

Climate Alliance response Market Design Consultation

Executive summary

- The EU is in dire need of a **clear vision for sustainable energy system of the future**. In order to reach the goals of the Energy Union and keep global temperature rise to a minimum, the bloc needs an energy system which is first and foremost based on **saving energy and using it efficiently**. The remaining energy needs should be covered close to **100% by renewable energy sources**.
- **The system needs to make use of local potentials first**. A local holistic approach at the local level allows matching supply and demand, tackles volatility of renewable energy sources, and entails multiple co-benefits. A large number of players are involved in the implementation of the transition: local authorities, citizens, local businesses, energy agencies and energy utilities providing energy services. These measures create regional value and jobs and involve the public into the new system.
- In order to put this in place, **barriers to local energy generation and implementing savings measures need to be removed** and a system built around a **market for energy services** should be enabled. This is only possible within a clear and reliable policy framework with binding targets which creates certainty for investments, e.g. through feed-in tariffs in the take-off phase and DSOs being obliged to integrate increasing amounts of renewable energy into their energy mix and generate decreasing greenhouse gas emissions.

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Response to the Consultation

- 1) **Would prices which reflect actual scarcity (in terms of time and location) be an important ingredient to the future market design? Would this also include the need for prices to reflect scarcity of available transmission capacity?**

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The challenge of a new energy market design is to establish smart pricing mechanisms to incentivize the ‘right’ developments. This means investments in energy efficiency and increasing the share of renewables close to 100% in Europe. We emphasize the importance and proven success of regulated minimum producer prices (feed in tariffs) for e.g. solar, wind, biomass and geothermal power to provide a pricing system to market participants like households, local initiatives and enterprises and municipalities to increase market shares of renewables to reduce greenhouse gas emissions.

With regard to modern ICT we are convinced that pricing mechanisms can easily reflect scarcity on a finely granulated scale in time as well as in location, with power capacity as well as grid capacity on various voltage levels as the resource to be priced.

Time variable tariffs are crucial to harness flexibility of consumer loads – e.g. strategic pricing, exaggeration of price spreads to foster innovation and new business models.

2) Which challenges and opportunities could arise from prices which reflect actual scarcity? How can the challenges be addressed? Could these prices make capacity mechanisms redundant?

The phrase “to reflect actual scarcity” may cause more confusion than clarity. It raises i.a. the question which resources’ scarcities to focus on, energy or power, grid capacity or primary energy, carrying capacity for pollutants, GHG or waste, momentary peak values in selected pivotal points of the grid or some average level over a sensible time and area. A further debate could arise from the selection of measurement parameters and mechanisms, e.g. the disputable weighting of power exchange prices as eligible measure for scarcity which in the present setting of EEX spot market influenced heavily from EEG mechanism.

We believe pricing mechanisms should focus on reaching energy transition rather than a highly disputable concept of “reflecting scarcity”. The challenge as we see it should be formulated to develop pricing mechanisms for electricity as well as for grid capacity in accordance with the target of a fast energy transition, i.e. to harness market forces to boost the shares of renewable energy sources, foster decentral, imbedded generation, support prosumer strategies, integrate local structures and exploit demand response and other flexibilities to integrate fluctuating renewable sources.

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Energy pricing should employ the possibility of minimum prices for favorable – as to the target of energy transition – generation technologies to provide for stable and calculable investment conditions for those technologies, i.e. make these capital intensive power production pay for itself by long term power yields. Grid tariffs have the possibility to reflect local structures and time variabilities.

3) Progress in aligning the fragmented balancing markets remains slow; should the EU try to accelerate the process, if need be through legal measures?

Taking a local and holistic approach to energy production and consumption would partly make balancing markets redundant. Supply and demand must be linked by means of load management, energy storage and time-controlled energy forms. A local approach is ideally suited to put this in place: energy consumption for electricity, heat and transport and energy savings can be meaningfully linked. This enables local balancing and peak-shaving through local combined heat-and power plants, heat storage, and electricity storage, e.g. through electro mobility. By means of example, the EUREF-Campus urban district in Berlin is already putting in place these approaches and last year reached the German greenhouse gas emission target for 2050 on its territory.

Climate Alliance suggests not accelerating the process to align balancing markets in the EU. The energy transition is being implemented with a diversity of approaches in the different Member States. This is an opportunity to find out which approach works best.

4) What can be done to provide for the smooth implementation of the agreed EU wide intraday platform?

