

# POLICY BRIEF

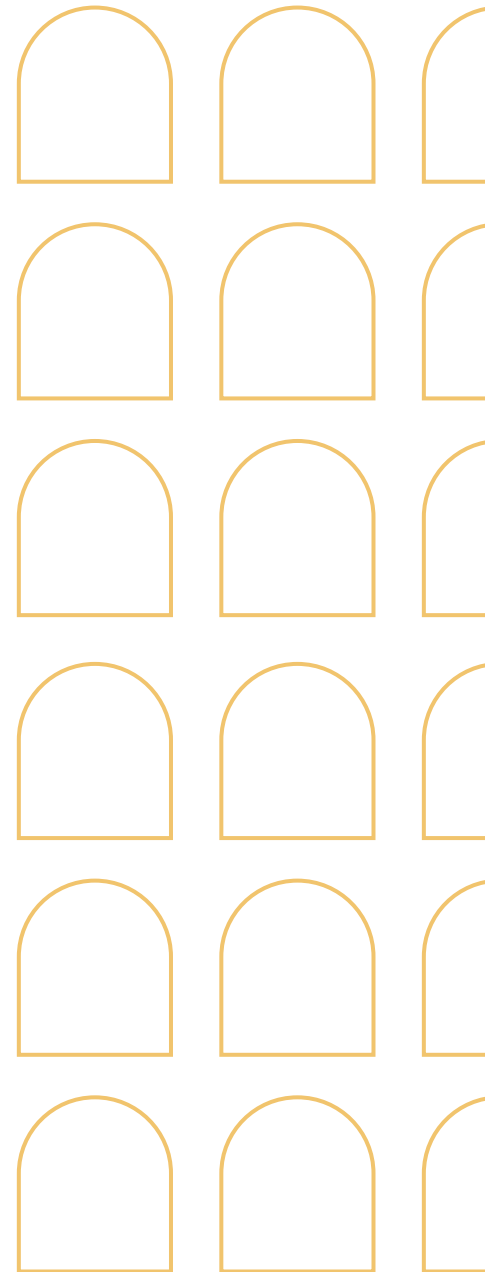
## Electricity market reform: what is (not) in the European Commission proposal

### Highlights

- In 2022, we experienced an unprecedented energy crisis. Governments intervened to help consumers pay their bills and to apply revenue claw-back mechanisms on utilities. The European Commission has also been tasked to draft a market reform proposal in record time.
- Two main reasons why we like the proposal: it preserves the pricing mechanism of the short-term electricity markets; it complements the existing electricity markets with regulatory measures to address the main concerns that emerged during the crisis.
- Recommendation to improve the proposal: it could include the development of detailed guidelines for the implementation of two-way CfDs. Developers that sign such a contract should still be exposed to the incentives of short-term wholesale and balancing prices.
- Risk for the trilogue negotiations: The proposal does not foresee that Member States can continue with revenue claw back mechanisms and/or (regulated) long term contracts for existing assets. Some Member States might want to add that option to the proposal. Undermining investor confidence in this way would be unfortunate because we have to speedup investments to comply with the Fit-for-55 Package.
- Need for a bigger reform (with impact assessment during the next Commission mandate): If we modernize and Europeanize capacity mechanisms, they can guide the investments we need in backup solutions for a renewable-based system, which includes demand response and storage.

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Issue 2023/07

May 2023

## 1. Introduction<sup>1</sup>

In 2022, we experienced an unprecedented energy crisis. At the start of the year, gas prices were already higher than in previous years mainly due to the post-Covid economic recovery, and they increased further after the Russian invasion in Ukraine. Prices peaked in the summer of 2022 when countries were filling their gas storage facilities to prepare for winter. Electricity prices also increased dramatically because we still use a lot of natural gas to generate electricity; and the electricity system was also tight due to issues with the nuclear fleet in France, and with hydro power due to the drought.

Governments intervened to help consumers pay their bills: taxes and levies were removed from the bills, vouchers have been handed out, and retail bills have been capped and/or re-regulated. Governments financed the support to consumers with the general public budget and/or by applying claw-back mechanisms on utilities: wind fall profit taxes have been introduced, as well as caps on the revenues that power producers can make in wholesale electricity markets, and caps on the bids that can be submitted by power producers in these markets. These measures have generally been approved and framed at the EU level as temporary emergency measures under state aid and sector-specific rules (Regulation 2022/1854). ACER identified a total of 400 emergency measures<sup>2</sup>.

