulator to ensure that the sandboxes fulfil their purpose. Therefore, the exact process will depend upon the content of the authorization and will be at the discretion of the Energy Regulation Authority. However, if the conditions for running the pilot project are seriously breached, the Energy Regulation Authority can revoke the approval of the pilot project.

Moreover, the holders of the authorization are obliged to prepare a written final evaluation report on the course of the pilot project within three months after completion of the pilot project and submit it to the Energy Regulatory Authority. The final evaluation report is the only tool laid down by the draft that serves the knowledge transfer, which is one of the aims of the pilot project's existence. Failure to comply with this obligation is an administrative offense. However, it must be pointed out that it should be in the interest of the participant running the pilot project to hand over the most accurate information necessary for the preparation of the legislation amendment, as it should be in his interest to undertake the allowed activity legally and without the need for exemption from the law.

On the other hand, the Energy Regulatory Authority should very carefully examine the accuracy of provided information because, if the new technology or procedure is not regulated properly and consequently or a damage is caused by the legislatively approved technology or procedure, the operator could be exempted from liability for damage. Moreover, the knowledge gained during the process can also impact public policies that may further influence the application of new technologies. That is the logical consequence of the fact that the existence of pilot projects is a special regime orientated on learning.

1.4. Orientation on learning

Lastly, an orientation on learning also ranks among the characteristic features of a “regulatory sandbox”.²¹ It implies there must be follow-up activities after the pilot project is completed, because merely testing new technologies is not a sufficient response to technological development. Therefore, not only does the pilot project allow using new technology or procedures before the legislation permits and it legally enters the market, it should eventually lead to an adjustment of the existing legislation or the creation of new one.²²

After successful testing of the new technology, the expected outcome is to amend the existing legislation and enable the implementation of projects that would not have been allowed under current conditions.²³ This way, the regulator can use the knowledge gained during the testing process to create efficient legislation that reflects the practical experiences of the businesses involved. For this purpose, the Final Reports prepared by the involved holders of the pilot project approvals can be useful. The draft actually does not include any other provision that would enforce cooperation between the innovator and the Energy Regulation Authority other than enforcing the regulation of the new technology in the legal system.

²¹ See ALLEN, H. J. Regulatory Sandboxes. *The George Washington Law Review*. 2019, Vol. 87, No. 3, p. 600.

²² *Ibid.*

²³ Explanatory Memorandum, p. 23.

However, the Explanatory Memorandum to the draft expressly mentions the subsequent and proper adjustment of the existing legislation following testing of the pilot project. Further, according to the Memorandum, the pilot project should provide a suitable testing ground for innovative projects. At the same time, it helps prepare the legislation for the smooth inclusion of these new technologies in the market. This way, the regulatory authority will survey the energy license holder after the pilot project is over and the installation operates under standard legal conditions.

1.5. Preliminary assessment

To summarise, the authors have identified several main features that characterize regulatory sandboxes. The proposed draft should establish a legal regime under which the Energy Regulation Authority assesses the application for pilot project approval against the conditions specified in the Act. If the pilot project is approved for a limited period of time, the operator can enjoy partial repeal of the existing legislation that allows him to run the new facility or try new technology, which would not be possible under standard legal rules. Within the time of this testing, the Energy Regulation Authority exercises administrative powers over this operator, whereas it may even revoke the authorization granted.

As a consequence, the information gained during this testing process should ensure the creation of adequate legislation and refrain from potentially regulating it prematurely or inadequately. The energy law sandbox is specific, as its aim is not only reduced costs or increased efficiency, but should also increase the energy security of the Czech Republic.

Therefore, the new technologies may help ensure, or at least contribute, to the safe supplement of energy. In view of the foregoing, the authors conclude that the proposed regulation of the pilot project meets the typical characteristics of regulatory sandboxes.

