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Prospects for Consumers in a European Energy Union

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1

EXECUTIVE SUMMARY

Against the background of the Ukraine crisis former Polish Prime Minister Donald Tusk launched an initiative to strengthen the position of the European Union against Russia. In the meantime the European Commission has made this “energy union” into one of the strategic foci of its activities. The Energy Union has developed into a broad strategic package, bundling declarations of intent, specific goals and measures in all areas of European climate and energy policy, especially electricity market-related issues. Although in many respects the Energy Union encompasses familiar issues, it also strikes a new note in several respects through downstream initiatives or new impulses towards already known aims. The value of these initiatives will become apparent in the course of their implementation.

On this basis in the present study we shall evaluate individual strategic elements of the Energy Union from a consumer perspective in order to come up with an overall assessment from a consumer standpoint. In doing so we shall complement the usual political assessments of an energy union with an energy-industry perspective. Another focus shall be the hitherto less debated – but of particular relevance from a consumer perspective – strategic elements of energy union related to the electricity market. The following points should be emphasised here.

Consumers are likely to benefit from further network expansion, not necessarily for all countries, but for European consumers overall. Against this background the – at least for 2030 – ambitious network goals of energy union are welcome. Experience has shown, however, that network expansion fails less due to ambitious announcements than procedural impediments and a lack of acceptance. On this point German policy is also called into question. As the debate over the past year on network expansion within Germany shows, the evident lack of political support can be cited, which can also have repercussions for cross-border projects.

Regardless of the question of whether capacity mechanisms make sense in individual member states, such mechanisms, if introduced, should certainly be coordinated. A key basis for this is the unification of methodologies for assessing security of supply striven for within the framework of an energy union. It is thus to be welcomed from a consumer standpoint. German policy is clearly to be recognised as a

driving force in all this – for example, in the Pentalateral Forum – and should continue its efforts.

Implementation of the existing EU guidelines on renewable energy support mechanisms – especially tendering and strengthening of the market integration of renewable energies – can boost competition and cost efficiency and is thus to be welcomed from a consumer standpoint. Regional co-operation between member states – for example, proportional opening up of tenders for participants from neighbouring countries – represents a sensible step before more far-reaching cooperation approaches (quota models) whose benefits have not been proven conclusively. Regional cooperation will reveal scope for potential efficiencies and relieve consumers without necessarily restricting national arrangements. This form of cooperation should be encouraged for the sake of consumers. Germany has committed itself to implementation of the EU guidelines; also envisaged are approaches to a proportional opening up to foreign projects. As long as this is done on the basis of the principle of reciprocity it is to be welcomed from a consumer standpoint.

Closer European integration of wholesale market regulations – in particular market coupling – enables more efficient deployment of renewables, power stations and storage facilities. This is reflected in lower wholesale electricity prices and energy-balancing costs overall, from which consumers can benefit indirectly. Counter-positions are not discernible in the energy policy debate. German policy should therefore continue to support these initiatives, integrated in the European framework.

Highly competitive end-user markets offer advantages from a consumer perspective. Deregulation of end-user prices can contribute to this substantially. A carefully aligned transitional strategy accompanied by alternative measures is therefore necessary on the (foreign) markets affected. There is no need for action with regard to German policy in this context because electricity prices in Germany are not regulated. However, against the background of rising end-user electricity prices it should be ensured that energy poverty is properly addressed outside energy markets.

Participation on an equal footing on the part of flexible consumers in the electricity and flexibility markets makes good

sense and leads to a level playing field for load and generation technologies. For this purpose in particular entry barriers in the regulatory framework should be removed. A one-sided preference for load-side flexibilities, however, is not worthwhile in energy-industry terms and harbours the danger of unnecessary cost burdens for end-users. Thus in particular a broad rollout of smart meters, at least in Germany, is to be rejected from a consumer standpoint.

Decentralised own generation and the storage of electricity that may go with it is fundamentally to be welcomed from a consumer standpoint. If excessive incentives for own generation arise from support or derogation regulations, however, and as a result distribution effects arise at the expense of other consumer groups, then there is cause for concern. It remains to be seen what consequences develop in detail from the Commission's initiative. From the perspective of German consumers at least the incentives for own generation and storage should be reduced.

Besides the abovementioned substantive points the Energy Union would also be innovatory at the organisational level. For example, the Energy Union envisages a more important role for regional initiatives and cooperation between the member states. A regional approach enables the affected member states to make progress also in areas on which consensus has not yet been reached across the EU, which in the end could benefit consumers. The Energy Union is thus generally unideological. Although far-reaching ideas about the harmonisation of market design have not gone away, they have been put to one side for the time being by political realities in recent years. This argues in favour of pragmatism and certainly increases the likelihood of success of the Energy Union. Overall the Energy Union includes many points that are to be regarded positively from a consumer standpoint. Here the problem is often less the general thrust, than the fact that individual initiatives do not go far enough. But here, too, a conclusive judgement will be possible only when things have been firmed up considerably.

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2

INTRODUCTION AND PRESENTATION OF THE PROBLEM

Against the background of the Ukraine crisis former prime minister of Poland Donald Tusk launched an initiative to strengthen the position of the European Union vis-à-vis Russia. The focus of the initiative was diversification of gas supply and joint representation of European countries in negotiations on gas purchase contracts with Russia or the Russian gas supplier Gazprom (Tusk 2014). Thus the “energy union” was born, an idea that found broad resonance in the energy policy debate.

In the meantime the European Commission under Jean-Claude Juncker has turned the Energy Union into a strategic focus (Juncker 2014) and in February 2015 a Communication was published containing its ideas on the Energy Union (European Commission 2015). Its subject, according to the title, is a framework strategy for a crisis-proof energy union with a future-oriented climate protection strategy (hereafter: the “Energy Union”). The original focus (see above) has been much expanded. The Energy Union has been developed into a broad strategic package that bundles together declarations of intent, specific goals and measures in all areas of European climate and energy policy, in particular on electricity market-related issues. A first, more concrete paper has now been published, the so-called “Summer Package”.

In particular, the added strategic elements related to the electricity market potentially have direct effects on consumers in European and Germany. Thus the Energy Union is a key consumer policy topic from both a European and a German perspective. For example, the European Consumers’ Organisation (BEUC) regards the Energy Union as basically positive (“We welcome this initiative. Finally we have a broad strategy to build a truly European energy market.”), although it also makes it clear that from a consumer perspective low energy prices and market transparency take priority: “Building an Energy Union is an ambitious idea, but policymakers shouldn’t lose sight of the fact that fair prices and simple offers need to be delivered first” (BEUC 2015).

These quotations indicate the range of views among consumer associations, but they are also in line with the views of many member states and other energy market actors. Thus the Energy Union is conceived so broadly that it tends to be regarded as positive overall (Stiftung Wissenschaft und Politik

2015), whether or not individual strategic elements are taken to be positive or negative (Zachmann 2015).

On this basis, in the present study we shall provide an assessment of individual strategic elements of the Energy Union from a consumer perspective in order to come up with an overall assessment from a consumer standpoint. In the course of this we shall round out the often politically skewed evaluations of the Energy Union with an economic perspective. Another focus will be the strategic elements of the Energy Union related to the energy market, which have hitherto been relatively neglected despite their particular importance from a consumer perspective.

Our assessment of strategic elements in what follows shall be qualitative, focusing on the consequences for the energy prices paid by end-users. By consumers in this study we mean private electricity consumers and household customers. This will be rounded off with a discussion of other criteria (Ecke et al. 2014). Besides that additional success factors and possible proposals for improvement will be emphasised.

3

OVERVIEW OF STRATEGIC ELEMENTS OF THE ENERGY UNION

Figure 1 provides an overview of the key strategic elements of the Energy Union. It should be emphasised that individual strategic elements vary considerably in terms of how far they have been worked out. In the graphic strategic elements are juxtaposed in individual cells, standing for declarations of intent, defined goals or concrete measures. The different colours show which strategic elements together form a strategic focus of the Energy Union. In the present study the focus is on topics with particular relevance for the energy source electricity and for electricity consumers.

Figure 1 illustrates with the number of measures alone that the Energy Union represents a thematically broad-based strategy. We can also describe it in these terms as a cellular strategic approach. This also means that the success of the strategy does not depend on any individual strategic element, but the individual elements can, to a certain extent, be implemented separately from one another.

The Energy Union was originally conceived as a political reaction to a political crisis and as a result was defined in terms of politically-driven measures. A key focus of the Energy Union continues to comprise measures aimed at improving security of gas supply against the background of the Ukraine crisis. The emphasis has shifted, however, away from the proposals contained in Tusk's initiative – which moreover have lost something of their binding character in the course of discussions – and towards some familiar and some new strategic elements. The strongly foreign policy-oriented resilience strategy of diversifying energy suppliers is now accompanied by conventional European single energy market policy elements, aimed at harmonisation, liberalisation and intensification of competition.