The European Commission has also been tasked to draft a market reform proposal in record time. The proposal was published in March 2023 and will go in trilogue negotiations during the coming months. If the European Parliament and the Council can come to a swift agreement, the reform may be adopted by the end of the year, entering into force before the next European elections in June 2024.

In this brief, we discuss to what extent the proposal addresses some of the main issues that have

emerged during the crisis: the electricity market pricing mechanism; energy poverty and inflation; the insufficient hedging by consumers and retailers; the difficulties in accessing cheap renewables by consumers; and the investment uncertainty. For each of these issues, we will discuss possible improvements to the proposal, and possible risks in the outcome of the upcoming trilogue.

## 2. Electricity market pricing mechanism

### *What is the issue?*

The electricity market design is complex. It is made of a sequence of electricity markets from forward to day-ahead, intra-day, and balancing markets. When observers criticize the pricing mechanism of electricity markets, they often do not specify which market they are talking about it.

Critics of the electricity market pricing mechanism proposed to switch from marginal pricing to pay-as-bid, to introduce a bid-cap on gas power plants (and subsidize them with a levy on consumer bills, as in the Iberian mechanism that was implemented by Spain and Portugal) or to introduce separate pricing schemes for different types of technology (e.g. as in the Greek non-paper or the UK market splitting proposal that distinguish between as-available and on-demand resources).

Many politicians found these ideas appealing, as they resonated well with the public, but most experts agree that they would be counterproductive. For a more detailed discussion, please refer to our previous FSR policy brief<sup>3</sup>, and the work of colleagues<sup>4</sup>.

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1 Thankfully acknowledge the feedback from colleagues on earlier drafts of this brief: Ronnie Belmans, Lucila de Almeida, Adrien de Hauteclocque, Jean-Michel Glachant, Leigh Hancher, Christopher Jones, Ignacio Perez Arriaga, Andris Piebalgs, Alberto Pototschnig, Nicolo Rossetto, Tim Schittekatte, and Jorge Vasconcelos.

2 ACER, Wholesale Electricity Market Monitoring 2022 High-level Analysis of Energy Emergency Measures, 20 March 2023.

3 Leonardo Meeus, Carlos Batlle, Jean-Michel Glachant, Leigh Hancher, Alberto Pototschnig, Pippo Ranci, and Tim Schittekatte. The 5th EU electricity market reform: a renewable jackpot for all Europeans package? FSR Policy brief, Issue 2022/59 November 2022.

4 A detailed analysis is provided in the CERRE report (Recommendations for a future-proof electricity market design, December 2022) by Michael Pollitt, Niels Henrik von der Fehr, Bert Willems, Catherine Banet, Chloé Le Coq, Daniel Navia, and Anna Rita Bennato.

*What is (not) in the proposal?*

The European Commission electricity market reform proposal preserves the harmonization and integration of the short-term electricity markets that we co-created over the last decades.

#### *Discussion*

The European Commission needs to be congratulated for resisting the pressure. Electricity markets from forward to day-ahead, intra-day and balancing will serve us well in a renewable-based system. The variability of wind and sun decreases if we aggregate resources over larger distances, which reduces the need for expensive back-up solutions. Electricity markets provide the “software” that makes sure that electricity flows where it is most needed, in every period of the day, via the infrastructure “hardware” that need to be further reinforced.

### **3. Energy poverty and inflation**

*What is the issue?*

There are many ways to help consumers. At the start of the crisis, the focus was on how to target the consumers that need it the most and how to help consumers without removing their incentives to save energy. Later in the crisis, the higher energy bills led to an increase in inflation with macroeconomic consequences, so the additional issue was to lower the bills to control inflation. Handing out vouchers to vulnerable consumers is a targeted measure and preserves incentives to save energy. With vouchers, consumers are still exposed to high retail bills. When they save energy, the vouchers can be used for something else. To control inflation, regulating or capping retail bills is tempting, but this reduces the signal to save energy. In countries like France, the full consumer bill was capped or regulated, while countries like Germany and Austria only capped or regulated 80% of the historical consumption of consumers to preserve the signal to save energy for the remaining 20% (referred to as block tariffs). All these measures were approved at EU level as temporary emergency measures.

*What is (not) in the proposal?*

The European Commission electricity market reform proposal foresees that, if we experience another extended period with extremely high prices in wholesale and retail electricity markets, the European Commission can declare that there is a ‘crisis’. The proposal provides a definition of a such a crisis.<sup>5</sup> The proposal also foresees that countries can take exceptional measures at retail level during a crisis, designed in a similar way to the good practice “block tariffs” applied by countries like Germany and Austria during the last crisis.<sup>6</sup> The proposition also foresees provisions for the protection from disconnections for vulnerable customers.