2. THE MIRAGE AND REALITY OF EXPERIMENTAL LEGISLATION

At this point, let's take a closer look at the wording of the draft of an Amendment to the Energy Act, which was submitted by the Ministry of Industry and Trade in February 2023. Being one of the very first attempts to introduce the model of regulatory sandboxes into the legislation of the Czech Republic, one may identify several questions of a legal nature.

The draft provides for a definition of the project, which is to be granted the status of a “*regulatory sandbox*”. Under this definition, such status will be granted “*for testing of a new technology, or for an innovative approach in the field of energy, which may not be realised under the existing legal framework.*”²⁴ Such broadly constructed definitions of projects which may potentially fall under the regulatory sandboxes foreseen for the future, implies questions of the scope. In other words, which projects will be entitled to gain benefits from the newly proposed experimental regime?

The wording of the Explanatory Memorandum, as submitted by the Ministry of Industry and Trade, may – at least to some extent - help by defining the scope of the application of

²⁴ Draft of the Amendment to the Energy Act, § 21 (2).

the proposed regulatory sandbox. The Explanatory Memorandum argues that the proposal aims to “*accelerate emergence of innovative technologies in the field of energy*”. In this regard, there are several examples of such innovative technologies that may make use of the proposed regulatory sandbox.

Firstly, the proposed regulatory sandbox is aimed to enable experiments with the blending of hydrogen into the existing gas infrastructure. In this respect, the proposed regulatory sandbox aims to respond to the recent “REPowerEU” strategy of the European Commission, which aims to make widespread use of hydrogen possible “*across all hard-to-decarbonise sectors*” from 2030 and beyond. Here, hydrogen is identified as a major means of decarbonisation and, at the same time, as a viable alternative to natural gas.

Effectively, the injection of hydrogen into the existing gas grid could provide a quick and affordable transitional solution to handle the lack of an immediately available dedicated hydrogen infrastructure. Moreover, the injection of hydrogen provides the option of having access to renewable and low-carbon energy, up to a certain level, for all gas consumers connected to the gas network. However, one must bear in mind that these emerging technologies need firstly to be experimentally checked, before being operated on a full scale. Therefore, the proposed regulatory sandbox may represent a transitional solution, which will enable experimental blending and subsequent evaluation of its success by the authorities of the State.²⁵

Secondly, the proposed regulatory sandbox also intends to cover experiments with energy *accumulation*. This technology is promising due to the possibility of a large amount of energy being stored and a resulting high-power capacity. However, this technology has many problems that are yet to be solved concerning the production, transportation, and storage of fuel. Furthermore, the high capital costs of the main components of the storage systems (fuel cells and electrolyzers) are one of the key problems concerning their implementation in the energy sector. Although the system’s efficiency remains comparatively low, hydrogen accumulation systems technology is currently considered a prospective direction for further research and development.²⁶

Lastly, the Explanatory Memorandum also explicitly argues that the proposed regulatory sandbox may also be used for prospective experiments with energy batteries. Global demand for batteries is growing rapidly, given their capacity to integrate more renewables into our energy systems and their ability to green the industry and transport sectors with spill-over effects on the electrification of other sectors. In the European Union, two main platforms for experimentation in batteries currently exist.

Firstly, *Batteries Europe*, launched in 2019, represents a technology and innovation platform of the European Battery Alliance, run jointly by the European Commission and stakeholders in the battery industry. Secondly, “*the Bridge*” exists, an experimental initiative of the European Commission that unites smart grids, energy storage, islands and digitalisation projects. While most of the demonstration sites for batteries, as operated under this

²⁵ See FLEMING, R. Clear or renewable – hydrogen and power-to-gas in EU energy law. *Journal of Energy & Natural Resources Law*. 2021, Vol. 39, No. 1, pp. 43–63.