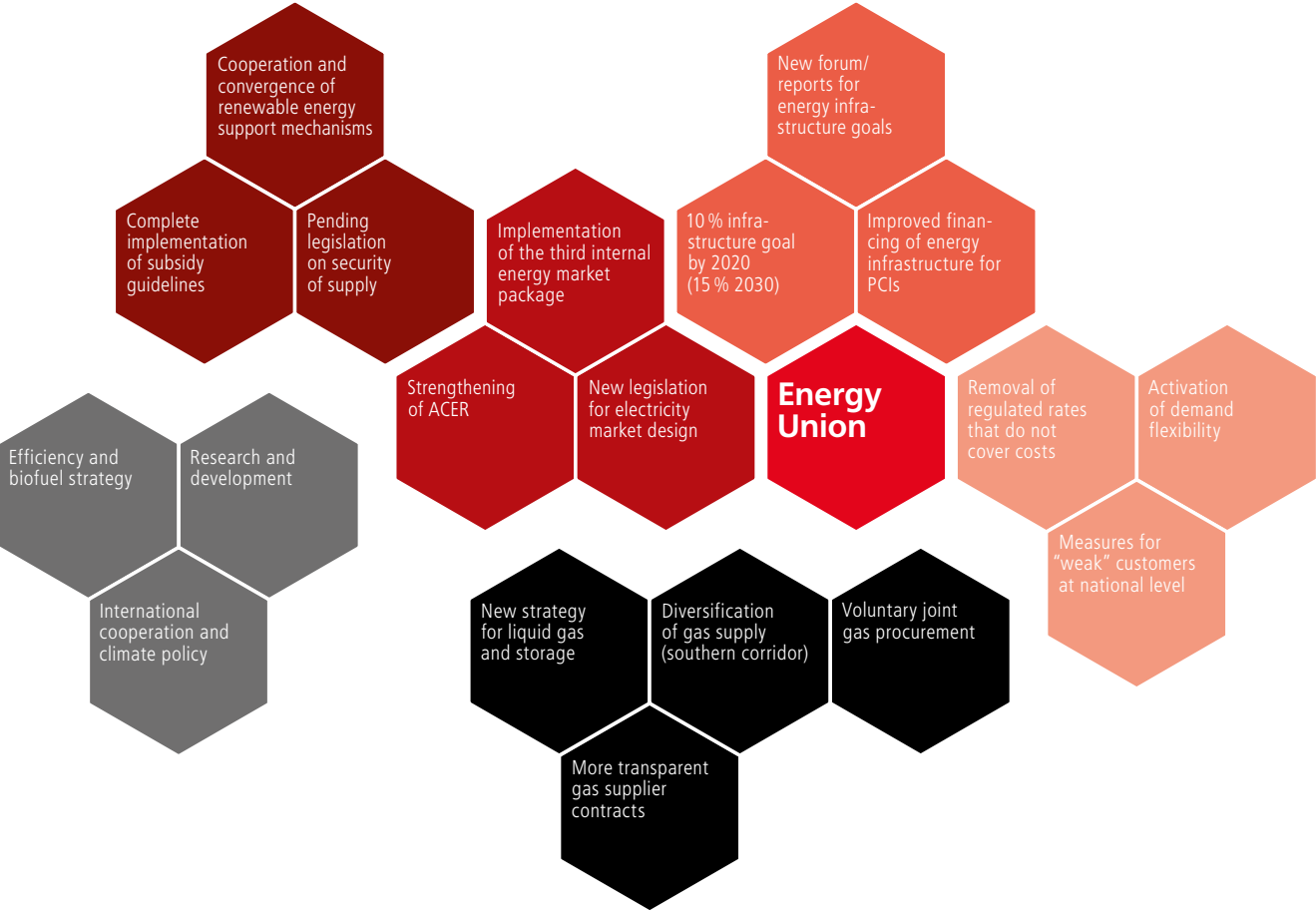
The Energy Union has the following foci, with particular reference to electricity suppliers:

- intensification of electricity network expansion;
- improved integration of the wholesale market and regulatory process;
- further development of end-user markets;
- coordination and harmonisation of renewable energy support and capacity mechanisms.

In what follows, these four strategic foci shall be discussed individually and from a consumer perspective.

Besides that, other topics are addressed in the Energy Union strategy package – such as efficiency, research and development – that we do not have room to look at in detail here. The content and effects of each strategic focus will be described and then discussed and evaluated from a consumer perspective.

Figure 1
Overview of strategic elements of the Energy Union



Source: Enervis based on European Commission 2015.

4

INTENSIFICATION OF ELECTRICITY NETWORK EXPANSION

An important element of the European single energy market from the very beginning was the strengthening of cross-border electricity trading. For this purpose an expansion of the cross-border electricity grid infrastructure is particularly necessary. Goals and measures to strengthen cross-border electricity trading therefore once more have a prominent place in the Energy Union.

4.1 HIGHER EXPANSION GOALS

Content and Effects of the Measures

Europe has set itself a number of goals with regard to the expansion of cross-border electricity grid infrastructure. For example, the European Council has laid down in a – initially non-binding – Conclusion that all countries are to maintain connection capacities in relation to neighbouring countries corresponding, by 2020, to 10 per cent of installed capacity, with the prospect of achieving 15 per cent by 2030 (European Council 2014). The Energy Union takes up these target values and lends them considerable weight in an accompanying Communication and through the announcement of further measures.

Connection capacities make possible the intensification of electricity trading between the relevant countries. This can result in a more efficient balance between supply and demand and electricity can be generated in the countries in which more favourable generation capacities are available. In particular this means that the feed-in of renewable energies can be exported to neighbouring countries and may not need to be regulated. Due to the expansion of connection capacities and the use of balancing effects the level of security of supply will also rise, given constant generating capacity. In the medium to long term this means that in the connected countries fewer electricity generation and storage capacities have to be maintained, which can keep down costs. A condition of this, however, is that the connected countries can rely on electricity supplies from abroad in the event of scarcity.

However, it has to be taken into account that the goal of the Energy Union formulated for 2020 of 10 per cent connec-

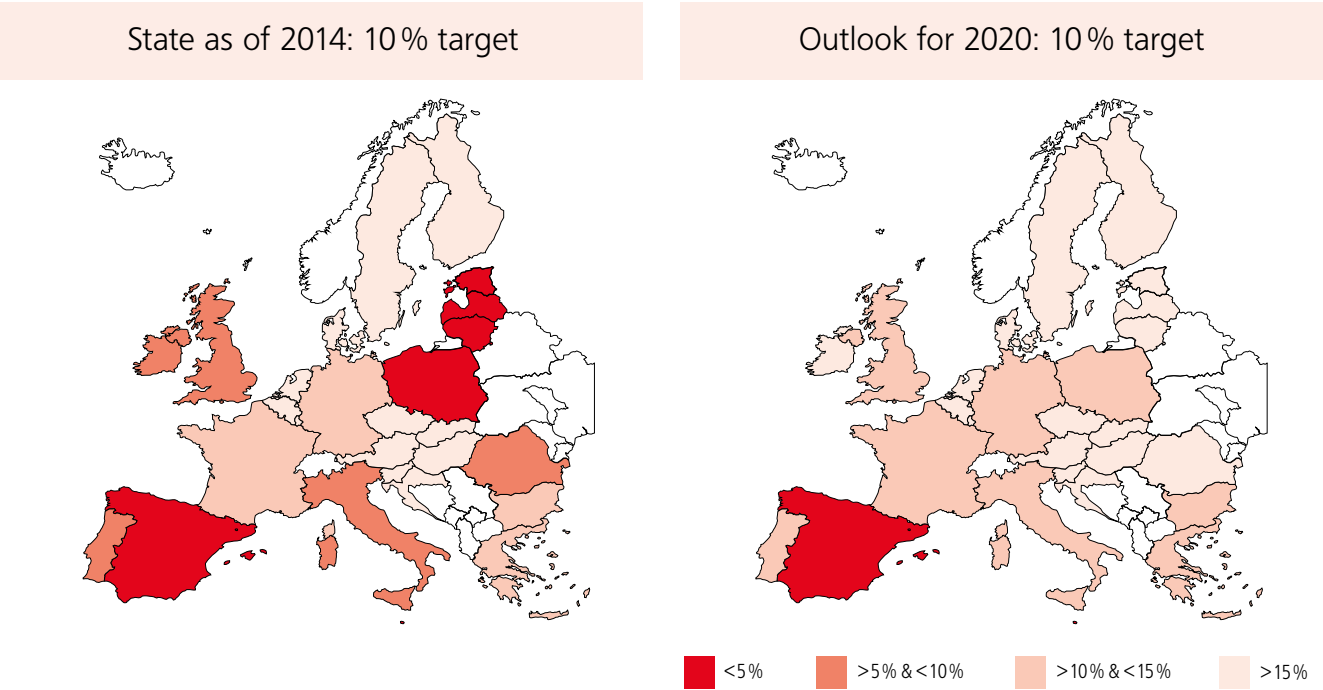
tion capacities, at least in the medium term does not require an ambitious expansion of the grid. For example, European Commission analyses show that a majority of EU member states are likely to have largely reached the target by 2020 with the measures already set in motion. Figure 2 shows the current level of attainment of the target and what is expected by 2020 for individual member states. The countries in red will not meet the 2020 target, however. In other words, only Spain and Cyprus will fall short of the network expansion target of 10 per cent (European Commission 2015b). Spain will probably manage a transmission level of only around 2 per cent. The 10 per cent target thus implies – in addition to the measures already under way – only an expansion of the grid in Spain and Cyprus. Against the background of typically prolonged development and realisation times for interconnections little additional network expansion will be possible by 2020 as a result of Energy Union measures.