Overcoming barriers in the existing markets such as high entry barriers for new market participants and unwritten agreements is more important than the implementation of an EU wide intraday platform.

5) Are long-term contracts between generators and consumers required to provide investment certainty for new generation capacity? What barriers, if any, prevent such long-term hedging products from emerging? Is there any role for the public sector in enabling markets for long term contracts?

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An ambitious, stable and coherent policy framework is paramount to providing investment certainty for new generation capacity, especially for renewable energy. Feed-in tariffs have also shown to be an enabler for new generators which contribute to a sustainable, decentralized energy system. They can be considered as long-term contracts. Individuals, cooperatives and local authorities have been making use of the system to invest in sustainable energy supply solutions and reinvest the money in their territories. Co-operatives are a powerful instrument for people to take their energy future into their own hands and benefit directly from investments, and for local authorities to involve their citizens in decision making and financing renewable energy investments. In Germany, over 50% of new renewable capacity are decentralised energy systems owned by private people, farmers and energy co-operatives. The Austrian municipality of Güssing was able to create 1,500 new jobs thanks to the setting up of local renewable energy plants.

Feed-in tariffs should be used in the take-off phase of renewable energy generation. Once renewable energy has reached a certain threshold in the energy mix of a Member State, instruments need to be adapted to enable increasing this share further. For example, mandatory targets should be set for distribution companies to integrate increasing shares of renewable energy into their supply portfolio. For a functioning energy services market long term contracts are useful. The public sector can be a reliable contracting partner in an energy services market because of their financial stability.

6) To what extent do you think that the divergence of taxes and charges levied on electricity in different Member States creates distortions in terms of directing investments efficiently or hamper the free flow of energy?

Energy is already being exchanged between Member States, thus the divergence of taxes and charges could be aligned but this should not be a policy priority.

7) What needs to be done to allow investments in renewables to be increasingly driven by market signals?

Policies have been attempting to tackle a number of market failures inhibiting the generation from renewable energies and their integration in

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the market for years and should continue to do so. The internalization of external costs plays an important role here.

Moreover, the choice of the adequate renewable energy sources depends heavily on local circumstances which cannot be simply guided by the market. In addition to purely economic market failures, the energy transition also requires an array of measures in order to move away from the traditional approach to energy. The new energy system will look different: There will be less large scale energy production plants and instead, numerous small renewable energy production units, as well as buildings and houses producing more energy that they consume. There will also be fewer traditional big energy production companies and many more SMEs providing energy-related services and products. Everyone can have a role in the new energy system and local authorities can facilitate this and creation of “prosumers”.

Generation facilities of renewable energies have a visible impact on people`s living environments. At the same time, they bear the potential to raise awareness about energy in general, make people part of the transition and help local economies. Municipal and community energy schemes provide an array of contributions to a sustainable, decentralized energy system and create regional value.

Thus, it becomes clear that if we subject RE generation purely to market signals, we will fail to create a truly sustainable energy system and to empower citizens who are willing to invest in and operate RE generation facilities.

8) Which obstacles, if any, would you see to fully integrating renewable energy generators into the market, including into the balancing and intraday markets, as well as regarding dispatch based on the merit order?

We need a market design for renewable energy, not a traditional design integrating renewables.

The absence of binding national targets for renewable energy for the period of 2020-2030 is an important barrier to long-term investments.

Barriers to integrating renewable energy produced from municipal or community installations are still numerous. In some member states, they are denied access to the grid, because of a presumed lack of capacity. Moreover, grid connection processes are often made more complicated or

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delayed by grid operators. This is why grid access should be guaranteed to local RES projects, and they should have priority over other suppliers.

Compulsory direct marketing is another barrier for the integration of RES into the market.

Furthermore, the competitive bidding process laid out in the revised State Aid Guidelines for Environment and Energy hamper small-scale and community projects, since it requires high upfront costs to reply to the bid. As a result, the biggest group of current renewable investors - private people, farmers and co-operatives are at high risk of being eliminated from the market, in favour of large energy companies. Moreover, tendering does not solve the major challenge of a coupling of production and consumption.

The priority given to feed in premiums at the expense of feed in tariffs in the guidelines also leads to municipal and community initiatives operating in a framework with low investment certainty.

Therefore, more exemptions should be granted to small-scale, municipal and community RES generation project when it comes to tendering and feed-in tariffs should continue to be allocated at least in the starting phase of a technology. Electricity distribution companies should also be obliged to integrate increasing amounts of electricity from renewable sources and generate decreasing amounts of CO₂.