²⁶ See SUNILA, K., EKROOS, A. Regulating radical innovations in the EU electricity markets: time for a robust sandbox. *Journal of Energy & Natural Resources Law*. 2023, Vol. 41, No. 1, pp. 5–25.

initiative, are currently located in Southern Europe and on islands (where batteries make the highest economic sense), one may also expect further experiments with batteries on mainland Europe. Thus, the currently proposed experimental regime may serve to also facilitate these projects in the territory of the Czech Republic.

However, the fact is that the scope of potential application of the proposed regulatory sandbox is not depleted by the above-mentioned examples. The definition as provided in the wording of the draft is an abstract one, rather than based upon the presentation of potential examples. One may ask, which other potential projects might fall under the scope of the application of the proposed regulatory sandbox.²⁷

Taking the wording of the proposed draft into consideration, one may argue that three preconditions must be met for gaining the advantages of the regulatory sandbox: (i) the prospective endeavour must cover either a *brand-new technology*, or an *innovative approach*; (ii) such endeavour must occur *in the field of energy*; (iii) the proposed legislation provides that such endeavour “cannot be realised under the current legislative framework.”²⁸ One may easily observe that each of these preconditions has been formulated in somewhat abstract terms, which deserve further clarification.

Firstly, the draft works with the feature of (technological) novelty, which is indicated by the terms “*new technology*” and “*innovative approach*”. In this respect, one may ask whether this novelty is particularly fixed at certain period of time, or whether it represents a “movable feature”, capable of also covering those innovations, that may appear in the future.²⁹ In other words: Does regulatory sandbox represent a mere temporary tool, aimed at fostering of innovations arising in this decade? Or are regulatory sandboxes intended to remain a part of the public law?³⁰

Here, one may argue that the proposed regulatory sandbox was drafted as a flexible tool, capable of absorbing prospective technologies that may arise in the future.³¹ Thus, the proposed experimental legal regime cannot be interpreted as being time-limited. On the contrary, it is also intended to serve as an integral part of the legal framework in the future.

Secondly, the draft of the new regulatory sandbox, as presented recently by the Ministry of Industry and Trade, provides that one precondition of permitting such sandbox is that it “cannot be realised under the current legislative framework.”³² Does this formulation relate *exclusively* to the legislative framework, established under the Energy Act itself? In such a case, the proposed regulatory sandbox would be quite limited, as obligations arising from other legal norms may deactivate such a sandbox by their own rules and obligations. While the wording of the proposed draft does not provide for an explicit answer, one may argue that the overall purpose of a regulatory sandbox is to enable certain innovatory

²⁷ See ZETZSCHKE, D., BUCKLEY, R., BARBERIS, J., ARNER, D. Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation. *Fordham Journal of Corporate & Financial Law*. 2018, Vol. 23, No. 1, p. 32.

²⁸ Draft of the Amendment to the Energy Act, § 21 (2).

²⁹ See FRIEDMAN, D. Does technology require new law? *Harvard Journal of Law and Public Policy*. 2001, Vol. 25, No. 1, p. 82.

³⁰ See BOLDINI, M. A new strategic approach towards financial regulation. *Bratislava Law Review*. 2022, Vol. 6, No. 2, pp. 178–179.

³¹ See TSAI, C., LIN, C., LIU, H. The diffusion of the sandbox approach to disruptive innovation and its limitations. *Cornell International Law Journal*. 2020, Vol. 53, No. 2, p. 265.

³² Draft of the Amendment to the Energy Act, § 21 (2).

approaches in their *full* scale.³³ Thus, one may argue that the proposed draft represents a tool to address potential conflicts between various pieces of legislation.

Lastly, the substance of the endeavour which will be potentially qualified to gain benefits of a regulatory sandbox needs further interpretation. The draft provides that a prospective project must occur “*in the field of energy*”, although it fails to identify any further details. Consequently, a question may arise whether the proposed regulatory sandbox will be capable of covering *any possible* energy project of the future, for example also those such as may entail components of nuclear energy.