The question remains whether the Energy Union's network expansion targets at least for the long term, by 2030, will require an acceleration of network expansion. If one takes the reference prognoses of the European Network of Transmission System Operators for Electricity (ENTSO-E) as a benchmark of how much network expansion would occur without the additional impetus of the Energy Union it seems that, if the 2030 target of 15 per cent is to be achieved, additional network expansion measures will be necessary to the relevant extent. This is shown by Figure 3. The bars show how much network expansion – as a percentage of the relevant installed capacity – could take place in the countries on the x-axis by 2030, according to ENTSO-E's prognosis. There are four bars for each country, representing scenarios with different levels of ambition. The red horizontal line indicates the network expansion target (15 per cent in 2030). It appears that the transmission system operators assume in their current projections that up to 12 countries – including, in two scenarios, Germany – will fall short of the 15 per cent target unless they raise their efforts.

In order that all countries achieve their national target consistent with the 15 per cent target value further expansion of import capacities of between 19 and as high as around 50 per cent is necessary, compared with the state of affairs

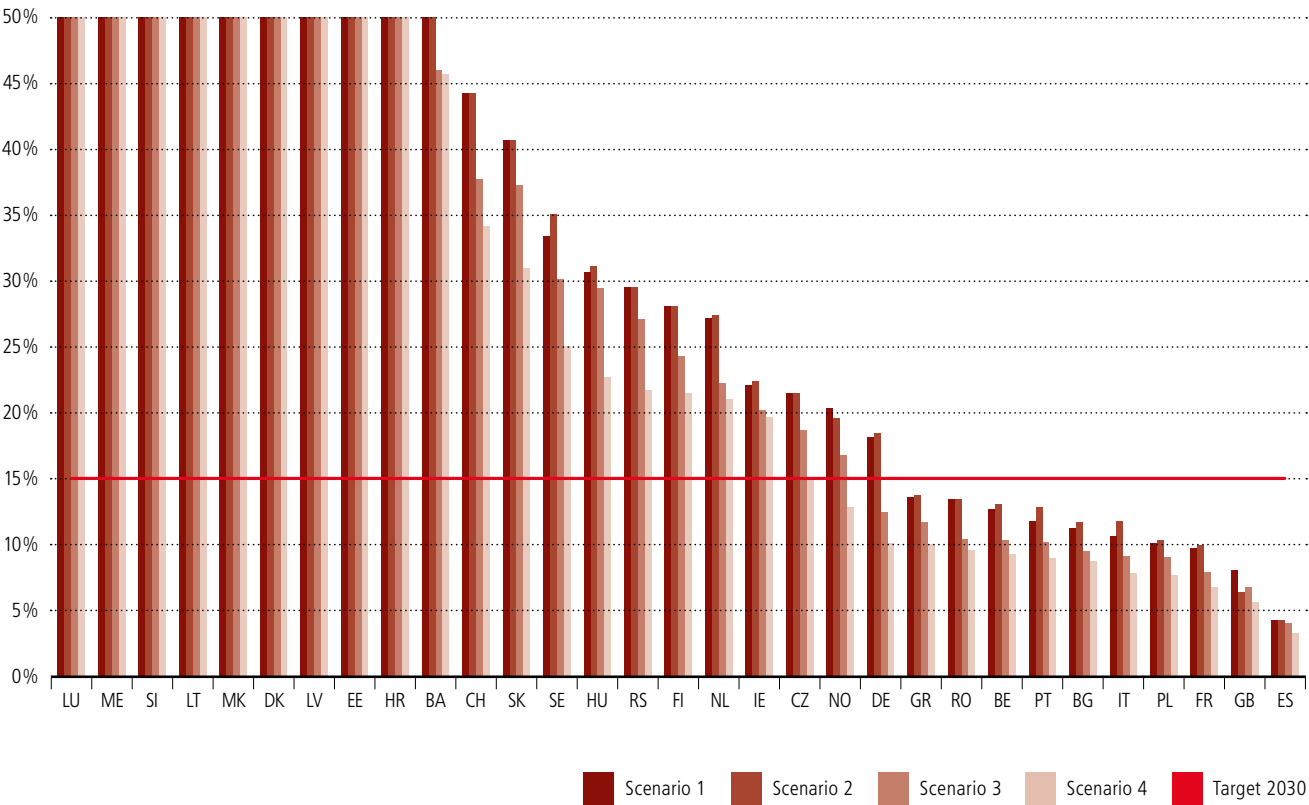
Figure 2
Status quo and outlook for the networking targets

Currently, 12 out of the 28 member states are not meeting the networking target. If all member states are able to realise their “projects of common interest (PCI)” by 2020, all of them apart from Spain and Cyprus will reach the 10 per cent networking target



Source: ENTSO-E, European Commission.

Figure 3
Network expansion in various scenarios 2030 according to ENTSO-E



Source: Enervis based on European Commission 2015c.

expected for 2030 without an intensification of network expansion efforts. The spread reflects the uncertainty of the ENTSO-E projections concerning foreseeable network expansion and the development of the generation system. If the Energy Union is looking to make a contribution to achieving the 15 per cent goal, then closely targeted efforts and extensive investment are needed.

Evaluation from the Consumer Standpoint

Network expansion in accordance with the targets laid down by the Energy Union would lower the costs of the generation system overall because it would enable the use of cheaper power stations. Expansion would also bring about lower wholesale electricity prices, from which consumers would benefit in the form of end-user electricity prices. It has to be taken into account here that not all countries and their electricity users will necessarily benefit equally from this effect. It may be that individual countries will have to bear a higher consumer burden as a result of network expansion, even though overall – that is, in the aggregate across all countries – the burden on consumers will be reduced. This can be illustrated by an example. Say a high- and a low-price region are connected via a connection capacity, the total consumer burden across the two regions will fall. Prices in the regions will tend to converge. But while consumers in the high-price region will benefit directly in the form of falling prices, consumers in the low-price region will have to pay higher prices. Clearly, then, network expansion projects give rise to distribution issues within Europe that have to be resolved.

Another positive effect of network expansion from a consumer standpoint often overlooked by studies is the enhancement of competition at the wholesale level due to the expansion of connection capacities. This makes it more difficult for companies with national market power to influence prices and thus contributes to protecting consumers from price mark-ups due to lack of competition (Böckers 2013).

By contrast, the expansion of connection capacities leads to a wide range of costs, naturally depending on the project, that are only partly covered by the revenues from connection capacities from electricity trading (so-called connection rents). Costs exceeding revenues will thus ultimately be borne by consumers through network charges. Connection capacities should thus be expanded only as far as beneficial effects exceed costs from a consumer standpoint. It is important to note here that the marginal utility of connection capacities falls with further expansion. That means that initial expansion beginning from a low level is more beneficial than further expansion from a high level. The question is thus less whether network expansion is “good” and rather how much network expansion has a positive effect.

Because the current level of inter-state network expansion is low further network expansion is likely to be positive from a cost-benefit standpoint and thus justified from a consumer standpoint. This is confirmed by recent studies. For example, a study prepared for the European Commission shows that the system costs could fall by between 13 and 40 billion euros a year by 2030 due to optimal network expansion and further integration measures (Booz & Company 2013). A large proportion of this would benefit consumers. Other studies sup-

port the conclusion that a further substantial network expansion makes sense (EWI 2011). The European Network of Transmission System Operators for Electricity (ENTSO-E) foresees, in various scenarios, a reduction of wholesale electricity prices of 2–5 euros/MWh due to network expansion. This compares with network expansion costs of 1.5–2 euros/MWh (ENTSO-E 2014a). To that extent, overall an intensification of cross-border network expansion is to be welcomed from a consumer standpoint, even though no specific examination of the effects of the Energy Union’s 15 per cent target has yet been carried out.

