

CAN Europe recommendations on support schemes design- Input for the European state-aid environmental guidelines review

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1. Introduction

As part of a wider European modernization effort of competition rules, the European Commission is reviewing their (binding) guidelines on state-aid for environmental protection¹. The new guidelines will be published and enter into operation by mid 2014, after the last round of public consultation² (opened on December 18th for 8 weeks, until February 14th).

With this revision, the EC aims to update the existing conditions under which Member States can provide state aid for supporting renewable energy producers, among other technologies that contribute to the European common goals on climate change action (in this case the 2020 Energy and Climate package) and security of supply.

The existing *guidelines on state-aid for environmental protection*³ (2008-2014) provide sufficient flexibility to Member states to decide which type of support (e.g. Feed-in-tariff) can be better used for each of the technologies, and how the level of support is calculated. The European Commission, with this review, is however trying to set very concreted criteria for future support, pre-describing which the most suitable schemes are based on market penetration levels and imposing strict rules on how to calculate the level of support.

Environmental guidelines on state-aid – Timeline



Figure 1. Timeline of the review process for the environmental guidelines for state-aid

The draft guidelines proposal is based on the recommendations from the Commission's recently published communication "*Guidance for RES support schemes design*"⁴, which was published on November 5th, as part of a package called "Public intervention on the internal energy market", which addressed not only renewables support, but also generation adequacy (including capacity payments) and demand side participation.

¹ http://ec.europa.eu/competition/state_aid/modernisation/index_en.html

² http://ec.europa.eu/competition/consultations/2013_state_aid_environment/index_en.html

³ http://ec.europa.eu/competition/sectors/energy/legislation_en.html

⁴ http://ec.europa.eu/energy/gas_electricity/internal_market_en.htm



A summary of the EC's guidance document is provided in Annex 1 (it is recommended to read the original document nonetheless).

A summary of the EC's draft guidelines for state-aid for renewables is provided in Annex 2 (the draft⁵ has been presented with the public consultation).

2. CAN's position on support scheme design and recommendations for the review of the state-aid guidelines

As part of the consultation process, CAN Europe had already participated to the first round of consultation that took part in October 2012. CAN Europe's response can be found in the website⁶.

Furthermore, CAN Europe developed a position paper on support schemes⁷ in September 2013, focused mainly in the reform process. This paper provides some general recommendations on the preferred instrument (feed-in-tariff) and how support should be designed.

In December 6th 2013, CAN Europe members attending the workshop on Renewable energy policies in Brussels⁸, had a first round of discussions on the state-aid guidelines proposal. The recommendations below are based on the workshop's conclusions.

The following issues have been addressed as part of the consultation response, which is now available at CAN Europe website⁹.

Type of support scheme

CAN Europe supports the idea that support schemes for renewable energy need to adapt to changing environments and cost structures, becoming as cost effective as possible but allowing renewable energy producers to enter the market with an adequate level of support.

Feed-in-tariffs have proven a successful market-pull instrument to bring non deployed technologies close to maturity in a relative short time, ensuring a fast cost decrease through economies of scale and optimization of value chain for the involved sectors.

Feed-in-tariffs, due to their openness, long-term certainty and isolation from market dynamics (thanks in part to the Renewable energy directive), have allowed consumers and citizens to invest on their own energy systems, changing the ownership structure of the energy system and reducing power control from the incumbent. While large scale fossil fuel subsidies still distort the energy market, it is premature to put an end to the well-trusted and well-understood *Feed-in-tariff* scheme. **Feed-in-tariffs are the best instrument to deploy renewable energy sources.**

⁵http://ec.europa.eu/competition/consultations/2013_state_aid_environment/draft_guidelines_en.pdf

⁶ http://caneurope.org/resources/doc_download/2210-eu-commission-consultation-on-state-aid-for-environmental-protection-oct-2012

⁷ http://caneurope.org/resources/doc_download/2218-support-schemes-for-renewable-energy-sources-sep-2013

⁸ Presentation can be found in CAN Europe website, and the summary of the discussion is available upon request. <http://caneurope.org/component/content/article/284-resources/past-events/650-can-workshop-on-renewable-energy-policy-6-december-2013>

⁹ http://caneurope.org/resources/doc_download/2343-can-europe-responses-to-public-consultation-on-envi-state-aid-14-february-2014

However, there seems to be an agreement that floating feed-in-premiums could be an acceptable support mechanism within certain (technology) sectors and markets (country and segment). **Markets where the technology has a significant impact and its industry is mature, feed-in-premiums could thus be acceptable as long as they are floating**, ensuring return of investment and decreasing investors' uncertainty.