#### *Discussion*

If the proposal is adopted, and there is another crisis, Member States know when and how they are they are allowed to respond. Their response will also be more harmonized. The prescribed block tariffs are a good compromise between preserving the incentive to save energy and controlling inflation during a crisis.

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5 The European Commission can declare a (regional or Union-wide) price crisis if three conditions are met, i.e. prices in wholesale electricity market are expected to be at least two and a half times the average price during the previous 5 years for at least 6 months, retail prices are expected to increase at least 70% for at least 6 months, and the wider economy is negatively affected by the increases in electricity prices.

6 During such a price crisis, Member States may intervene to provide access to affordable energy, but the intervention should be limited to 70% of historical consumption for small and medium enterprises, and 80% of historical consumption for households.

## 4. Insufficient hedging by consumers and retailers

### *What is the issue?*

Some retailers went bankrupt when consumers needed them most. Other retailers tried to get out of the fixed-price contracts they had offered to their customers.<sup>7</sup> Consumers also discovered that there are risks related to dynamic price contracts. The concept of a supplier of last resort was already included in EU legislation, but countries were not obliged to have one. The forward markets that consumers and retailers could use to hedge themselves are not yet working as they should. The market liquidity<sup>8</sup> for contracts of up to 3 years ahead is limited in most countries.

### *What is (not) in the proposal?*

The European Commission electricity market reform proposal obliges suppliers to offer consumers the choice between a dynamic and a fixed price contract with more encompassing and clearer contract information. Member States need to ensure that suppliers have appropriate hedging strategies, so that they do not go bankrupt during a crisis when consumers count on the protection they paid for. Member States are also expected to appoint a supplier of last resort designated to take over the supply of electricity to customers of a supplier which has ceased to operate (they were already allowed to do it, but now they must).

The proposal also includes a significant step in the harmonization and integration of forward markets with long-term financial transmission rights (contracts of at least three years ahead of delivery) between each bidding zone and virtual hubs that need to be created. These transmission rights will be traded via a single auction platform, following methodologies setup by ENTSO-E and ACER (in consultation with ESMA).

### *Discussion*

There are some concerns related to the implementation of these provisions. First, provisions concerning the hedging strategies of suppliers may have ambiguous effects. Some oversight and support is positive, but going too far could be coun-

terproductive. It could interfere with the strategies of companies that have the required financial strength to deliver on their promises. We also need to avoid creating additional entry barriers for smaller players. Guidance to Member States and their national regulatory authorities on how to do this properly would be welcome. Second, the virtual hubs for long-term financial transmission rights. The few countries that have a well-functioning forward market might fear they will lose it, and some of the others may not yet be fully convinced the concept will work. However, the concept of virtual hubs has potential. As it would be implemented through a process (e.g. the network codes and guidelines process), the details can be refined.

## 5. Difficulties in accessing cheap renewables by consumers

### *What is the issue?*

This crisis has been a wake-up call for many households and businesses that had the resources to invest in PV-rooftops or other renewable resources, but had not yet undertaken necessary investment. Thanks to the EU Clean Energy Package, consumers can invest individually, or they can do it collectively via renewable energy communities and deduct their share of the production from their energy bill. In some countries, there has also been an uptake of Power Purchase Agreements (PPAs) between renewable developers and consumers. This has often been limited to consumers that are large enough (or able to team-up), have a high enough credit rating and are willing to commit to contracts of 10 to 15 years or longer.

We also realized during this crisis that most renewable support schemes are “one-sided”, i.e. they provide a subsidy when market prices are too low to cover the costs of the developer, but they do not foresee a refund when market prices go substantially above costs.

### *What is (not) in the proposal?*

The European Commission electricity market reform proposal strengthens the concept of energy sharing among prosumers (without the need to setup a renewable energy community). The proposal also

<sup>7</sup> The BEUC report “An electricity market that delivers for consumers” provides an overview with country case examples (BEUC-X-2022-111 - 24/10/2022).

<sup>8</sup> This is documented and explained in the ACER/CEER annual Market Monitoring reports.



calls upon Member States to make PPAs more widely available to consumers with measures such as state guarantees for the financial risks (which has already been done in some countries, like Spain and Norway).