Because network expansion has a positive cost-benefit ratio from a consumer perspective the network expansion target of 10 per cent by 2020, which as already explained, does not require much additional network expansion, is rather too low than too high. The 15 per cent network expansion target (for 2030) is also likely to be beneficial, although, as we have seen, it would require much more substantial network expansion.

In the case of such substantial network expansion, however, it has to be asked whether the Energy Union’s across-the-board network expansion target of 15 per cent in all countries does justice to the situation on the ground in individual countries. While in some countries substantial network expansion makes sense, other countries can take their foot off the gas pedal somewhat. Furthermore, the extremely simplified reference variable – “connection capacities in relation to installed capacity” – does not represent the most meaningful target formulation from an energy-industry perspective. The assessment benchmark here should rather be a specific energy-industry cost-benefit analysis, which is likely to come up with different results for each member state. The networking targets (10/15 per cent) are thus not adequately grounded overall from an economic standpoint.

4.2 IMPROVED FINANCING OF INFRA-STRUCTURE PROJECTS

Content and Effects of Measures

While the previous section dealt primarily with the magnitude of the network expansion targets, in this section we look at the key measures of the Energy Union to achieve these targets.

The main measure for achieving the network expansion targets is the declaration of network expansion projects as projects of common interest (PCIs) (European Commission 2015d). This is not something that has come into being with the Energy Union; it has been around considerably longer and is now to be stepped up. PCIs can benefit from accelerated approval processes, improved regulatory framework conditions, cross-border cost allocation and, as the case may be, improved financing conditions.

One of the most important support mechanisms for PCIs is a subsidy from the Connecting Europe Facility (CEF).¹ The CEF provides around 5.85 billion euros for energy infrastructure

¹ Cross-border connection capacities can also, at the member state level, receive support from the European Structural and Investment Funds (ESIF).

in the period 2014 to 2020 (European Commission 2015d) and can thus, complementing other mechanisms, contribute to the financing of the requisite infrastructure measures. The relevant subsidies can in principle cover up to 50 per cent – in exceptional cases up to 75 per cent – of the costs (European Commission 2015d). To a lesser extent the CEF can be used to underpin financing through financial instruments (that is, not directly as a subsidy).

Besides that, the new European Commission, within the framework of its investment offensive in the form of the European Fund for Strategic Investment (EFSI), plans a more substantial financial initiative. The EFSI addresses, among other things, high-risk and long-term energy infrastructure projects (European Commission 2014d). In contrast to the CEF, in this case it is less about subsidies than about financing support measures (financing, assumption of risk). Even though this initiative did not emerge specifically out of the Energy Union the EFSI stands in policy-making terms closely adjacent to it, and the Energy Union once more gives PCIs and the accompanying financing mechanisms particular significance.

An “infrastructure forum” is to be established alongside this in order to step up the discussion process between the member states, regional cooperation organisations and EU bodies. The forum was to meet for the first time at the end of 2015. In addition to the abovementioned strategic elements the European Commission has announced annual reporting in relation to the implementation of PCIs and on the extent to which the superordinate energy infrastructure expansion targets have been achieved.

Assessment from a Consumer Standpoint

As long as the expansion targets themselves are established wisely then support for projects on the basis of PCI status also makes sense, especially in relation to simpler or expedited regulatory processes.

The cost–benefit analysis conducted when selecting PCIs is largely based on the scenarios and analyses of the European Network of Transmission System Operators for Electricity (ENTSO-E 2014a). Due to the scope of the necessary analyses, the complexity of the issues and the lack of available data outside the group of transmission system operators, ENTSO-E has a virtual monopoly on the integrated assessment of these issues. From a consumer standpoint this is not unimportant and indeed the transmission system operators have every incentive to exaggerate the need to expand the grid; after all, constructing and operating grids constitute key elements of their business model. It should be ensured at European level that an independent assessment of the need for network expansion and of PCIs is possible and also implemented.

As the case may be, financial support measures for network expansion projects may also be justifiable. It has to be taken into account, however, that within the framework of the abovementioned support measures subsidies and, perhaps, existing repayment risks are socialised; in other words, risks and costs are ultimately borne by the taxpayer. Because the projects concerned are already to receive a decent return from regulated network charges more far-reaching support should be deployed only where framework conditions have

been unsatisfactory so far (Roland Berger Strategy Consultants 2011). Against this background, from a consumer perspective a particularly high level of efficiency is imperative in relation to the use of these instruments.

Furthermore, experience shows that financing problems are not really the biggest challenge concerning the intensification of network expansion. More important are often protracted planning and approval procedures and general acceptance problems. With regard to PCIs the European Commission has already provided for substantial fast-tracking and, in the form of the so-called TEN-E Regulation, has laid down a maximum approval time of three and a half years (compared with the previous 10–13 years, on average) (European Commission 2015b). Here especially further acceleration may be achieved particularly cost-effectively and using few resources, which should take priority over subsidies and financing support. From the consumer perspective it should be ensured that sufficient participation opportunities are provided for in the selection of PCIs, without regional interests being allowed to hinder particularly viable projects.

It makes sense from a consumer standpoint that an adequate exchange of knowledge be made possible, both about the course of the process and between projects. In this sense the establishment of an infrastructure is a good idea. At the same time, reaching targets should be made more transparent, which requires appropriate controlling. Regular reporting would make it easier to counteract undesirable developments in good time.

4.3 INTERIM SUMMARY

European consumers are likely to benefit overall from further network expansion, although this does not necessarily apply to all countries. Against this background the Energy Union's medium-term network expansion targets are too unambitious. The 2030 targets are much more ambitious, although calculations based on energy-economic considerations and a formulation of target figures should be carried out in order to ensure the most efficient management of network expansion.

Overall, the Energy Union has done little to promote measures to achieve network expansion targets. The designation of network expansion projects as projects of common interest is not new, although it certainly has positive effects, especially in relation to the acceleration of approval processes. Concerning the improvement of financing options it should be noted that in this instance costs and risks are socialised. In the provision of financing support, from the consumer standpoint, a particularly high level of efficiency should be required and unnecessary and double compensation is to be avoided. Also to be ensured is an assessment of the viability of PCIs independent of the interests of the transmission system operators, who should be prevented from establishing a monopoly on information.

5

COORDINATION OF RENEWABLE ENERGY SUPPORT AND CAPACITY MECHANISMS

As one strategic focus of the Energy Union the European Commission is striving for better coordination and, as the case may be, harmonisation of the market design of national and regional energy markets. Under the term “market design” in what follows we shall refer in particular to the promotion of renewable energies and capacity mechanisms.

By coordination we mean that while countries shall continue to shape their energy market design separately and differently, the different markets are to be coordinated with one another. By harmonisation we mean that the market design will be adapted by countries themselves until a common cross-border market design is achieved. The following strategy elements of the Energy Union are aimed at bringing about stronger European coordination and harmonisation of energy market design and have important consequences from a consumer standpoint:

- cross-border coordination of security of supply and harmonisation of capacity mechanisms;
- harmonisation of renewable energy support mechanisms.

These points are discussed in more detail below.

5.1 CROSS-BORDER COORDINATION OF SECURITY OF SUPPLY AND HARMONISATION OF CAPACITY MECHANISMS

Security of energy supply – in particular of the grid-dependent energies electricity and gas – is technically possible only by means of a European infrastructure network. However, the assessment, planning and coordination of security of supply remain largely at national level and without a binding European regulatory framework. For example, there is no uniform standard in the member states for determining risk levels and evaluating transmission capacities at the border, the contributions of fluctuating energy generation, storage options and load-side measures.

The member states are thus also pursuing different approaches to measuring capacity requirements of the stock of power stations, which differ primarily in how and to what

degree foreign capacities and cross-border interconnectors enter into the evaluation and planning of security of supply. This approach harbours the danger that security of supply might be maintained at too high a level overall, and thus not be cost-effective.

The Commission has thus announced, within the framework of the Energy Union, that it is to develop an “objective, fact-based evaluation method for the security of electricity supply” (European Commission 2015: 6). In parallel with this, adapted ENTSO-E network codes – for example, standardised procedural regulations on connection conditions for generators and consumers – are under development, which will also serve the implementation of the third internal energy market package.

Besides the abovementioned measures, which initially are only for the purpose of improving coordination, not yet providing member states with guidelines on whether national capacity mechanisms are necessary or how they should be organised, in 2014 the Commission published guidelines for evaluating the necessity and organisation of national capacity and renewable energy support mechanisms in the EU (European Commission 2014f), based on EU state aid rules. The aim of the guidelines is that member states adhere to certain standards in the selection and organisation of capacity mechanisms.

With regard to the introduction of capacity mechanisms – “state aid to promote adequate electricity generation” – the European Commission’s guidelines have been relatively vague to date. The EU guidelines say no more than that capacity mechanisms are to be introduced only if they prove to be necessary for security of supply and other options – especially energy efficiency and load control – are not enough to cover capacity requirements.

