

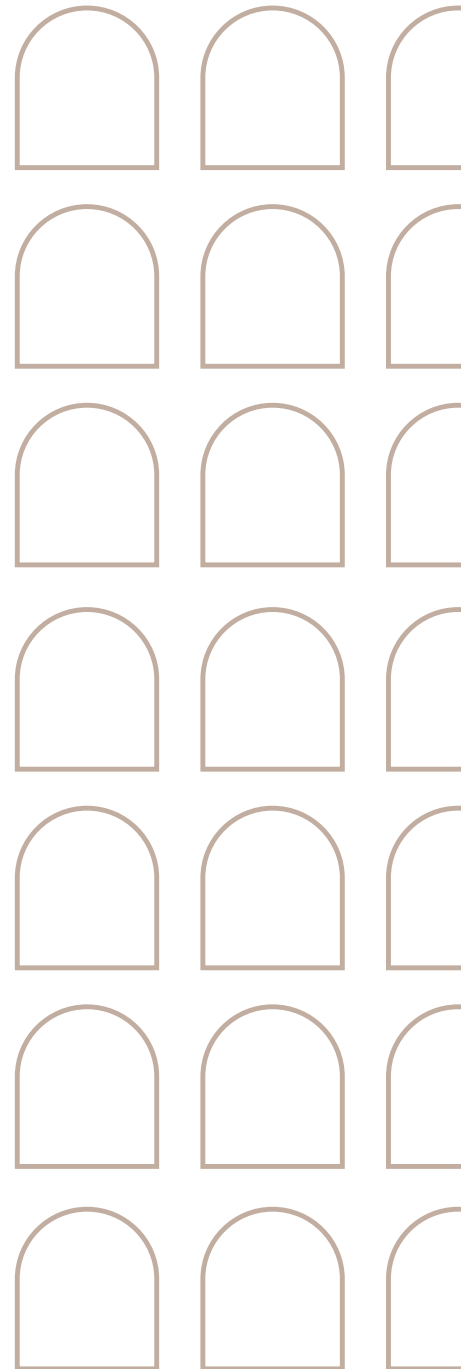
STG Policy Papers

POLICY BRIEF

TACKLING ENERGY PRICE SHOCKS ON THE ROAD TO CLIMATE NEUTRALITY

Authors:

Jan Cornillie, Jos Delbeke and Christian Egenhofer



EXECUTIVE SUMMARY

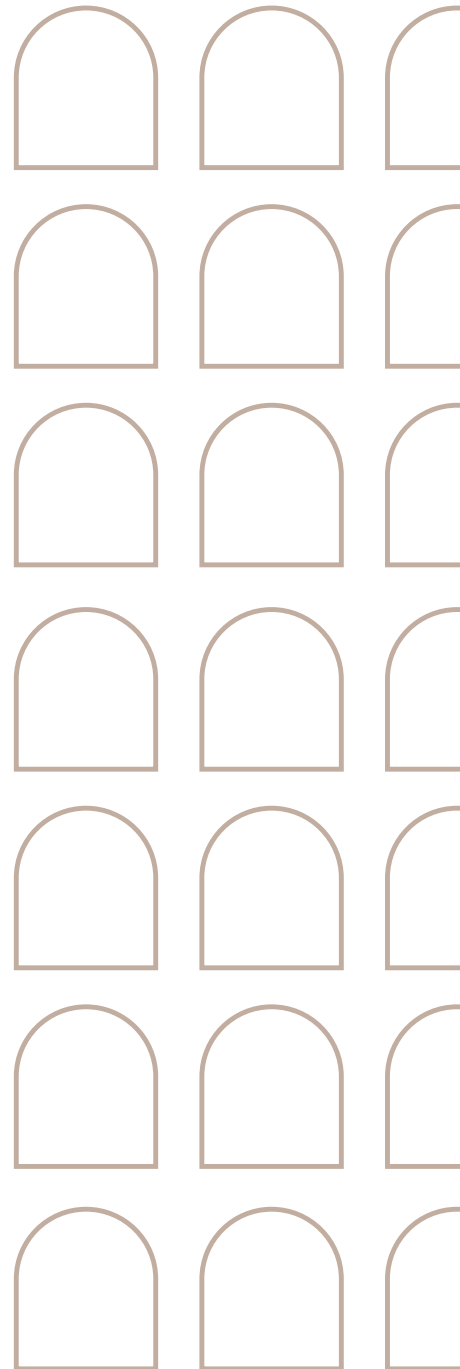
'Never waste a good crisis', so the saying goes. This should also apply to the current energy price shock. This Policy Brief discusses a possible menu of measures to deal with the immediate social consequences of high energy prices without undermining the climate targets of the Climate Law and the finalisation of the 'Fit for 55' package.