Fixed feed-in-premium, on the contrary, cannot be accepted at any rate. They do not provide investment security, thus increasing the cost of capital for investors, and in many cases make the project unviable without adding efficiency.

The current arrangements of the electricity market, based on marginal operating costs and over-production, favour old power plants that are paid off, have low fuel costs and often pollute most. This makes it impossible to get new and clean power plants into the grid without support schemes. The energy only market needs to adjust to ensure return of investment of renewable energy producers. As long as those market conditions do not change, support schemes will be necessary.

Definition of maturity/ level of deployment

The mature/immature approach, as presented by the European Commission in their draft State-aid review, is unhelpful in the debate as it sets a wrong differentiation. Each market and technology needs differentiated approaches. A specific technology cannot be considered mature once a specific penetration level is achieved (in this case 1-3%). There are other aspects that need to be considered, as for instance, industry establishment, accessibility to equipment suppliers, local/national awareness of technologies and support instruments, enough competition, etc.

Member states should be given flexibility to choose which type of support scheme they prefer to apply to each technology.

There may be better ways to classify and differentiate instruments among technologies, for instance, difference could be apply to variable and non variable RES rather than between deploy and and less deploy. This could be especially interesting for the allocation of balancing responsibilities.

Technology neutrality

Technology neutrality will not benefit the renewable energy sector in general and will induce both overcompensation of certain technologies (biomass) and underinvestment of others that are less competitive.

Support schemes, and the specific level of support should be well defined and differentiated, not only per technology, but also based on the size and type of the plant. For instance, a large PV-roof installation may result in slightly higher costs than a ground-based plant of the same size, due to higher installation, operation and leasing costs. In the other hand, the ground-based plant creates more pressure on land availability and may incur larger system integration cost (if installed far from consumption centres).

Additionally, a technology neutral approach will result in the deployment of a single type or less balanced mix of technologies, which may hinder a smooth transition to a renewable energy system. A more balanced portfolio of technologies will provide system-wide benefits (e.g. the correlation between wind and solar resources is quite low and thus both technologies are very complimentary).

Bidding process

The limited experience with tendering/bidding for renewable energy producers have proven ineffective and in some cases problematic. Tendering tends to facilitate market control of large companies (incumbents) with higher capacity to deal with administration and to bear risk. The tendering system, if not very well designed, can lead to overcompensation, or to lack of project implementation due to strategic bidding (bidders bid too low to get the project but then they do not implement it, or they all-under pre-agreement- bid too high to ensure high returns). It also leads to lack of competition as many investors may find the process too risky¹⁰.

In principle, the bidding process (tenders) could help to set the most competitive level of support based on the market. The main benefit being the avoidance of ex-ante calculations, ensuring no overcompensation (based on wrong, outdated or misinformed calculations). However, as the European Commission itself warns in their guidance document on support schemes design (see footnote 4), a floor and a ceiling price should be introduced to avoid the strategic bidding. This can only be done with ex-ante calculations.

In summary, the bidding process do not provide any significant benefit vs. existing support allocation methodologies (based on LCOE¹¹ calculation), but brings a large number of problems and uncertainties associate to it.

As any other instrument, it will need time to be understood and will lead to failures, bad experience and other regrets.

Across Europe hundreds of projects exist where communities and citizens are actively involved in the owning and running of renewable energy production. A tendering process would exclude these type of projects from being able to access RES support as they simply won't have the ability to be involved in an onerous bidding process, even more if the tendering is applied to across all Member States (EU-wide tendering). Many benefits flow from having communities engaged in Renewable energy, such as increased public support, mobilisation of private investment, and these would risk being lost.

Biomass

In order to limit the effects to raw material markets, support to bioenergy should only be granted when resource efficiency and cascading use of biomass, biofuel and bioliquids feedstock is ensured. Any aid should also respect the waste hierarchy principle in line with the targets of the Europe 2020 strategy. This includes use of waste in cogeneration and waste management in biomass, biofuel or bioliquid installations.

In principle, any support scheme for bioenergy should undergo an environmental impact assessment that specifically addresses resource efficiency and cascading use of biomass, biofuel and bioliquids feedstocks, including a resource procurement plan demonstrating how the project will source its feedstocks in compliance with those objectives. As indicated by the European Commission's 2010 report on *Sustainability Requirements for the Use of Solid and Gaseous Biomass Sources in*

¹⁰ if a bidder do not classify first for the support, but second, it may have to remain in the waiting list for at least 6 months, thus creating a lot of uncertainty and putting investments and infrastructure on hold

¹¹ LCOE stands for Levelized cost of energy- A methodology used to calculate the average energy generating cost for the lifetime of a project (express in €/kWh)



Electricity, Heating and Cooling, aid should **require proof of sustainable production of the biomass** used in biomass power plants.