These guidelines can be complied with better if there is a cross-border transparent methodology for assessing security of supply and the contribution to it of connection capacities. Within the broad area of capacity mechanisms, however, the member states still have much freedom of choice and thus the guidelines do not seem to have exerted much of a “harmonising” effect.

This is also shown by the fact that, for example, Germany, France, Italy and the United Kingdom have set out on very

different paths in recent years, as far as the organisation of national capacity mechanisms are concerned, even though the state aid discussions with the Commission have not yet been concluded.

Assessment from a Consumer Standpoint

Separate from the question – which cannot be answered here conclusively – of whether capacity mechanisms in Europe or in individual member states are at all viable with regard to maintaining security of supply, these mechanisms, if they are introduced, should be coordinated at European level as far as possible. Otherwise, there is a risk of unnecessarily high and inefficient power provision, together with an increasing burden on consumers.

This can be illustrated by an example. If two countries decide to introduce uncoordinated capacity markets that are oriented towards maintaining sufficient capacity so that each of the countries is in a position to cover its own national peak load – say, 90 GW – there is an inefficiency. This would not take into account that the joint simultaneous peak load – say, 170 GW – due to European balancing effects, would be smaller than the sum of the two peak loads separately (180 GW). Proper coordination of the capacity mechanisms, for example, of each country would mean that each country would only need 85 GW, overcapacities would be avoided and consumers would feel a substantial benefit. It should be emphasised that such coordination does not require that the countries agree on joint organisation of capacity markets (harmonisation).

A coordinated approach to the assessment of security of supply and the requirement that capacity mechanisms be introduced only if they are properly coordinated with neighbouring countries therefore makes sense from a consumer perspective. In this way it can, first, be ensured that the security of supply situation in the European network can be reliably assessed and planned. Second, there would be an efficiency gain from networked planning and the expansion of transmission capacities that would benefit consumers because overcapacities are ultimately paid for by consumers through levies and network charges.

A proper methodology for assessing security of supply coordinated at European level also has the advantage that, as a result, European management of network expansion can be improved. This is illustrated by the Ten-Year Network Development Plan (TYNDP). Here the effects of network projects on security of supply have been evaluated in only a rudimentary way because an adequate cross-border regulation is still lacking (ENTSO-E 2014a). Without such regulation the added value of network expansion projects cannot be properly assessed, which may give rise to distortions.

There is also a consensus that flexibilisation potentials – for example, load-side measures and storage – should be taken into account in the evaluation of security of supply and also in the organisation of capacity mechanisms, as demanded by the European Commission. Similarly, it makes sense to include the potential of cross-border load coverage in the evaluation. Both measures increase efficiency and thus are to be welcomed from a consumer standpoint. Taking into account European connection capacities, too, would increase

cost efficiency. It appears that from the Commission's point of view the guidelines serve the purpose of heading off fundamental design errors – “proliferation” – in the member states and not (yet) the aim of concrete specifications that would restrict the freedom of member states to design their facilities as they see fit. It can therefore not be perceived as a European “target model”. From a consumer standpoint, generally speaking, the overall goal of the Energy Union of bringing about European coordination in the areas of security of supply and capacity mechanisms is to be welcomed. If capacity markets were established across Europe it would be beneficial to achieve more far-reaching and more binding coordination and harmonisation in this area.

5.2 EXPANSION OF COOPERATION AND HARMONISATION OF RENEWABLE ENERGY SUPPORT MECHANISMS

Content and Effects of Measures

Within the framework of the Energy Union the hitherto largely uncoordinated renewable energy support systems, which according to the Commission have led to a fragmentation of support and hinder the single energy market, are to be more closely coordinated and harmonised.

With regard to the design of renewable energy support mechanisms the Commission already has more specific ideas – going beyond capacity mechanisms – which provide in particular for access to support via quantity-based instruments, such as tendering, direct provision of electricity by plant operators and limited duration of support. Besides that the guidelines also contain ideas about how costs of renewable energy support – EEG levies – can be allocated and which companies can be exempted from paying EEG costs (European Commission 2014f).

One important requirement of the Energy Union, besides long-term harmonisation efforts in relation to support mechanisms, concerns the existing options with regard to regional or bilateral cooperation. For this purpose countries with low or expensive renewable energy expansion potential would accomplish part of their expansion in other countries with better initial conditions. Overall, the addition of renewable energy capacity can be achieved much more cost efficiently in this way (Unteusch/Lindenberger 2014), thereby benefiting consumers.

However, there are distribution problems among the participating countries that hamper the implementation of such mechanisms. For example, such regional cooperation requires that one of the countries accomplish and finance at least part of its renewable energy expansion in a (neighbouring) country. This can have advantages from an energy-economic standpoint, for example, if the expansion of renewable energy as a result takes place in better locations – for example, with better wind conditions – as a result of which projects receive less specific support. Only in the rarest cases can cooperation be entirely reciprocal (a generic example: Germany supports wind turbines more cost-efficiently in Denmark and Denmark supports PV projects more cost-efficiently in Germany). Here, too, we are looking at a form of cooperation

that is basically independent of the harmonisation of market design across national borders.

Assessment from a Consumer Standpoint

The extent to which the implementation of support for renewable energy on a tender basis is better for consumers than funding from fixed feed-in tariffs is a controversial issue. Given increasing market penetration by renewable energy, however, it can be argued that a more competition-based funding system is more consumer-friendly. This is against the background that quantity control within the framework of a tender tends to intensify competition and may result in lower costs and consumer burdens. Furthermore, unplanned technology and cost developments that lead to cost cycles for consumers are subdued. As already argued elsewhere (Ecke et al. 2014) these changes are to be welcomed overall from a consumer perspective.

It is important to remember that quantity-based instruments – such as tenders – are more suitable than price-based instruments for successively extending European coordination (for example, between neighbouring states). Because such approaches to cooperation require comparatively less dramatic policy changes than harmonisation across Europe it is possible to create added value here pragmatically and also, perhaps, in the short term. Such cooperation could also serve as centres of growth for more far-reaching cooperation approaches (Corinna Klessmann 2013). Against this background a bottom-up development of cooperation between the member states is more practicable at least in the medium term than EU-wide harmonisation. The “minimum harmonisation” set at European level already serves as a basis for this.

More far-reaching harmonisation might be conceivable in the form of the introduction of a Europe-wide quota model. From a consumer standpoint, however, this option is somewhat ambivalent. Although EU-wide harmonisation of renewable energy support has the potential to achieve renewable energy targets more cost-efficiently and thus in a more consumer-friendly way, if EU-wide technologies are built up in locations that are optimal by European comparison, nevertheless harmonisation would also restrict member states’ individual options and thus also the regional economic and innovation support that is often applied these days. For example, the Federation of German Consumer Organisations (Verbraucherzentrale Bundesverband e. V. – VZBV) criticises the fact that in the case of EU-wide harmonisation of the promotion of renewable energy there is less “competition” between promotion systems and options for attaining targets (VZBV 2015). In addition, national support mechanisms can address national circumstances in a nuanced manner.

Regardless of the points made above it is, realistically, highly unlikely that more far-reaching harmonisation at the EU level will prevail, given the very heterogeneous renewable energy landscape in Europe at present. In the view of the authors of the present text harmonisation of renewable energy support systems beyond what is found in the state aid guidelines of 2014 is not to be expected.

5.3 INTERIM SUMMARY

Regardless of whether capacity mechanisms in individual member states make sense, these mechanisms, if introduced, should be coordinated. For this purpose the standardisation of methodologies for assessing security of supply striven for within the framework of the Energy Union would provide a good basis and thus is welcome from a consumer standpoint.

If the member states introduce capacity mechanisms, however, it would make sense to ensure that they take into consideration the potential of connection capacities and also load flexibilities, as called for by the European Commission. In these terms, the European Commission’s position on capacity mechanisms, as set out once again in the Energy Union, rather aims at avoiding public inefficiencies than at laying down detailed specifications.

Comparatively more detailed, by contrast, are the ideas on designing EU-wide promotion mechanisms. The implementation of existing EU guidelines for renewable energy promotion mechanisms – especially tenders and stepping up EU market integration – can promote competition and cost efficiency. It is thus broadly to be welcomed from a consumer standpoint.

Regional cooperation between member states – for example, proportionate opening up of tenders to participants from neighbouring countries – represent a valuable step towards more far-reaching approaches to cooperation (quota models), whose advantages have not yet been clearly demonstrated. Through regional cooperation potential efficiencies are realised and consumers benefited without necessarily restricting national options. This form of cooperation should be promoted from a consumer standpoint.

6

INTEGRATION OF WHOLESALE AND REGULATORY PROCESSES

As a further strategic element of the Energy Union the European Commission is pursuing better integration of market and regulatory processes. They are characterised as the “software” of the single energy market (European Commission 2015) and thus also as a condition of the success of the Energy Union.