Authors and acknowledgements:

Jan Cornillie | Research Associate, EUI School of Transnational Governance

Jos Delbeke | EIB Professor of Climate Policy, EUI School of Transnational Governance

Christian Egenhofer | Senior Research Associate, EUI School of Transnational Governance



1. THE UNEXPECTED ENERGY PRICE HIKE OF AUTUMN 2021

Today gas prices in Europe are over €70 per megawatt hour (MWh), more than double their 2019 level.¹ Wholesale electricity prices in some member states exceed €155 per MWh, up from around €40 MWh pre-pandemic². By mid-September, the EU Emissions Trading System (EU ETS) allowances reached levels above €60 per tonne of carbon dioxide equivalent (CO₂e), over three times higher than the pre-pandemic level. These price rises are extraordinary, both in their levels and in the speed of their increase. Much has been written about how we got here.³ The post-pandemic recovery combined with a wind-poor summer, on top of a long and cold spring, were driving gas demand and depleting storage. This situation was reinforced by production problems in Norway and Russia - with a possible lack of interest from Russia and Gazprom to deliver more gas to Europe - and strong gas demand from China. At projected prices, the European gas bill for the coming winter could be more than €200 billion higher than last year.⁴

A distinction should be made between gas and electricity both as regards the causes and therefore also the implications and remedies. The cause for high natural gas prices are to be found on the global demand and supply balance. Europe, like most other regions in the world except the US, is a price-taker. The principal cause for the rising electricity prices has been record gas prices, reinforced by the way European electricity markets work. Also, the EU ETS has to some extent been a factor. The immediate result in terms of climate effects is not good, as the use of hard coal has become economically attractive again, thereby halting the trend of steadily declining greenhouse gas emissions from the EU's power sector.

A doubling of wholesale electricity prices and drastic increases in gas prices, should they persist, "will shrink the disposable income of the poorest households with their high propensity to consume" and "reverberate through supply chains and cause inflationary pressure". Social implications for households and industry differ for gas and electricity if we look at the components of energy prices across the EU.⁵ Roughly 40% of the final household electricity price is due to the energy component, and this dampens its overall impact. This is less the case for gas where the energy component is generally higher. Still, the combined increase of electricity and gas prices is considerable and will be felt by all consumers. Large industrial consumers are hit harder because the energy component is responsible for almost 80% of the final energy price.⁶ At least, as almost the entire globe is suffering from the supply-demand imbalance for gas, competitive distortions to the disadvantage of the EU remain limited.

2. THE SOCIAL IMPACT OF THE CLIMATE TRANSITION IS NOW AT THE CENTRE OF THE DEBATE

Member States and the European Commission are now grappling with the social, economic, and political consequences. The Spanish government sent a letter to the European Commission defending the policy measures it recently took to deal with this situation and pleading for a coordinated European response. The price shock deepens the energy affordability gap in Europe at a time when big, socially sensitive decisions on the energy transition have to be made. The 10 member states where the highest share of disposable income is necessary to pay the electricity bills are all eastern and southern European Member States.⁷ In Romania and Spain, households spend more than 4% of their disposable

1 EUROSTAT, Statistics explained (Online Publication)

2 European Commission, Energy Prices and Costs in Europe, 2020

3 See International Energy Agency, Statement on recent developments in natural gas and electricity markets

4 Calculations based on TTF prices and ENTSOG Winter Supply Outlook 2020/2021 and Summer Review 2020

5 European Commission, Energy Prices and Costs in Europe, 2020, pp. 3/4

6 EUROSTAT, Energy Consumption in Households (Online Publication), Table 4, Energy EUROSTAT Statistics explained https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_consumption_in_households#Use_of_energy_products_in_households_by_purpose

7 Calculations by Javier Lopez Prol based on Eurostat electricity prices for medium-sized households and gross disposable income of households per capita, both in purchasing power parity

income on electricity bills, and this is rapidly increasing now.