Furthermore, to ensure minimum efficiency standards for the use of biomass, the European Guidelines on environmental state-aid should consider **incompatible any aid to residential, commercial and industrial applications using biomass/bioliquids that do not meet minimum efficiency standards** set out in the Renewable Energy Directive.

The European Union has repeatedly highlighted the urgent need to phase out environmental harmful subsidies for fossil fuels or subsidies used to carry out activities that will interfere with the requirements from other EU legislation (e.g. Directive on Industrial Emissions (2010/75/EU)). Providing state aid to coal-fired power plants is squarely against environmental protection, against sustainability and goes against the long term European climate goals. Provision of aid to co-firing producers (coal + biomass) serves to prolong reliance on coal-based infrastructure. It also reduces finite financial resources that would otherwise be used to promote other truly sustainable energy sources, such as solar and wind power. The *Guidelines* should therefore consider **as incompatible any operating aid to co-firing plants**.

The following points will not be address in the consultation but it is an important element where CAN Europe should seek a common understanding:

Dispatch priority and curtailment

Although in the state-aid guidelines this issue is not covered, the European Commission do refer to it in their guidance document (see footnote 4- pa. 16). The EC refers to the fact that renewable energy producer may not need dispatch priority as producers become more exposed to market participation and balancing responsibilities. And that significant curtailment protection may not be needed as transmission infrastructure and storage capacity expands across Europe.

Dispatch priority is however a fundamental element of any policy that aims to increase the share of renewable energy sources in the system. Without such obligation for the system operator, it will proof very difficult to ensure a minimum number of running hours to ensure a return of investment, because variable renewables such as solar PV and Wind are very easily connected/disconnected from the system, and this may be use frequently in times of over-supply.

Annex 1- European Commission's guidance of RES support schemes design-summary

In summary, the EC puts forward the following messages:

- ✓ Phase out feed-in-tariffs and move towards feed-in-premium (FEP) (exp. very small installations) to ensure renewable energy producers are exposed to market signals and risks
- ✓ In all cases (feed-in-premium, quota, feed-in-tariff), the recommended way of calculating and allocating the support for projects is through a tender/bidding process
- ✓ Quota system is viable with specific conditions
- ✓ Apply balancing responsibilities to all producers, once market failures are addressed
- ✓ Shallow network connection costs to all producers
- ✓ They put into question the need to continue protecting significant curtailment of RES, as ensured in the Renewable Energy Directive (FOOTNOTE)
- ✓ Gives less importance to priority of dispatch once feed-in-premium are in place

Below, a bit more of detail on their proposal:

Member states may choose from either of the two possible feed-in premium options:

- Floating or variable premium: it provides much higher investors' certainty for their return, as it partly shields the beneficiary from price signals. In order to ensure more market integration, the premium may be set at zero to avoid over-compensation when market prices are either negative or below the foreseen remuneration level
- Fixed premium: it ignores market price movements, and thus can result in over-compensation or (most likely) under-compensation. It exposes producers fully to market signals and thus it can help optimize operational decisions. This higher risk, however, will result in much higher capital costs and lack of investors interest.

The Quota system is acceptable, as soon as floor prices are set to ensure a minimum return of investment. The level of support (green certificate) can be made technology specific to avoid overcompensation to the most competitive technologies (e.g. Biomass co-firing) and ensure growth of a larger portfolio of technologies.

In all cases (feed-in-premium, quota, feed-in-tariff), the EC recommends the tender/bidding process as the way of calculating and allocating the support for projects:

- Tenders to allocate the level of support in different instruments such as feed-in premiums, investment support or green certificates
- Tender to foster competition between bidders where- as default option, tenders put different locations and technologies into competition to each other
- Tender for producers capable of bearing the administrative burden (small producers would therefore be excluded)
- Tenders need to ensure delivery, e.g. via penalties and low regulatory costs
- Set ceiling and floor prices in the tender process to avoid strategic bidding (e.g. bidding below production cost to gain market control and eventually kill competition)



Balancing responsibilities should be equally distributed to producers in line with technology capabilities, once liquid and well-functioning balancing markets (gate closure, network codes) are in place.