When it is completed the EU single energy market agreed in 2011 is supposed to be characterised by competitive price signals for energy, discrimination-free market access for all actors, a high level of consumer protection and sufficient generation and transmission capacities. These aims are to be achieved by dismantling trade barriers, standardising market regulations and the most uniform possible regulation of markets.

The following Energy Union measures to improve the integration of market processes potentially have substantial consequences for consumers:

- completion of unbundling (separation of electricity generation and network operations) and a strengthening of European regulation (ACER);
- Europe-wide guidelines for wholesale market regulations and processes.

These points are examined in more detail below.

6.1 COMPLETION OF UNBUNDLING AND STRENGTHENING OF EUROPEAN REGULATION

Content and Effects of Measures

Improving the integration of market and regulatory processes was already a central aim of the previous single energy market package, but it has been only partially implemented. The Energy Union reaffirms this goal and extends it. The background to this, according to the Commission, is the slow implementation of the guidelines of the single energy market package, in particular with regard to the unsatisfactory implementation of the provisions on unbundling (separation of

electricity generation and network) and on the independence of national regulatory authorities (European Commission 2015).

With regard to unbundling the problems lie above all at the distribution network level, although the transmission system operators are already complying with 96 out of 100 EU unbundling provisions. At the network distribution level, by contrast, in Germany, for example, over 90 per cent of distribution network operators were not subject to the unbundling provisions because they were able to procure exemptions (European Commission 2014b).

The independence of national regulators and the energy industry itself, as well as of, to some degree, national policy-making and the executive, has not yet been implemented adequately. Assessments at country level indicate that many regulators still have insufficient formal political independence and sometimes are not adequately provided with financial and staff resources (European Commission 2014c). Within the framework of the Energy Union the aim of independence for national regulators is reaffirmed. The Energy Union provides that to draw down certain infrastructure funding aid the provisions of the single energy market package have to be complied with and lays down further incentives for compliance with EU provisions (European Commission 2015).

Besides that, the Energy Union provides for an upgrading of the European Agency for the Cooperation of Energy Regulators (ACER). This was brought into being as an element of the third single energy market package. It coordinates and supports national regulators, in particular on cross-border issues. At the moment, ACER only issues recommendations and opinions; its decisions are not binding.

Based on plans for extended European coordination of energy market design and market processes the intention is, within the framework of the Energy Union, to considerably enhance ACER's competences and for it to cooperate more closely with electricity and gas network operators. According to one measure within the framework of the Energy Union ACER is to “carry out effective supervision of the development of the single energy market and related market regulations and to deal with all cross-border issues” (European Commission 2015).

Assessment from a Consumer Standpoint

Unbundling provisions counteract the partitioning of upstream or downstream markets or networks (including interconnections) and thus contribute to unhindered energy flows and, in particular, competition at all market levels. To that extent unbundling is an important element of free competition on the end-user market, from which consumers benefit in the form of lower prices.

Independent national regulatory authorities provided with sufficient resources are also advantageous from a consumer standpoint in order to ensure adequate market oversight. From a consumer perspective the completion of the single energy market is thus desirable with regard to unbundling and the establishment of regulatory independence. With the third single energy market package all the legal elements are in place at EU level, which have to be implemented consistently.

European harmonisation of market regulations and infrastructure projects also requires management and supervision at the European level. For this reason the strengthening of European regulation within the framework of the Energy Union is appropriate and sensible. This enables decision-making detached from national interests. In particular, decisions related to cross-border infrastructure and the distribution of their costs pose challenges that make the further development of such decision-making a good idea. From a consumer standpoint it has to be ensured that ACER be further developed into an independent authority able to take and, above all, implement decisions for the sake of consumers.

6.2 EUROPE-WIDE GUIDELINES FOR WHOLESALE MARKET REGULATIONS AND PROCESSES

Content and Effects of Measures

The European Commission regards the integration of the increasing provision of fluctuating renewable energy in cross-border and competitive energy markets as a key challenge. The main instrument that the Energy Union provides for this purpose is a well-functioning cross-border energy trade with liquid short- and long-term markets at the wholesale level, that enables the flexible integration of all kinds of generators, storage systems and loads. In order to implement this goal the Commission, within the framework of the Energy Union, plans to enact extended provisions for the cross-border energy trade. This is intended to counteract the “patchwork” that emerged in the past as a result of different regulatory systems and frequent changes in the regulatory framework (European Commission 2014b). To this end the Commission has announced an ambitious legislative proposal that also brings into focus demand-side flexibility. Well-functioning markets – cross-border as far as possible – are necessary for this purpose as energy-industry instruments that enable the management of supply and demand in terms of different time horizons and with more flexibility. These are, on one hand, short-term markets that serve to balance supply and demand close to the performance date – for example, intra-day trade, day-ahead

trade, in a broader sense also balancing and control energy – and on the other hand futures markets that act as a safeguard on “strategic” marketing. For this purpose, in the Commission’s view, a standardisation of electricity market regulations and processes is necessary, which is already taking place to a certain extent among the market participants, but which in the future is to be driven by the Commission within the framework of the Energy Union.

A market coupling is already taking place for various market areas in the day-ahead and partly also in the intra-day market, so that there are identical products and joint price determination within the framework of cross-border interconnectors. Moving in the same direction is the existing cross-border tendering of control energy (Germany/Switzerland), as well as studies by a control energy association for Germany, Belgium and the Netherlands (50 Hertz et al. 2014).

Assessment from a Consumer Standpoint

In the case of further EU-wide growth in renewable energy generation the main task, also from a consumer standpoint, is to integrate this generation sensibly in European energy systems because otherwise unnecessary costs would arise for consumers.

The stronger integration of market processes can, as the Franco-German market area shows, contribute to more efficient management of power stations within countries, but also to more efficient deployment of connection capacities between countries. As a result, the costs of electricity generation would fall and wholesale electricity prices would converge between countries and be kept down in the aggregate. Besides that, unnecessary costs for maintaining and using balancing (stand-by) energy can be avoided, which electricity consumers sometimes have to bear through network charges or other forms of levy.

It must be emphasised that better integration of wholesale market processes can be implemented first of all independently of network expansion. The more network expansion is stepped up, however, the higher will be the efficiency gains for consumers from integration of wholesale market processes.

Because the German electricity market – coupled with its neighbouring markets – is already characterised by a relatively high diversification of time horizons and products, as well as high liquidity, it is to be expected that the implementation of the planned EU requirements for the German electricity market will represent rather moderate changes with regard to the status quo.² Taking Europe as a whole there is still substantial room for improvement here, which should be exploited for the benefit of consumers as soon as possible. The Commission’s initiative for Europe-wide standard wholesale electricity market regulations and processes thus makes sense from the standpoints of both the energy industry and consumers.

² Thus the European Commission characterises the market coupling – among others, of the German market area – that has existed since early 2014 as an “outstanding example” (European Commission 2014b: 10) and thus as a kind of blueprint for the functioning single market.

6.3 INTERIM SUMMARY

The completion of the European single energy market with regard to unbundling and ensuring the independence of regulators would be beneficial from a consumer perspective. ACER is a European regulatory authority that is to be provided with clear competences.

Consumers usually do not participate directly in wholesale markets, but of course they are indirectly affected by wholesale market regulations and processes. Closer European integration of wholesale market regulations – especially market coupling – would enable more efficient use of renewable energies, power stations and storage facilities. This would be reflected in overall lower wholesale electricity prices and balancing energy costs, from which consumers would benefit indirectly.

7

FURTHER DEVELOPMENT OF THE END-USER MARKET

A large proportion of the abovementioned strategic elements affect end-users rather indirectly via the level and structure of prices in wholesale markets and the resulting cost burden. The Energy Union provides for adjustments, however, that affect end-user markets very directly and thus are very important for end-users. In the meantime, the first concrete papers have been published – the so-called Summer Package – that go into more detail concerning the Commission's ideas (European Commission 2015a).

7.1 REMOVAL OF REGULATED TARIFFS AND ALTERNATIVE MEASURES

Content and Effects of Measures

In many European countries, end-user markets for electricity and gas are subject to price regulation. Here reference prices of selected consumers are often cross-subsidised via the public budget or via redistribution to other customers. For example, in 2012 regulated residential tariffs were in use in 18 member states (Asa Johannesson Linden 2014). Other analyses show that, as of 2013, in at least nine out of 30 European countries surveyed, regulated price elements were in use in the residential customer segment (ACER 2014). Overall, it is therefore safe to say that regulated price elements are widespread. Furthermore, in 2012 regulated tariffs came into use in five member states in order to subsidise electricity prices for certain industries (Asa Johannesson Linden 2014).

The European Commission would like gradually to abolish these price regulations (below cost) by means of competition-law instruments. The member states are supposed to develop a roadmap whose destination would be the complete abolition of price regulation (European Commission 2015).