The current price shock is a test for the agility of European governments to guide long-term climate policy past short-term crises. In the medium- to long-term, the EU Climate Law and the Fit for 55 package should be able to weather the current storm. Meanwhile however, the social impact of the current price shock must be dealt with in the short-term. 'The European Green Deal is going to be just, or there is just not going to be a European Green Deal', stated the European Commission's Vice-President Timmermans before the European Economic and Social Committee in June 2021. Now is a good moment to prove it. Coordination at European level seems useful to support in particular those Member States feeling the strain more acutely and may also be helpful to safeguard the internal market.

3. THE POLICY RESPONSE SHOULD BE TEMPORARY, REPEATABLE, AND TARGETED

When considering responses, one should remember that this is a temporary price shock due to exceptional circumstances. Extreme price volatility is not unusual in energy markets. Between 2019 and 2020 household customers enjoyed a year on year 20% decrease in their gas prices.⁸ Forward markets indicate that in the medium-term the gas price will go down again. Norway announced it would step up gas deliveries by 1 October 2021. There is gas in abundance, the European supply infrastructure is still being improved and the energy transition, if successful, will lower demand for gas for heating and industry. Asian gas demand will eventually slow down, thereby reducing global gas prices.

This would call for a response that is temporary and that could be implemented almost immediately by those Member States who feel a pressing need to act. The European Commission should possibly organise a debate to support them and guide their action, but any

legislative activity would take too much time. At the same time, thought should be given to how to tackle some more fundamental issues as another global price increase cannot be ruled out. Policy responses should be repeatable so that there will be no time wasted should the EU face another price spike.

The current price shock, even if temporary, has major distributional impacts that need to be addressed in a targeted way. Around a third of the population save very little,⁹ making up-front investment in low-carbon alternatives such as heat pumps or electric cars almost impossible. These people will defer other expenses or investments or, worse, go into arrears on their energy bills. Direct income support should therefore become a key element in the EU's toolkit and should be directed towards those in fuel poverty and those at risk of falling into it.

In the medium to longer-term, some more important modifications should be considered. More renewables and improved energy efficiency should make the EU structurally less dependent on global commodity prices, such as gas. During the transition period however, increasing the share of renewable energy in the energy system will make the demand for fossil fuels more volatile and more seasonal. While demand response, storage and peaking plants provide flexibility, the business model is built on peak pricing. Hence, the EU should prepare for more volatility, i.e. more periods of very high and very low prices. European and national regulatory frameworks should be equipped towards alleviating and not amplifying this price volatility.

4. USE EU ETS AUCTIONING REVENUE FOR IMMEDIATE DIRECT INCOME SUPPORT AND FOR ACCELERATING THE ENERGY TRANSITION

While households and businesses are affected by rising prices, governments benefit from additional revenue through auctioning of EU

⁸ Based on EUROSTAT figures

⁹ Household savings observatory (2021), Resilience/vulnerability of Spanish households in the face of COVID-19. Disparities in the distribution and composition of savings in Europe, p.24 / Späth, J. and Schmid, K.D. (2016), The Distribution of Household Savings in Germany, IAW Diskussionspapiere, No. 128, IAW / Banca d'Italia (2018), Survey on Italian Household Income and Wealth, Statistics / Céline Antonin (2019), The Links between Saving Rates, Income and Uncertainty: An Analysis based on the 2011 Household Budget Survey, Economie et Statistique Année 2019 513 pp. 47-68

ETS allowances at higher prices and extra VAT (as a percentage of the energy bill). Slightly more than half of the emissions allowances are being auctioned, the bulk of proceeds going to the Member States. At the current future prices for EU ETS allowances, revenues of auctioning could exceed €50 billion in 2022.¹⁰

The EU ETS Directive already allows governments to use the EU ETS revenues to support energy bills in the form of real income support for those who need it most. Spain for example announced plans to use €900 million in auction revenues to compensate households. The preferred and fastest way to alleviate fuel poverty is undoubtedly to use revenues already being collected. At the same time governments could also use these to reduce excise duties and other charges, although this may take somewhat longer as laws would need to be changed.