The proposal also harmonizes support schemes for new RES (defined as wind, solar, geothermal and hydropower without reservoir) and new nuclear into two-way Contracts for Differences (CfDs).<sup>9</sup> There is also an obligation to distribute the revenues from these two-way CfDs to all final electricity consumers based on their share of consumption, and to make sure that this does not distort the price signal or undermines the competition among suppliers.

### *Discussion*

Improving the access of consumers to PPAs and energy sharing is very welcome. It would also be a good idea to develop contract templates at European level.

The harmonization of renewable support schemes into two-way CfDs also makes sense, but they need to be designed properly. The main risk with two-way CfDs is that the renewable developer has a guaranteed price and no longer responds to short-term price signals. When prices are negative, production should not be incentivized, rather the opposite. When prices are high, there should be an incentive to be available (for instance, by avoiding maintenance during these periods). Several academics<sup>10</sup> proposed solutions that could be translated into guidelines. It would be good to foresee the development of guidelines in the text of the market reform, or as an annex to the final text.

The allocation of revenues from two-way CfDs is a difficult topic. Some argue that the revenues will be limited because prices in the future will be lower than today, so the real issue is to allocate the costs rather than the benefits. Others argue that there will be revenues and that we need to make sure that all consumers will share the benefits. If there will be

many two-way CfDs in place, with a lot of revenues to be allocated via consumer bills, it will be difficult to avoid distortions of the price signal. This is one of the reasons to promote PPAs as an alternative or complement to two-way CfDs, another reason is to allow for innovation in contracts.

## **6. investment uncertainty**

### *What is the issue?*

The above mentioned measures, like PPAs, two-way CfDs, and the improved possibilities for consumers and retailers to hedge via forward markets and fixed-price retail contracts, can also help to reduce the investment uncertainty. In our previous policy brief (see footnote 3), we also proposed capacity mechanisms as an additional regulatory instrument to reduce investment uncertainty. If we have PPAs and CfDs for new renewable assets, capacity mechanisms could ensure that we have enough investment in backup solutions.

There is a long-standing debate on the need for capacity mechanisms to guide investments, versus relying solely on “energy-only” markets. The EU Clean Energy Package allows Member States to use capacity mechanisms at the national level, if they can demonstrate that they have an adequacy issue (via the European Adequacy Assessment, which can be complemented with an National Assessment), and that they have already done the necessary reforms to their electricity wholesale and balancing markets. The focus was on limiting the (ab)use of these mechanisms.

After the crisis, we are in a new context. The promise that we will not intervene in the electricity markets so that they can provide enough scarcity rents for investments is broken. As already mentioned in the introduction, wind fall profit taxes have been introduced, as well as caps on the revenues that power producers can generate in wholesale electricity markets, and caps on the bids that can be

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9 Two-way CfDs is defined in the proposal as: “a contract signed between a power generating facility operator and a counterpart, usually a public entity, that provides both minimum remuneration protection and a limit to excess remuneration.”

10 Huntington et al. (2017) discuss renewable support schemes based on a “reference plant”, Neuhoff et al (2017) talks about CfDs with a “market value factor”, Newbery (2023) discusses the concept of a “Yardstick financial CfD”, Hirth (2023) changes the concept into “financial CfDs”. References: 1) Huntington, S., P. Rodilla, I. Herrero and C. Batlle (2017). “Revisiting support policies for RES-E adulthood: Towards market compatible schemes”. Energy Policy, 104, 474-83; 2) Neuhoff, Karsten; May, Nils; Richstein, Jörn (2017): Incentives for the long-term integration of renewable energies: A plea for a market value model, DIW Economic Bulletin; 4) Newbery, D., 2023. Efficient Renewable Electricity Support: Designing an Incentive-compatible Support Scheme. The Energy Journal, 44(3); 5) Schlecht, Ingmar; Hirth, Lion; Maurer, Christoph (2022): Financial Wind CfDs, ZBW – Leibniz Information Centre for Economics, Kiel, Hamburg.

submitted by power producers in these markets. It is understandable that these emergency measures were taken during the crisis. Capacity mechanisms would probably not have prevented this crisis<sup>11</sup>, but they can help reduce the investment uncertainty that resulted from this crisis.

### *What is (not) in the proposal?*

The European Commission electricity market reform proposal did not re-open the discussion on capacity mechanisms, but it does give more importance to these mechanisms by associating them with support for flexibility (defined as demand response and storage).<sup>12</sup> Countries that do not have a capacity mechanisms, may introduce direct support schemes for flexibility. Countries that do have a capacity mechanism, can introduce support for flexibility via these mechanisms. It is also foreseen that system operators can develop new peak shaving products to enable demand response.