When individual consumer segments benefit from subsidised prices the consumers concerned of course benefit from cost relief. Applied properly price regulation can thus protect consumers from energy poverty. For example, in 10 out of 18 member states with regulated tariffs special social tariffs exist (Asa Johannesson Linden 2014). This is of particular importance against the background of substantial end-user rises

in the household segment. For example, in the period 2008 to 2012 household customer electricity prices rose by 4 per cent a year, on average (European Commission 2014a).

Figure 4 shows the development over time of end-user electricity prices in the EU every six months from 2008 (H1/H2). This is compared with average household customer electricity prices in the EU (orange line) and the price range across the various EU countries (grey area). The red line highlights electricity price development in Germany. Clearly, German electricity prices (household customers) lie substantially above the European average and close to the top of the European price range.

Indeed, in Germany the price level is clearly above the European average. Overall, the share of energy costs in a statistical basket of household goods rose from 5.6 to 6.4 per cent between 2008 and 2012 (European Commission 2014a). In this context the proportion of "vulnerable household customers" in the member states is now between around 1 and 13 per cent (ACER 2014). However, the survey covered only around 10 member states, which shows that further investigations are required here.

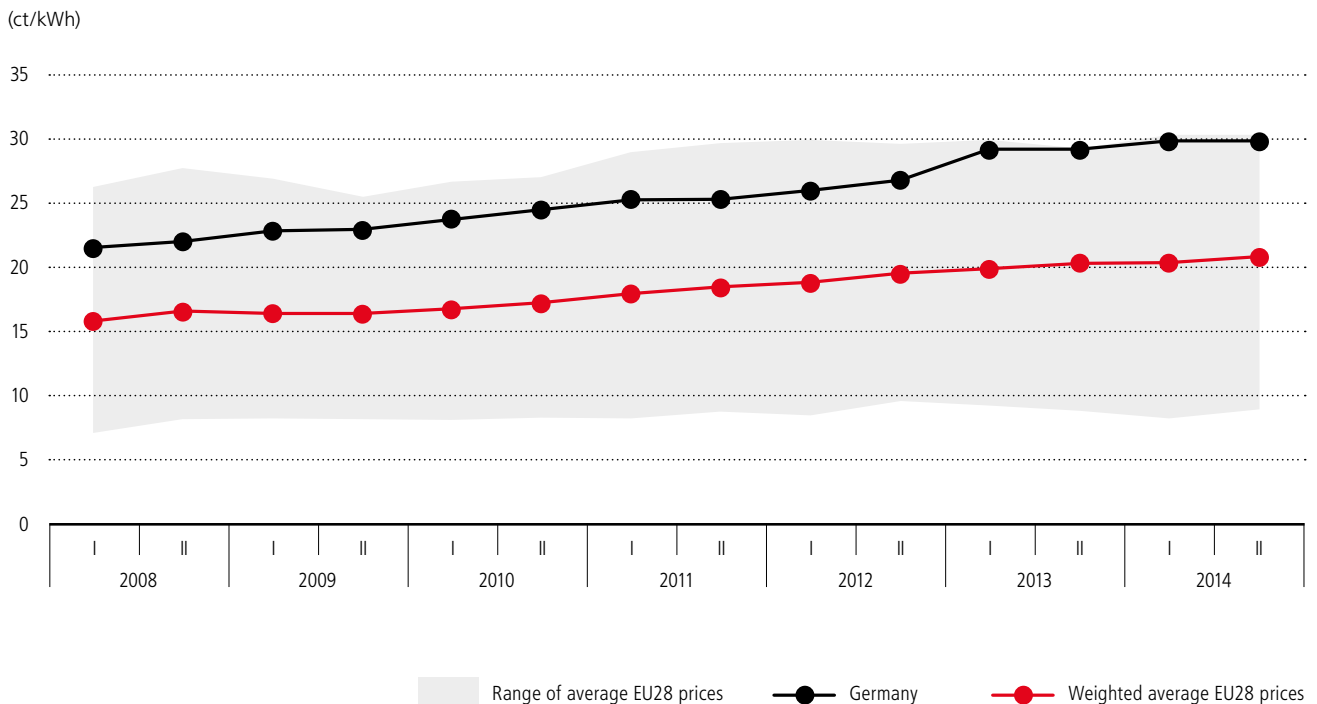
The Energy Union recognises possible adverse consequences for consumers in the form of energy poverty. It has identified primarily social protection measures as an appropriate way to counteract it; in other words, an instrument outside energy markets. This might include an increase in existing transfer payments – for example, Hartz IV – to cover energy cost increases.

The Energy Union regards the option of social tariffs or cost concessions on electricity bills as secondary. Social tariffs are to be distinguished from regulated tariffs by the fact that they are targeted, as far as possible, at needy consumers (European Commission 2015). Lower rates are conceivable, for example, or electricity allowances free of charge.

Assessment from a Consumer Standpoint

Regulated tariffs lead first of all to the distribution effects desired by member states. Privileged consumers benefit, while other customers bear the additional costs. Thus electricity prices of non-regulated customers in markets with

Figure 4
Development over time of end-user prices in the EU



Source: ENERVIS based on European Commission 2014a.

regulated prices rose much more (Asa Johannesson Linden 2014).

Another consequence of regulated tariffs is that there is often no significant competition in relation to the customer segments concerned because the customers have no incentive or no opportunity to switch supplier. Lack of competition can lead to efficiency losses in the system as a whole, which have to be partly borne either by the consumers concerned or by cross-subsidies from other payers. This also often locks out companies from outside the market, especially foreign ones, from access to the relevant customer groups. This exacerbates the lack of competition mentioned above.

Subsidised prices can also hinder prudent investments in energy efficiency and, likely to become relevant, flexibilisation measures, which over the long term can give rise to inefficiencies and thus impose a burden on consumers. Regulated prices can also lead to distortions on wholesale markets.

Basically, highly competitive end-user markets can have major benefits for consumers, even though they may be long-term in their effects and in the short term (no longer regulated) prices may rise by way of overcompensation.

Thus although the abolition of regulated end-user prices makes sense economically, from a consumer standpoint it is more ambivalent – at least insofar as no action is taken to prevent the imposition of an unbearable burden on vulnerable customers.

A parallel development of alternative social instruments should be ensured for the sake of consumers at risk of energy poverty. There must be no delay affecting consumers at such

risk. An expansion of such poverty can be prevented only if, in parallel with the abolition of energy subsidies, other mechanisms besides energy tariffs are used to compensate.

There is no basic objection from a consumer standpoint to targeted action on energy poverty using social systems and social energy tariffs; it makes sense to address the issue outside purely an energy market context. Details aside, careful introduction in the event of the expiry of regulated tariffs is to be emphasised. If energy poverty is to be addressed by the social systems in the relevant countries then adequate regulation is needed. Thus although electricity costs in, for example, Germany are compensated by means of flat rate transfer payments these flat rates tend not to be adequately adjusted and in many instances are too low (Wuppertal Institut für Umwelt, Klima Energie GmbH 2010).

Potential widespread use of regulated industry tariffs at the expense of other electricity users is to be rejected or must be based on convincing arguments. To avoid carbon leakage effects other, more effective instruments are likely to be better.

Besides that, before the abolition of regulated end-user tariffs the level of competition on end-user markets must be sufficient for price deregulation to exert an effect and benefit consumers. This is unlikely to be the case in all member states. Data from 2013, for example, show that in many member states the end-user market is highly concentrated and in particular the four largest distributors have a market share of over 75 per cent (ACER 2014). Against this background a cautious transition strategy has to be developed that makes available to end-users, over a prolonged period, a voluntary switch to

the market and, perhaps, options to go back to regulated pricing because – at least immediately after the expiry of subsidised electricity prices – a cost hike for consumers who are no longer subsidised can scarcely be avoided.

Furthermore, in particular the findings of choice architecture are to be introduced in this context, according to which in situations characterised by freedom of choice, carefully defined “fallback positions” are to be ensured (Thaler et al. 2014). Thus in the event of abolition of social tariffs it should be ensured that the consumers affected should automatically be provided with an effective alternative, without the need for proactive decision-making.

7.2 ACTIVE INVOLVEMENT OF CONSUMERS IN THE ENERGY MARKET

Content and Effects of Measures

In the Energy Union an ambitious legislative proposal has been announced by the European Commission which focuses in particular on demand-side activation. We now have the so-called Summer Package, which we shall evaluate in relation to the further development of end-user markets (European Commission 2015). The documents of the Energy Union and the Summer Package remain somewhat vague concerning the underpinning of individual points. What has become apparent with regard to the end-user market are the following points:

- The removal of barriers to switching supplier, for example, by strengthening comparative criteria and tools.
- Activation of consumers by means of adequate incentive structures. The emphasis here is on network charges with regard to decentralised own energy generation and energy storage.
- Further introduction of smart meters in the member states in order to make information on their energy consumption accessible to end-users and, as the case may be, to make their consumption more flexible.
- Stronger activation of demand flexibility, in particular by means of dynamic price formation in end-user contracts (for example, by linking hourly wholesale electricity prices).