For example, producing hydrogen by nuclear technologies has attracted considerable attention recently and one may expect further development in this direction. The draft gives an indirect solution to this question, when providing³⁴ for an obligation to obey those rules, “*stipulated by the Energy Act for the respective technology, or to the technology which is close due its nature*”. In this regard, one may argue that the aim of the proposed regulatory sandbox is to exclusively cover those technologies, which would fall under the scope of the Energy Act.

Having said this, one may conclude that the wording of the draft (which has been very recently submitted by the Ministry of Industry and Trade) contains several inaccuracies. This is understandable, taking into consideration that the draft represents a very first attempt to design a regulatory sandbox in the public law of the Czech Republic. At the same time, the problems arising by interpreting these newly proposed provisions clearly demonstrate the importance of a conceptualisation of regulatory sandboxes in international scholarship. Such conceptualisation is clearly capable of help by the interpretation of newly proposed provisions in line with the general purpose of regulatory sandboxes.

3. THE PERILS OF EXPERIMENTAL LEGISLATION

While regulatory sandboxes can provide a valuable space for innovation and learning, there are also risks associated with their use. These risks are in some form applicable to regulatory sandboxes in the energy sector, as well as regulatory sandboxes in general.³⁵ With respect to the recently proposed regulatory sandbox for energy innovations, this section aims to address the potential risks arising by a prospective introduction of this concept in our legislation.

3.1. Risk of the formation of a regulatory arbitrage

Firstly, the risk of the formation of regulatory arbitrage must be addressed. In the broadest sense, by applying regulatory arbitrage strategies, market participants take advantage of differences in regulatory requirements between different jurisdictions or regulatory frameworks to achieve a competitive advantage.³⁶ Regulatory arbitrage strategies involve

³³ See ALLEN, H. *Sandbox Boundaries*. *Vanderbilt Journal of Entertainment & Technology Law*. 2020, Vol. 22, No. 2, p. 301.

³⁴ Draft of the Amendment to the Energy Act, § 21c (2).

³⁵ See ALLEN, H. *Sandbox Boundaries*. pp. 320–322.

³⁶ See FRAME, S., MIHOV, A., SANZ, L. Foreign Investment, Regulatory Arbitrage, and the Risk of U.S. Banking Organizations. *Journal of Financial and Quantitative Analysis*. 2020, Vol. 55, No. 3, p. 957.

exploiting regulatory loopholes, gaps, or inconsistencies to engage in activities that would not be allowed or would be subject to stricter regulations in another jurisdiction or under different regulatory frameworks.

Victor Fleischer identifies several situations in which regulatory arbitrage can be formed. One of them is a situation of regulatory regime inconsistency when the same transaction receives different regulatory treatment under different regulatory regimes.³⁷ This is also referred to as a *cross-jurisdiction arbitrage*.³⁸ It can take many forms, not only moving operations to jurisdictions with more lenient regulatory requirements or taking advantage of regulatory exemptions or special treatment, but also by structuring transactions in a way that avoids or minimizes regulatory obligations. In this respect, a provision of the Energy Act that allows an exemption from the existing legal framework if such an exemption is not allowed in other legal regimes creates an environment in favour of regulatory arbitrage.

Whether regulatory arbitrage is desirable may depend upon the specific circumstances involved. It can promote competition and efficiency by allowing companies to reduce regulatory costs and experiment with new business models. On the other hand, regulatory arbitrage can undermine the purpose of regulations by enabling companies to avoid safeguards that protect consumers, workers, and the environment. According to *Danièle Nouy*, cross-jurisdiction arbitrage can lead to a race to the bottom, as countries that face the risk of losing businesses might be tempted to relax their rules to keep businesses within their jurisdiction.³⁹ As a consequence, this temptation can result in under-regulation and it can also negatively affect businesses that follow strict legislative rules and adversely impact the competition.