The proposal does not address the claw-back mechanisms. This means that they will stop, unless they are extended as an emergency measure. The reform has not incorporated this dimension of the emergency measures.

### *Discussion*

After the 2022 energy crisis and the adoption of the ambitious Fit-for-55 package, we enter a new era. We are more worried about underinvestment and we are more aware of our interdependence. The strategic choices of our neighbors, like dependence on Russian gas, can expose the bloc to systemic risks.

Many countries already have a capacity mechanism or are in the process of developing one. These mechanisms could become an important tool to prevent crisis situations. The harmonization and integration of capacity mechanisms could be done through network codes and guidelines. We understand that it has not been picked up in the current proposal, and it would be risky to add it in the trilogue negotiations.<sup>13</sup> However, it could be part of a bigger reform under the mandate of the next Commission. If these mechanisms are modernized to be fully compatible with the Fit-for-55 package for 2030 and net zero climate target for 2050, they can also support storage and demand response (so that there is no need for a separate national support scheme for flexibility).

Some Member States would like long-term contracts to be available more widely for existing assets.<sup>14</sup> If utilities voluntarily enter into these contracts, consumers risk to overpay.<sup>15</sup> If utilities are forced into these contracts, it can be considered a retroactive change to the support schemes for renewables, and an expropriation of property for other assets. An impact assessment of the claw back mechanisms is missing<sup>16</sup>, but we already know they create distortions. These mechanisms start from the revenues power producers would have earned if they would have sold their electricity in the short-term markets (such as day-ahead, intra-day and balancing markets). However, if power producers sign forward contracts or PPAs, they do not necessarily have excess profits in the generation business. If the claw back mechanism ignores these contracts, the mechanism risks to claw back revenues that the generators do not have, and it can

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11 Resource adequacy assessments do not yet consider systemic risks, like the dependence on Russian gas.

12 ENTSO-E and the EU DSO Entity, in interaction with ACER, are expected to develop a methodology to assess hourly, daily and seasonal flexibility needs in each Member State every 2 years with a time horizon of at least 5 years. The results will be published by the national regulatory authorities, and Member States have to set indicative national objectives for demand-side response and storage in their national energy and climate plans. They may also introduce a support scheme to achieve these objectives, which needs to be integrated into their capacity mechanisms if they have one.

13 Fossil-fuel and nuclear plants have been the main beneficiaries of capacity mechanisms in Europe (See the ACER and CEER Market Monitoring Reports for statistics). If the discussion on capacity mechanisms is re-opened now without a detailed impact assessment, we risk that certain provisions are weakened, like the emissions limits that prevent the most polluting plants from being subsidized and the European resource adequacy assessment.

14 In some cases, existing assets could be supported by 2-way CfDs (Art 19.b.1 of the proposal): “New investments for the generation of electricity shall include investments in new power-generating facilities, investments aimed at repowering existing power-generating facilities, investments aimed at extending existing power-generating facilities or at prolonging their lifetime.”

15 E.g. see the experience in California where the state intervened in the 2000-2001 energy crisis by signing long-term contracts on behalf of consumers. These contracts have been criticized, see for instance the report by the California State Auditor in December 2001: “California Energy Markets: Pressures Have Eased, but Cost Risks Remain”

16 ACER announced to publish something by July 2023.

also disincentivize them to hedge. If the mechanism corrects for these contracts, power producers that have a retail business can sign a favorable contract with their retail business to avoid the revenue cap, which distorts the competition with other retailers. If the trilogue were to amend the text so that Member States “may” continue these practices, we risk that they further undermine investor confidence.<sup>17</sup>

## 7. Conclusions

We conclude with the two main reasons why we like the European Commission electricity market reform proposal, a recommendation to improve the proposal, the main risk for the trilogue negotiations, and the need for a bigger reform.

### *Two main reasons why we like the proposal*

- The proposal preserves the pricing mechanism of the short-term electricity markets (day-ahead, intra-day and balancing markets). These markets are not the problem, they are part of the solution.
- The proposal complements the existing electricity markets with regulatory measures to address the main concerns that emerged during the crisis: energy poverty and inflation (addressed with block tariffs to respond to the next price crisis); insufficient hedging by consumers and retailers (addressed with the right to have a fixed-price retail contract, appropriate hedging strategies for suppliers, a supplier of last resort in each Member State and a harmonized and integrated market for long-term financial transmission rights); difficulties in accessing cheap renewables by consumers (addressed with PPAs, two-way CfDs, and energy sharing); and investment uncertainty (addressed via PPAs, two-way CfDs, improved hedging by consumers and retailers, and by allowing Member States to provide direct support for flexibility, such as demand response and storage).