With regard to point 3 it has to be taken into account that the member states already have to ensure the introduction of smart meters by 2020 under the third Energy Package, if they want a positive economic assessment (European Commission 2014e). In Germany a cost/benefit analysis in relation to 2020 proved negative (Ernst & Young 2013). However, the introduction of smart meters was recommended in individual areas of application.

Assessment from a Consumer Standpoint

The removal of barriers to switching supplier is to be welcomed from a consumer standpoint. Given the importance that comparison tools have acquired in practice it makes sense to give them careful consideration when it comes to boosting consumers' switching rates.

Decentralised own energy generation and the storage of electricity that might be linked to it are to be welcomed from a consumer standpoint. In this way consumers could become active in the energy market as “prosumers”. However, there is a risk that as a result distribution effects may arise that impose a burden on other groups of consumers who do not have the option of own generation. If the incentives for own generation are excessive, as is undoubtedly the case in many customer segments in Germany, it can lead to “tendencies to erode solidarity”. This can be traced in particular to inappropriate design of network charges (50 Hertz 2014) and the Renewable Energies Act (EEG) levy, leading to energy-industry inefficiencies and adverse outcomes for individual groups of consumers, especially those with limited access to capital. The Commission is not advocating boosting incentives for own energy generation and storage per se, but the tenor is surprisingly positive, given that incentives in most member states are somewhat excessive. It remains to be seen what particular consequences will emerge from this Commission initiative. From the perspective of German consumers at least the incentives for own generation and storage should be reduced, given the adverse effects for other consumer groups.

Equitable use of measures to flexibilise burdens is broadly to be welcomed from a consumer standpoint. It should be emphasised, however, that this applies only if these measures are implemented in relation to other options on a competitive cost basis (for example, power stations). In that case, flexibilisation of demand would lead to cost reductions in the system overall, which ultimately will be passed on to the consumer via wholesale electricity trading, network charges and, perhaps, capacity mechanisms.

A prejudice towards a comprehensive rollout of smart meters in the household sector does not make sense here, however (Schneidewindt 2015). Rather it should be assumed that the cost/benefit ratio of smart meters is particularly beneficial for larger consumers. Only if this potential could be opened up more widely would it be appropriate for the household sector.

In order to ensure that smart meters are deployed where appropriate, adjustments are required in market conditions that have to date hindered the provision of demand flexibility. This refers in particular to regulations on network charges and various exemptions. If such distortions of market incentives could be removed – and European guidelines could certainly play an important role here – smart meters could be installed where it makes economic sense.

Until smart electricity meters are installed, however, the benefits of dynamic electricity prices for household and other small-scale users will be limited. Without smart electricity meters consumers will be unable to shift electricity consumption to alternative times nor have it charged separately. Voluntary options via dynamic indexing, for example, coupled with the voluntary inclusion of smart meters, should of course be possible, although regulatory implementation of dynamic tariffs is not needed for that purpose and should be rejected from a consumer perspective.

7.3 INTERIM SUMMARY

Generally speaking, there are benefits for consumers from highly competitive end-user markets. Deregulation of end-user prices can make a substantial contribution to this. However, the deregulation of end-user electricity prices can lead to an unacceptable (and abrupt) burden, especially for vulnerable households. A smooth and cautious transitional strategy, accompanied by alternative measures is therefore necessary on the affected (foreign) markets.

The European Commission's Summer Package contains impulses on a wide range of issues related to end-user markets. Participation on an equal footing by flexible consumers in electricity and flexibility markets makes sense and would lead to fair competition between load- and generation-side technologies. On top of this, in particular entry barriers in the regulatory framework must be removed. A one-sided preference favouring load-side flexibilities does not make sense from an economic point of view, however, and harbours the risk of unnecessary cost burdens for end-users. Thus a premature rollout of smart meters is to be rejected from a consumer standpoint.

Decentralised own generation and the electricity storage that may or may not go with it is broadly to be welcomed from a consumer perspective. If excessive incentives for own generation come into being due to promotional or exemption regulations, however, resulting in distribution effects at the expense of other consumer groups, it would be a concern. It remains to be seen what specific consequences will develop from the Commission's initiative – from the perspective of German consumers, at least, the incentives for own generation and storage should be reduced somewhat.

8

SUMMARY AND RECOMMENDATIONS FOR ACTION

The components of the Energy Union are familiar in many respects, although presented in new formulations. However, the Energy Union has new emphases, due less to the formulation of new and far-reaching goals, of which there is no shortage at the European level, and more to downstream initiatives or new impulses to familiar goals. The value of these initiatives will become apparent in the course of implementation. The following points should be highlighted, however.

It is likely that consumers will benefit from further network expansion, even though this will not necessarily be the case for all countries, rather for European consumers as a whole. In this context the – at least for 2030 – ambitious network expansion targets of the Energy Union are to be welcomed. Experience has shown, however, that network expansion fails less as a result of ambitious announcements than from procedural barriers and lack of acceptance. On this point German policy is also questionable. As the discussion in recent years on German network expansion shows, there has undoubtedly been a lack of political support, which can also affect cross-border projects.

Regardless of whether capacity mechanisms in individual member states make sense, such mechanisms, if introduced, have to be coordinated. A crucial basis for this is the standardisation of methods for assessing security of supply within the framework of the Energy Union; it is thus welcome from a consumer standpoint. German policy is thus – for example, in the pentilateral forum – a driving force here and its efforts should continue.

The implementation of existing EU provisions for renewable energy support mechanisms – especially tenders and a strengthening of market integration in the EU – can boost competition and cost efficiency and are thus to be welcomed from a consumer perspective (Ecke 2014). Regional cooperation between member states – for example, proportionate opening up of tenders to participants from neighbouring countries – represents an important step before more far-reaching cooperation approaches (quota models), whose benefits have not been proven unambiguously. Regional cooperation can give rise to potential efficiencies and relieve consumers, without necessarily restricting national room to manoeuvre. This form of cooperation should be promoted

from a consumer standpoint. Germany has got on board with the implementation of EU guidelines, with the prospect of some form of proportionate opening up to foreign projects (BMW 2015). As long as this is based on the principle of reciprocity it is to be supported from a consumer standpoint.

Closer European integration of wholesale market regulations – in particular market coupling – makes possible a more efficient deployment of renewable energies, power stations and storage facilities. This is reflected in overall lower wholesale electricity prices and balancing energy costs, from which consumers can benefit indirectly. Contrary views are not to be found in the energy policy debate. German policy should thus continue to support these initiatives within the European framework.

Highly competitive end-user markets offer advantages from a consumer standpoint. Deregulation of end-user prices can make a substantial contribution to this. A smooth and cautious transitional strategy with accompanying alternative measures is therefore needed for the affected (foreign) markets. There is no need for urgent action by German policymakers in this connection because electricity prices are unregulated in Germany. However, against the background of rising end-user electricity prices it should be ensured that energy poverty be adequately addressed outside the energy market.

It makes sense for flexible consumers to participate on an equal footing in the energy and flexibility markets; it would lead to fair competition between load- and generation-side technologies. To this end, in particular entry barriers in the regulatory framework should be removed. A one-sided preference favouring load-side flexibilities does not make economic sense, however, and harbours the risk of unnecessary cost burdens for end-users. Thus in particular a broad rollout of smart meters, at least in Germany, is to be rejected from a consumer perspective.

Decentralised own generation and the electricity storage that may or may not go with it is broadly to be welcomed from a consumer perspective. If excessive incentives for own generation come into being due to promotional or exemption regulations, however, resulting in distribution effects at the expense of other consumer groups, it would be a con-

cern. It remains to be seen what specific consequences will develop from the Commission's initiative – from the perspective of German consumers, at least, the incentives for own generation and storage should be reduced somewhat.

Besides the abovementioned substantive points the Energy Union is innovatory also at the organisational level. For example, the Energy Union foresees a more important role for regional initiatives and cooperation between the member states. A regional approach enables the member states concerned to make progress that may ultimately benefit consumers, even in areas on which there is no European consensus. The Energy Union may thus be regarded as unideological, broadly speaking. Although far-reaching notions of the harmonisation of market design have not gone away, they have given way to pragmatic developments in recent years. This makes it more likely that the Energy Union will be a success.

Overall, there are many ways in which the Energy Union is a positive development from a consumer perspective. In many instances it is not so much the broad thrust that is to be criticised as the fact that some initiatives do not go far enough. Here, too, a conclusive assessment will be possible only as the project takes shape.

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