However, risks related to regulatory arbitrage are generally connected with legal planning used to avoid taxes, accounting rules, securities disclosure, or other regulatory costs.⁴⁰ On the contrary, pilot projects pursuant to the discussed draft should be focused on the removal of legislative barriers to the implementation of new technologies as these are necessary due to European climate goals and the gradual restriction of the import of energy raw materials from the Russian Federation.⁴¹ In this regard, the pilot project is not a form of loophole, but a result of the legislator's omission or regulation gap.

The innovative scientific and practical knowledge resulting from pilot projects can also be used in the Czech Republic as well as in other countries for the improvement of their energy systems, especially as the regulation across the European Union is highly united. Potentially, the existence of the regulatory sandbox regime in the Czech Republic could motivate innovators abroad to test their projects there, while at the same time having to comply with the regulation for the technology closest to the one which is tested.

³⁷ See FLEISCHER, V. Regulatory arbitrage. *Texas Law Review*. 2010, Vol. 89, No. 2, p. 244.

³⁸ *Ibid.*

³⁹ Speech by Danièle Nouy at the 33rd SUERF Colloquium, Helsinki, 15 September 2017. In: *European Central Bank* [online]. 15. 9. 2017 [2023-06-22]. Available at: <https://www.bankingsupervision.europa.eu/press/speeches/date/2017/html/ssm.sp170915.en.html>.

⁴⁰ See HANDRLICA, J, SHARP, V., NEŠPOR, J. Forum shopping in regulatory sandboxes and the perils of experimental law-making. *Juridical Tribune*. 2023, Vol. 13, Nr. 3, p. 165.

⁴¹ Explanatory Memorandum, p. 23.

Therefore, the authors tend to believe that even if these innovators prefer to test technologies in the Czech Republic due to the existence of regulatory sandboxes and regulatory arbitrage arises, this decision will not have an adverse effect on competition among the relevant markets.

3.2. Risk of prioritization of innovations over putting adequate safeguards

Another risk may arise, if the legislator fears losing businesses from his jurisdiction and consequently tries to attract innovators by lowering the legislative safeguards and requirements. Unfortunately, by attracting innovators the regulators may easily prioritize innovation over putting adequate safeguards in place. In this way, it may have an inverse effect both on both the public and consumers, as it could potentially lead to accidents or other safety issues that could harm individuals or the environment.⁴²

When it comes to energy innovation in sectors regulated by the Energy Act, it seems there is no real competition between the individual states in order to attract innovators.

Secondly, the regulatory sandbox should be designed in a way that ensures adequate safeguards are in place to protect public interests, such as safety, consumer protection, and environmental protection. Within its supervisory activities, the Energy Regulatory Authority must act in accordance with its primary purpose, which is to protect the legitimate interests of customers and consumers in the energy sectors.⁴³

Should the proposed draft be adopted, the Energy Regulatory Authority shall de lege lata precisely monitor the compliance with regulatory requirements with regard to customers. In this respect, the draft states that exception holders are obliged to comply with the obligations set out in the Energy Act for the type of installation which is the subject of the pilot project or the facility technologically closest to it.

Moreover, the draft establishes power for the Energy Regulatory Authority to cancel the pilot project for a serious breach of the conditions for approval of the pilot project. The power to prematurely cancel the pilot project, together with the independent nature of the Energy Regulatory Authority, should ensure that appropriate oversight and enforcement mechanisms are in place. Therefore, the exceptional regime gives the market actors the opportunity to test the technology in real time, but it does not tear down security requirements. This insures that safety standards are met and correspond to the state of knowledge in the given field.

3.3. Risk of regulatory capture

Finally, there is also a risk that the regulatory sandboxes could be captured by influential industry players, who might use their influence to shape the regulatory environment in their favour, potentially to the detriment of consumers and smaller players.