9) Should there be a more coordinated approach across Member States for renewables support schemes? What are the main barriers to regional support schemes and how could these barriers be removed (e.g. through legislation)?

Member States should agree on a common and realistic framework, which ensures a fast enough implementation of renewable energy schemes. The most successful support mechanism – minimum prices or Feed in Tariffs – should be explicitly backed by the EU institutions and all Member States.

In principle, coordinated support schemes would be ideal. Unfortunately the call for coordination has been extensively misused in the past, to postpone decision and block innovative decisions. This must be avoided by setting ambitious and binding targets for every Member State. With coordinated efforts successful business models could be copied or

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expanded across the Union, production could be scaled up, communication and customer awareness raised in a more coherent way.

But first of all, Member States need to coordinate an approach to end support to fossil fuels and to phase out inflexible, carbon-intensive energy production and nuclear power plants.

10) Where do you see the main obstacles that should be tackled to kick-start demand- response (e.g. insufficient flexible prices, (regulatory) barriers for aggregators / customers, lack of access to smart home technologies, no obligation to offer the possibility for end customers to participate in the balancing market through a demand response scheme, etc.)?

The market design needs to be entirely reconsidered as an energy service market in order to enable demand response.

1. Lack of information: Grid operators TSO as well as DSOs should be required to monitor the grid in all nodes and branches and on a real time base. This would at least provide the information of possible flexibility options to the DSO in-house and raise awareness.
2. Lack of data transparency: The real time grid data should be published to regulation bodies, independent auditors and scientific bodies, qualified NGO and consumer organizations, and in a reduced form to comply with EU data protection regulation to the public. Regulators should provide for a least cost & max energy transition supporting approach to grid operation and expansion.
3. Lack of transparency of decisions / Missing mandate to DSOs to support flexibility markets: Grid operators should have the mandate to identify and develop flexibilities as a requirement to strengthen the infrastructure (shift from copper & steel to ICT & smartness). They have the data and as fully regulated bodies they are subject to public services. Periodic reporting on benchmarking results, investment and flexibility market strategies and full disclosure of relevant technical and economic data of grid operators should be mandatory. Especially flexibility market strategies reporting provides for rising awareness of the issue.
4. Mismatch in unbundling categories: Grid operators should be explicitly authorized and mandated to contract or operate qualified

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imbedded flexibilities within and as part of their infrastructure.
Examples:

- a. charging infrastructure for electric vehicles with adequate provision to use car batteries as flexibility and allow for all users and their respective power suppliers to match at every charging station,
 - b. all kind decentral storages to regulate the grid (IT instead of copper), wherever this is a more cost/environmental beneficial way than copper alone, and as long there is no competing approach from other parties, (for sure a big discussion)
5. Missing price signals: Only where flexibility has a price markets can work their magic.
 6. Missing smart meters to harness small scale flexibility – and real smart ones with high frequency data reading (U, I, cos phi) – at every consumer to provide for the possibility of peer-to-peer energy exchange and load management (the swarm).
 7. Lack of flexibility strategy: Systematic development of flexibilities should be recognized as a strategic part of infrastructure reinforcement and resilience increase. Member states should develop their decisive flexibility strategy.
 8. Mandatory SLP clearing for small consumers (standard load profiles): Clearing on actual load logs is necessary to allocate flexibility gains, thou SLP should be optional clearing methodology.

11) While electricity markets are coupled within the EU and linked to its neighbours, system operation is still carried out by national Transmission System Operators (TSOs). Regional Security Coordination Initiatives ("RSCIs") such as CORESO or TSC have a purely advisory role today. Should the RSCIs be gradually strengthened also including decision making responsibilities when necessary? Is the current national responsibility for system security an obstacle to cross-border cooperation? Would a regional responsibility for system security be better suited to the realities of the integrated market?

When talking about system security the concept of resilience seems to be very helpful. In this context a review on different grid architectures would possibly be of great help. The restructuring of existing hierarchic power

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grids to cell oriented “digital grids” as brought forward by Prof. Rikiya Abe¹, could shed a totally different light on the importance of regional autonomy, resilience and system security.

12) Fragmented national regulatory oversight seems to be inefficient for harmonised parts of the electricity system (e.g. market coupling). Would you see benefits in strengthening ACER's role?

Yes, under the prerequisite that ACER became a more progressive institution than today in terms of leading regulators to become leading agents in climate protection, fast abandoning of fossil fuels, restructuring markets to a fully renewable supply, in short the energy transition.