Through the use auction revenues, Member States could de facto start implementing the Social Climate Fund in advance of its legal adoption. This Fund foresees €72 billion from 2026 to support vulnerable and energy poor households to facilitate their transition to net zero. Member States would be allowed to spend these funds on support for transition investments and, only temporarily, on direct income support. By using part of the EU ETS revenues, Member States would be able to demonstrate and influence the orientations of the Social Climate Fund. Practical experiences could be exchanged, and this may help to speed up the negotiations between Council and Parliament. The European Commission could also disclose more precise information about how it intends to organise the Social Climate Fund.

The current price shock highlights the need for direct income support and social tariffs for electricity and fossil heating fuels to accompany the energy transition. Most governments have so far neglected to develop transition policies consistent with the net zero objective while at the same time tackling energy poverty. Also, the Commission proposal on the Social Climate Fund prefers to avoid subsidising

gas or heating oil bills of poor households. However, this will undoubtedly be needed in the first decade of the transition, assuming price hikes will occur again. The current price hike presents an opportunity to elaborate on the neglected dimension of energy poverty, and to start developing it now.

Whereas the gas price risks having the most immediate social impact this winter because of gas-fired heating, the high electricity prices all over Europe pose a real challenge to the Fit for 55 package. The package basically demands European households to electrify their cars and homes and power them with renewable electricity within the next 10 to 20 years. While this is the right long-term direction, a timely and successful transition acceleration during this crisis may be challenging. European EV leader Volkswagen is already warning that the electrification of the car fleet cannot possibly go faster, as some physical production limits are being hit. The renovation wave is already suffering from a shortage of building materials. For this price shock, it is too late to look for more low-carbon investments as winter is coming. But investment in EV's, insulation and heat pumps and energy efficiency should be put pro-actively on the political agenda on the use of EU ETS revenues and in particular on the elaboration of the Social Climate Fund.

5. FUTURE-PROOF REFORM ENERGY TAXATION AND RENEWABLE SUBSIDIES

The preferred and fastest way to alleviate fuel poverty is undoubtedly to use existing auctioning revenues in a targeted manner. It avoids hasty interventions such as lowering VAT rates or interfering in the markets. Yet it raises a more fundamental question about the structure of prices and incentives given to consumers, and whether these are well equipped to cater for the price hikes we currently experience.

Some will argue that the government should not try to 'fix' the movement of wholesale prices. However, through the large proportion of taxes, levies, and charges in the household price for energy, governments have been

¹⁰ Based on European Commission (2020)7704, Commission decision of 16.11.2020 on the Union-wide quantity of allowances to be issued under the EU Emissions Trading System for 2021, auctioning rate confirmed by European Commission, https://ec.europa.eu/clima/policies/ets/auctioning_en and EUA market data

doing this for a long time. Member States should use their energy taxation power in a more targeted, policy-oriented way, both for social and climate purposes. They could start by alleviating this price shock, while at the same time being transparent about the future tax increases.

There needs to be a mechanism to combine Member States' decisions to lower excise duties now with the long-term energy taxation that is compatible with the Fit for 55 objectives. The so-called '[cliquet, or ratchet, system](#)' might be used dynamically to increase resilience to future price shocks and to progressively shift taxation from electricity to fossil fuels. It would work as follows: when wholesale prices are peaking, Member States could lower excise duties, as Spain has decided. But this should only be the first step. At the same time, governments should decide to offset future wholesale price decreases by raising excise duty. Using such a system, the movement of excise duties would go against the movement of the wholesale price, thereby stabilising the gas price in an upward price path. It also allows for the correction of under-taxation of fossil heating and future budgetary consolidation. The long-term policy should be higher carbon taxation of fossil heating fuels and rebalancing of taxation from electricity to fossil fuels. The current electricity and gas price shocks are an opportunity to start including a carbon price component in fossil heating while lowering the taxation on (increasingly renewable) electricity.

There are more fundamental questions that Spain has raised in its recent letter to the European Commission on the current energy price increases. Even though the emission intensity of the Spanish power mix has halved, fossil fuels still determine the electricity price at the margin. This is the result of the European design of wholesale electricity markets and the EU ETS, which are working efficiently, but can lead to a situation where the combination of a high gas and a high EU ETS price leads to record electricity prices, even with a high share of renewables. While consumers are seeing their energy bills increasing, some sources with

low-marginal cost such as nuclear, hydro and renewable plants now gain big windfall profits. Excessive profits combined with record prices and public subsidies for energy assets threaten political acceptability of the future energy market design.