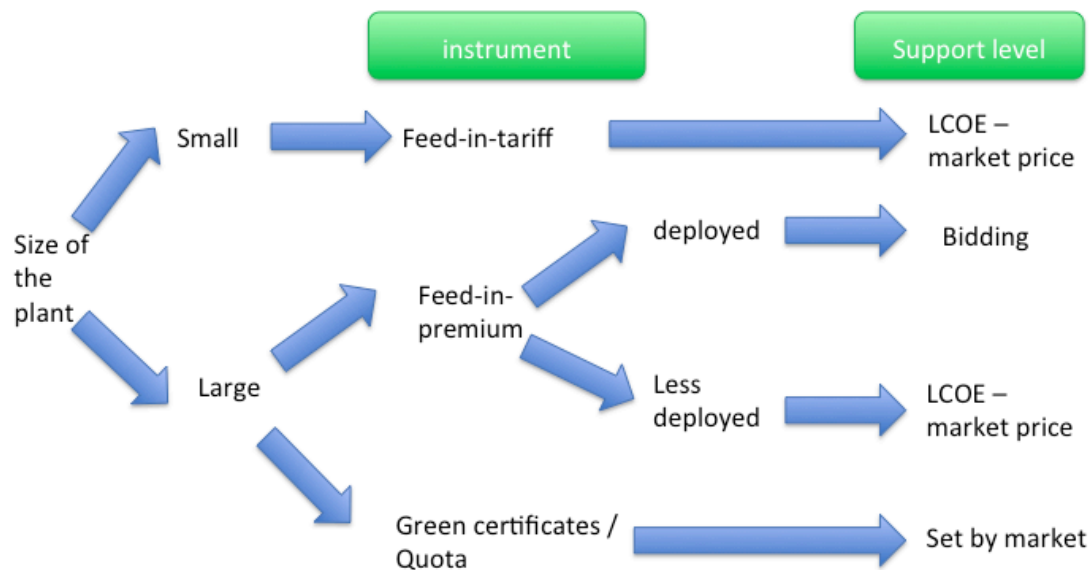
The following recommendations are also very important to be considered:

- Shallow network connection costs to all producers
- Network tariffs: no recommendations
- Put into question need to protect significant curtailment (RED)
- Gives less importance to priority of dispatch once FIP applied.

Annex 2- European Commission draft proposals on state-aid control for renewable energy support- summary

The draft guidelines put under consultation follow the rational presented in figure 2 to define which of the 3 support mechanisms or instruments (feed-in-tariff, premium or green certificate) can be allowed to the renewable energy producer. In each of the 4 resulting cases, the way on which the support level is defined is also pre-defined.

Current Rational for allowed instrument and level of support



There are two key variables for such rational that prove very controversial:

- **The size** at which an installation becomes large. At the moment set at 1MW, or in the case of wind power, 5MW (or 3 generating units)
- **Maturity/deployment:** The point at which a technology is considered deployed. The current definition is the following: Technologies with a share of at 1-3% in electricity demand at national level are considered deployed.

Technology neutrality:

- So far, for deployed technologies, the bidding process (tendering) has to be applied in a non-discriminatory basis (technology neutral). Support cannot be pre-defined per technology.
- Similarly within the quota system, deployed technologies can not be differentiated regarding the level of support received

Balancing responsibilities:

- All technologies, both deployed and less deployed, small and large, are subject to standard balancing responsibilities, as long as competitive intra-day markets are in place.
- The “standard” responsibilities, as well as the “competitive” intra-day markets are not clearly defined in the guidelines.

Support schemes

- Financing support based on the “feed-in-tariff” approach can only be granted to “less deploy” technologies.



- Less deployed technologies can also be promoted through green certificates under a quota system. In this case, technology banding is allowed (for each technology a different level of support per MWh is allocated, depending on the generation cost- to ensure investments and avoid overcompensation)
- Deployed technologies can be granted support either through green certificates or through feed-in-premium. The type of feed-in-premium (fix or sliding) is not defined. The premium (level of support) is calculated through a bidding process.

Bidding process

- Under the feed-in-premium scheme, deployed technologies will be granted support through a tendering/bidding process, where all technology producers can participate in a non-discriminatory basis.
- Member states need to ensure a minimum of competitors/undertakers in the process.
- Member states can decide to exclude certain technologies in certain geographies if necessary to secure grid stability.
- There must be a maximum budget to ensure not all bidders receive aid.
- Aid will be provided on the basis of the initial bid submitted by the bidder.

Biomass

- Support to biomass may be excluded from any support scheme to limit the effect on the raw materials market.
- Co-firing plants owners can receive support for the electricity generated using biomass feedstock, if they justify that burning biomass is more expensive than other fossil fuel, and higher than market prices.

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Climate Action Network (CAN) Europe is Europe's largest coalition working on climate and energy issues. With over 120 member organisations in 27 European countries, CAN-Europe works to prevent dangerous climate change and promote sustainable energy and environment policy in Europe.