### *Recommendation to improve the proposal*

- The proposal could include the development of detailed guidelines for the implementation of two-way CfDs. Developers that sign such a contract should still be exposed to the incentives of short-term wholesale and balancing prices.

### *Risk for the trilogue negotiations*

- The proposal does not foresee that Member States can continue with revenue claw back mechanisms and/or (regulated) long term contracts for existing assets. Some Member States might want to add that option to the proposal. Undermining investor confidence in this way would be unfortunate because we have to speedup investments to comply with the Fit-for-55 Package.

### *Need for a bigger reform*

- After the 2022 energy crisis and the adoption of the ambitious Fit-for-55 package, we enter a new era. If we modernize and Europeanize capacity mechanisms, they can guide the investments we need in backup solutions for a renewable-based system, which includes demand response and storage (so that there is no need for a separate national support scheme for flexibility).
- Later this year, we will publish a policy brief with our recommendations for the next European Commission for a bigger reform, including capacity mechanisms.

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<sup>17</sup> As said in the EC Staff Working Document, p. 50-51: “embedding the inframarginal revenue cap or similar emergency measures as a permanent feature of the market design would entail unnecessary risks and costs”.

## 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](https://fsr.eui.eu)*

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*The Robert Schuman Centre for Advanced Studies (RSCAS), created in 1992 and directed by Professor Erik Jones, aims to develop inter-disciplinary and comparative research on the major issues facing the process of European integration, European societies and Europe's place in 21<sup>st</sup> century global politics. The Centre is home to a large post-doctoral programme and hosts major research programmes, projects and data sets, in addition to a range of working groups and ad hoc initiatives. The research agenda is organised around a set of core themes and is continuously evolving, reflecting the changing agenda of European integration, the expanding membership of the European Union, developments in Europe's neighbourhood and the wider world.*

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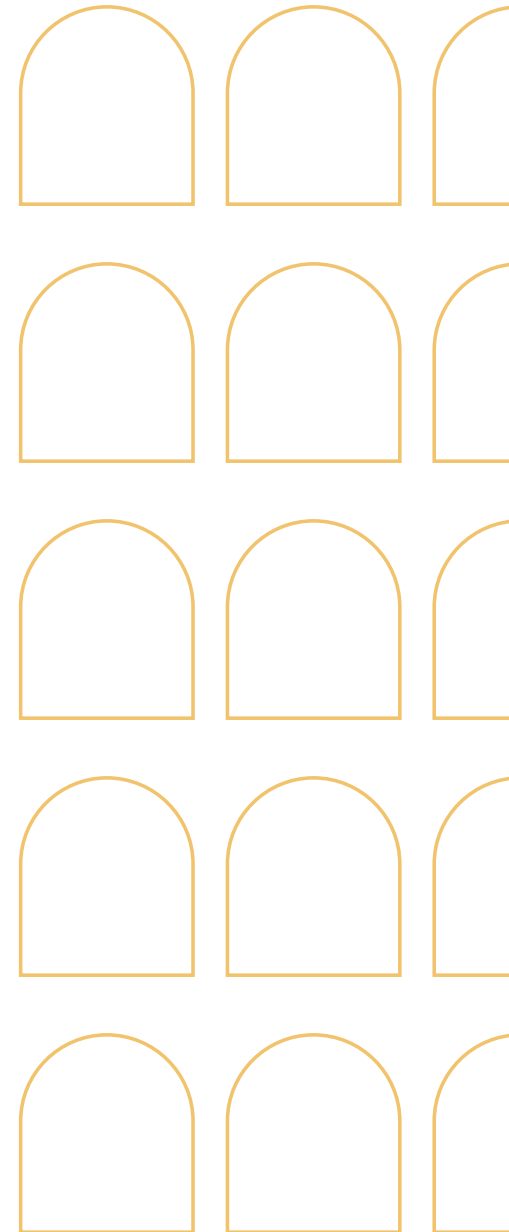
Co-funded by the  
Erasmus+ Programme  
of the European Union

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Published by  
European University Institute (EUI)  
Via dei Roccettini 9, I-50014  
San Domenico di Fiesole (FI)  
Italy



doi:10.2870/81069  
ISBN:978-92-9466-365-8  
ISSN:2467-4540  
QM-AX-23-007-EN-N