A solution to this would be to tax infra-marginal rents,¹¹ especially on assets that have been built with public support, for example old hydro or nuclear power stations which received lifetime extensions. For renewables, a review of the subsidies could be considered to take into account the electricity price, turning them into contracts for difference, i.e. linking the level of subsidies to the wholesale price. Such modifications would keep the efficiency of electricity markets intact while allowing for more fairness in the system through the use of the revenue for direct income support.¹²

6. A REALISTIC VIEW ON DIVERSIFICATION AND SECURITY OF SUPPLY POLICIES

The current energy price hike raises new questions related to the strategy of renewables combined with flexible gas in the energy mix. Lack of wind in summer and lack of sun in winter needs alternative generation sources. Apart from short-term electricity storage, gas is the balancing fuel of choice in most National Energy and Climate Plans. For the next two decades, and possibly beyond, this mix still seems a valid option, perhaps diversified with biogas and hydrogen, but the resilience of the option will need to be scrutinised, especially when it comes to costs and price risk.

Increasing the possibility for consumers to capture the low-price moments in the electricity market is one part of the solution. This could go fast for high-end consumers, willing and capable to invest in solar panels, home batteries or smart meters. For the average households, it will depend on utilities capturing these low prices, through virtual power plants and pumped storage, and transferring them through dynamic tariffication. Governments complaining about the European electricity

11 In a competitive market where price equals marginal cost, those producing below the price earn so-called inframarginal rents.

12 Belgium has a well established system of taxing infra-marginal rents during the lifetime extensions of the nuclear power stations.

market should put effort in helping consumers capture the benefits of it.

Even with better flexibility services, we will need gas to balance the system for decades to come.¹³ Hence, we should expect that the diversification of the energy mix and energy security returns to the agenda of the EU and Member States. The current price shock marks the end of a relatively long period of cheap gas in Europe. It also confronts us with how dependent the EU still remains on global commodity markets, even if one third of our power comes from renewable energy and more than 20% from nuclear, both independent from global fuel price cycles.

Another issue is the dependence of the EU on global LNG spot markets and the question of whether it would not be better to rely on long-term gas supply contracts with lower price volatility. The EU's gas procurement shifted from [80% long-term and 20% spot to the reverse](#). A better balance might be needed. The challenge is to move towards this long-term solution while dealing with the shortage of gas in the short run.

7. CONCLUSION

This energy price crisis should not be wasted. Expensive fossil fuels give incentives for greater energy efficiency and improves the business case for renewables and new technologies without subsidies. Together with the massive European support for research, development and innovation, such as the EU Innovation Fund, NextGenerationEU and other instruments, high energy prices will facilitate the route to market for innovations. Scaling them up will bring their costs down. The technologies for the energy transition are available. The path to net zero requires a leap into new low-carbon investments and transition away from old fossil fuel infrastructure.¹⁴ For this to happen, there is a need for a stable macro-economic environment and solid political acceptability of the energy transition. Very high energy or carbon prices may jeopardise both and could endanger the benefits of the European

electricity market. Addressing these challenges should be high on the political agenda. The good news is that today the EU has a coherent and clear view about its energy and climate future, anchored in legislation and strongly endorsed after much democratic debate.

The European energy and climate policy framework will now be tested. It can come out more resilient. The energy price shock is a reminder that moving the green deal to the centre of economic policy needs to be done diligently, to manage the risk of creating price instability, fiscal and social imbalances. It can be done, but it will require strong policy coordination, including on social impacts and energy security, to maintain low-carbon investment decisions throughout cyclical periods of high energy prices. The EU Commission together with Member States must deal with the energy price volatility in a targeted manner, whilst maintaining the benefits of the European energy market and doubling down on the energy transition.

¹³ Even under the IEA net zero by 2050 scenario, there will still be some unabated gas in the system by 2050.

¹⁴ Jean Pisani-Ferry (2021), Climate policy is macroeconomic policy, and the implications will be significant, Policy Brief 21-20

The School of Transnational Governance (STG) delivers teaching and high-level training in the methods, knowledge, skills and practice of governance beyond the State. Based within the European University Institute (EUI) in Florence, the School brings the worlds of academia and policy-making together in an effort to navigate a context, both inside and outside Europe, where policy-making increasingly transcends national borders.