Strengthen regulators to reporting institution of the national markets: data, benchmarks, strategies, best practice examples.

13) Would you see benefits in strengthening the role of the ENTSOs? How could this best be achieved? What regulatory oversight is needed?

ENTSOs should provide for detailed production and transmission data. The data should be released regularly and be opened to everybody so that customers, local institutions and enterprises, municipalities, etc. can participate in the energy system.

14) What should be the future role and governance rules for distribution system operators? How should access to metering data be adapted (data handling and ensuring data privacy etc.) in light of market and technological developments? Are additional provisions on management of and access by the relevant parties (end-customers, distribution system operators, transmission system operators, suppliers, third party service providers and regulators) to the metering data required?

Electricity distribution companies should become central market actors striving for a balance in supply and demand according to their customers' needs. They have the role of organizing the most affordable and most appropriate (increasingly renewable) energy mix for their customers. As an intelligent combination of electricity and heat is already the most economical solution for certain customers today, more comprehensive energy services will increasingly be offered.

¹ <http://www.digitalgrid.t.u-tokyo.ac.jp/assets/files/news/Material2.pdf>

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These distribution companies should also be obliged to integrate increasing amounts of electricity from renewable sources and generate decreasing amounts of CO₂; a switch to renewable-based energy supplies with minimal CO₂ emissions in accordance with the market principle can be achieved. Restrictions to the expansion of renewables are not necessary in this system, as the expansion dynamics arise from the demand on the electricity market beyond the minimum quota. Potential added costs are borne directly by the customers opting to be supplied with this additional green electricity.

For sure the adequate access to metering is a core requirement to open up the market. The choice of measuring systems and meters should be as free as possible and hardware interfaces – standard plug for measuring units – should open the market for new measuring devices to be changes by the consumers themselves.

15) Shall there be a European approach to distribution tariffs? If yes, what aspects should be covered; for example tariff structure and/or, tariff components (fixed, capacity vs. energy, timely or locational differentiation) and treatment of self-generation?

Today's grid usage fees mostly have an apportionment character. Particularly in the case of private households, the grid costs are determined by kilowatt-hour. The prices therefore do not reflect the actual costs for grid usage and provision. This should be changed so that a proper incentive for the fee structure can develop. Grid usage over long distances should therefore be more expensive than local usage, as the latter makes less use of the grid. The national grid expansion otherwise necessary can thus be reduced. Moreover, all electricity customers should pay a service fee per kilowatt for being connected to the grid, irrespective of their actual usage (kilowatt-hours), as this constitutes a measure of capacity of the connection.

Self-generation needs to be favored in a tariff structure. Consumers investing in RES should not be penalized for it.

16) As power exchanges are an integral part of market coupling – should governance rules for power exchanges be considered?

17) Is there a need for a harmonised methodology to assess power system adequacy?

18) What would be the appropriate geographic scope of a harmonised adequacy methodology and assessment (e.g. EU-wide, regional or national as well as neighbouring countries)?

19) Would an alignment of the currently different system adequacy standards across the EU be useful to build an efficient single market?

20) Would there be a benefit in a common European framework for cross-border participation in capacity mechanisms? If yes, what should be the elements of such a framework? Would there be benefit in providing reference models for capacity mechanisms? If so, what should they look like?

In the current state of market development, capacity mechanisms could be a further intervention in the electricity market and may result in a longer operation of old, carbon-intensive and nuclear generation facilities. We do not support capacity mechanisms in the current electricity market.

21) Should the decision to introduce capacity mechanisms be based on a harmonised methodology to assess power system adequacy?

Capacity mechanisms are not necessary in the current electricity market with an overflow of electricity. It could be a relevant market approach when the share of renewables in the electricity market reaches a certain threshold.

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ABOUT Climate Alliance

For more than 25 years, Climate Alliance member municipalities have been acting in partnership with indigenous rainforest peoples for the benefit of the global climate. With over 1,700 members spread across 26 European countries, Climate Alliance is the world's largest city network dedicated to climate action and the only one to set tangible targets: each member city, town and district has committed itself to reducing greenhouse gas emissions by 10 percent every 5 years. Recognising the impact our lifestyles can have on the world's most vulnerable people and places, Climate Alliance pairs local action with global responsibility. The network fosters cooperation with indigenous peoples, runs awareness raising campaigns and develops tools for climate action planning. It provides ample opportunity for participation and exchange while representing member interests at the national, European and international levels.