In this regard, the European Parliament's ECON Committee concedes that sandbox entities might be limited in some way in their allowed activities, such as a maximum number

⁴² See EBERLE, N. Die „Regulatory Sandbox“. (K)ein Modell für Deutschland? *Legal Revolutionary. Rechtsmagazin für digitalen Wirtschaft*. 2020, No. 1, pp. 177–179.

⁴³ Energy Act, § 17 (3).

of customers or type of client served.⁴⁴ On the other hand, other expert committees have argued that innovators of all kinds should be able to apply for participation in the regulatory sandbox without discrimination. Moreover, it says that all market participants should be treated equally regardless of their size or degree of market penetration.⁴⁵

The draft follows the latter approach, as it is designed to allow all market players to access the regulatory sandbox and test their new technologies. There is no *numerus clausus* on the holders of pilot project approvals, nor do they set any limits to pilot project activities. Moreover, the Explanatory Memorandum explicitly states that the use of a regulatory sandbox should be available to all market participants, including regulated entities.⁴⁶ Therefore, it should ensure equal access opportunities to innovation facilitators, as pilot projects are open to a broad number of entrepreneurs and may be of use to an unlimited number of customers. This possibility should also be available to small businesses, the same as with the most prominent players in the market, as these may have the best means to develop and test new technologies.

From the latter arises one purely practical limit: only the most prominent players in the market have sufficient knowledge, technological devices, and financial resources to pursue the development of the new technology and its use. However, it is questionable whether it is up to the legislator to address this matter. Nevertheless, all market players should be able to get a state permit or license once the legal conditions are met. Thus, all market players have the same possibilities to enter the energy market and, once the new technology is approved, also profit from its use.

In this regard, it could be considered that limiting the applicant will not be evaluated via the permitting procedure on a pilot project, because only the license holder, according to the Energy Act, can apply. Yet, this approach makes sense, as to undertake a business in the energy sector, it is necessary to hold permission according to the Energy Act. Therefore, the applicant for pilot project approval and his credibility should already have been evaluated within the previous process of granting the license. This approach should be considered a positive, as the energy sector is inherently risky, and high standards for undertaking business must be maintained.

4. CONCLUSIONS

The experimental regime, which has been recently proposed in the Czech Republic, represents another appearance of a regulatory sandbox in law. Such appearances are recently occurring worldwide and the proposal discussed in this article demonstrates an effective cross-fertilization in the field of experimental legislation. Such cross-fertilization clearly occurs between respective jurisdictions, as well as between different areas of regulation.

⁴⁴ European Parliament's ECON Committee (ed.). *Regulatory Sandboxes and Innovation Hubs for FinTech*. p. 36.

⁴⁵ See eg. Expert Group on Regulatory Obstacles to Financial Innovation (ed.). *Final report to the European Commission – 30 Recommendations on Regulation, Innovation and Finance*. European Commission, 2019, p. 12.

⁴⁶ Explanatory Memorandum, p. 23.

Regulatory sandboxes represent a new form of governance, which is intended to be tailor-made to address the peculiarities of innovative technologies. The wording of the recently proposed draft reflects the novelty of this concept. While the proposed draft aims to accelerate the emergence of innovative technologies, it also implies a myriad of questions that remain to be answered. These questions not only appear in regard to the wording of the draft, but also with the overall function of a sandbox in the real world.

Despite these constraints, the authors of this article believe that regulatory sandboxes represent a concept that has the potential to address issues arising from the deployment of innovative technologies. Irrespective from the fate of the recent proposal, regulatory sandboxes will most probably become an effective part of the legal order. It is the task of legal scholarship to address them as viable concepts and effectivity research their qualities.

“At the moment of publication of this issue, the legislative process concerning the discussed proposal is still pending in the Czech Republic. Consequently, it is still rather unclear, whether the regulatory sandbox discussed in this article will be introduced into the legislation. Notwithstanding this, the recently proposed regulatory sandbox may serve as a salient example of a global tendency to introduce experimental features into the legislation, governing various new technologies.”