The School offers Executive Training Seminars for experienced professionals and a Policy Leaders Fellowship for early- and mid-career innovators. The School also hosts expert Policy Dialogues and distinguished lectures from transnational leaders (to include the STG's Leaders Beyond the State series which recorded the experiences of former European Institution presidents, and the Giorgio La Pira Lecture series which focuses on building bridges between Africa and Europe). In September 2020, the School launched its Master-of-Arts in Transnational Governance (MTnG), which will educate and train a new breed of policy leader able to navigate the unprecedented issues our world will face during the next decade and beyond.

The STG Policy Papers Collection aims to further the EUI School of Transnational Governance's goal in creating a bridge between academia and policy and provide actionable knowledge for policy-making. The collection includes Policy Points (providing information at-a-glance), Policy Briefs (concise summaries of issues and recommended policy options), and Policy Analyses (in-depth analysis of particular issues). The contributions provide topical and policy-oriented perspectives on a diverse range of issues relevant to transnational governance. They are authored by STG staff and guest authors invited to contribute on particular topics.

School of Transnational Governance
European University Institute
Via dei Roccettini, 9, I-50014 San Domenico di Fiesole (FI), Italy
Tel. +39 055 4685 545
Email: stg@eui.eu

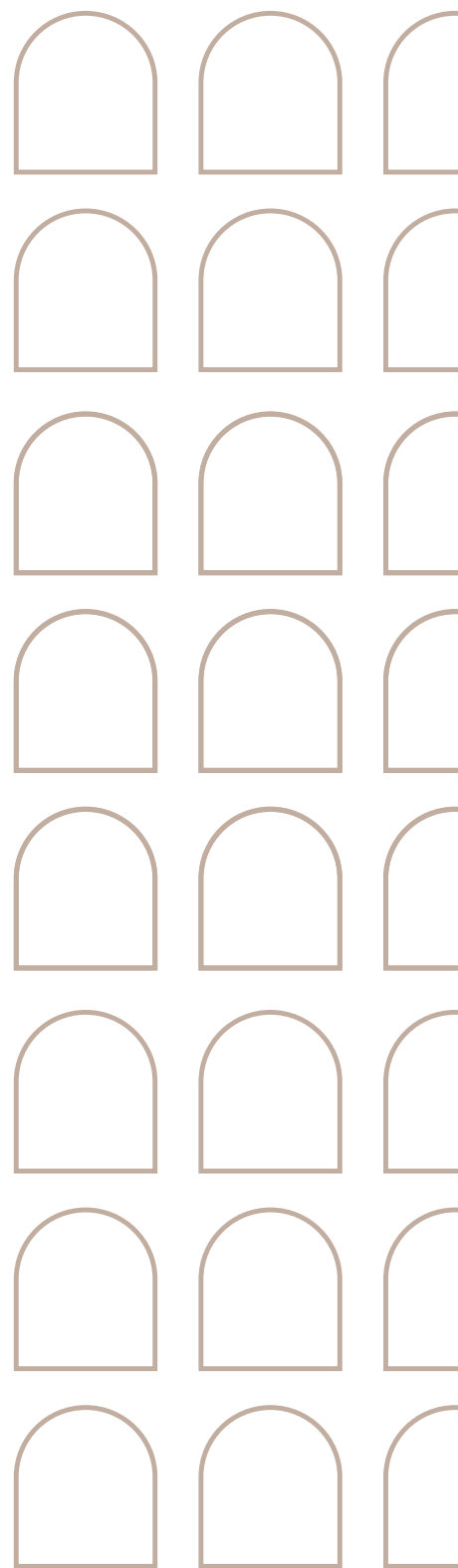
www.eui.eu/stg



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

The European Commission supports the EUI through the European Union budget. This publication reflects the views only of the author(s), and the Commission cannot be held responsible for any use which may be made of the information contained therein.

This work is licensed under the [Creative Commons Attribution 4.0 \(CC-BY 4.0\)](https://creativecommons.org/licenses/by/4.0/) International license which governs the terms of access and reuse for this work. If cited or quoted, reference should be made to the full name of the author(s), editor(s), the title, the series and number, the year and the publisher.



doi:10.2870/702021
ISBN:978-92-9466-019-0
ISSN:2600-271X
QM-BA-21-017-EN-N

© European University Institute, 2021