



Application of G-charge across EU according to draft Guidelines on Transmission Tarification

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1. Background

Network tariff structures and charging principles may vary from one Member State to another but may also differ within a Member State depending on voltage level and region. It has been proposed in the draft Guidelines on Transmission Tarification that charges for generation, i.e. G-charges, will be harmonised at a transmission level within a specified range. Thus the objectives of the draft Guidelines is, as a first step, to harmonise charges paid by generation on the transmission networks. The draft Guidelines have taken the current position in the ranges of national tariffs as a starting point for harmonisation.

However, it should also be noted that the definition of transmission voltage levels varies across the Member States. Combined with the amount of generation at different voltage levels, differences in the definition of transmission voltage level may introduce discrimination of generation connected to the distribution network compared to those connected to the transmission network and subject to harmonisation according to the draft Guidelines. This may distort the competition among generation.

Further work on this issue, notably with respect to the need for widening the harmonisation to lower voltage levels is needed. Thus it is necessary to analyse the effects of the proposed G-charge harmonisation. To ensure a level playing field for all generation within the EU this report identifies the amount of generation on transmission voltage levels compared to the generation on other voltage levels to see to the extent of harmonisation under the draft Guidelines.

The results of the study are based on the questionnaire for national regulators within all Member States. Twenty EU Member States and Turkey who is an Observer to ERGEG, answered the questionnaire in detail.

2. Voltage levels of transmission network

Voltage levels of the transmission networks vary across the Member States, in particular the lowest voltage level which is classified as transmission network varies largely (shown in Figure 1). However, in all Member States the voltage levels of 220 kV and above are included as transmission network. There exists a range from 50 kV to 220 kV, where the voltage level is either included in transmission or distribution network. All voltage levels below 50 kV are included in distribution network.

Variation of voltage levels included in the transmission network has an effect on the harmonisation of G-charges because it depends on a Member State if a generator connected to voltage levels between 110 kV and 220 kV is under the scope of G-charge harmonisation or not. Introduction of voltage levels to the draft Guidelines may increase consistency, because generation of a certain size would be treated equally across all Member States after this modification. However, generation connected to the distribution network is outside the scope of harmonisation which may distort the competition in generation.

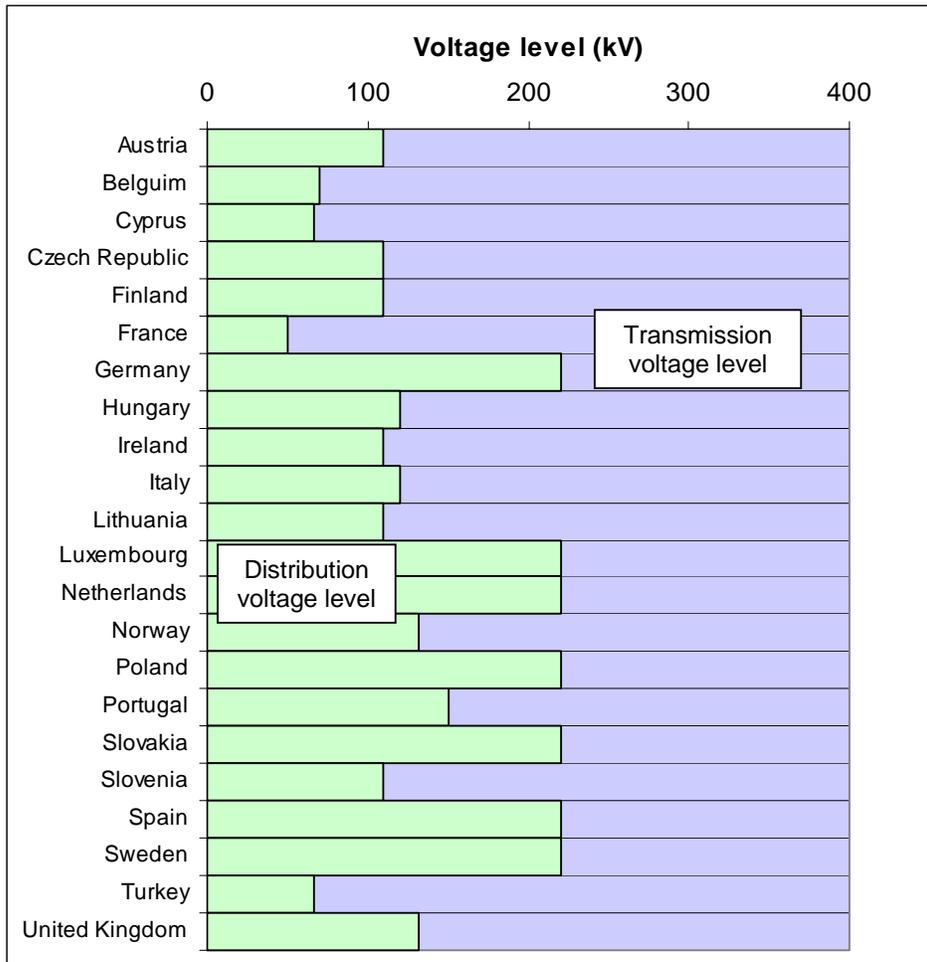


Figure 1: Voltage levels classed as transmission network in various countries. Here transmission voltage levels include the lowest voltage level defined according to the national definition of transmission network.

3. Amount of generation at transmission voltage level

To evaluate the effect of the draft Guidelines for Transmission Tarification on generation at different voltage levels across the Member States the amount of generation connected to the transmission network should be studied to find out if all generation has a level playing field within the Internal Energy Market. Figure 2 presents the amount of generation connected (in terms of generation capacity) to the transmission networks and other networks across the Member States.

The amount of generation connected to the transmission network varies widely from one Member State to another and the situation can even differ greatly between neighbouring countries.

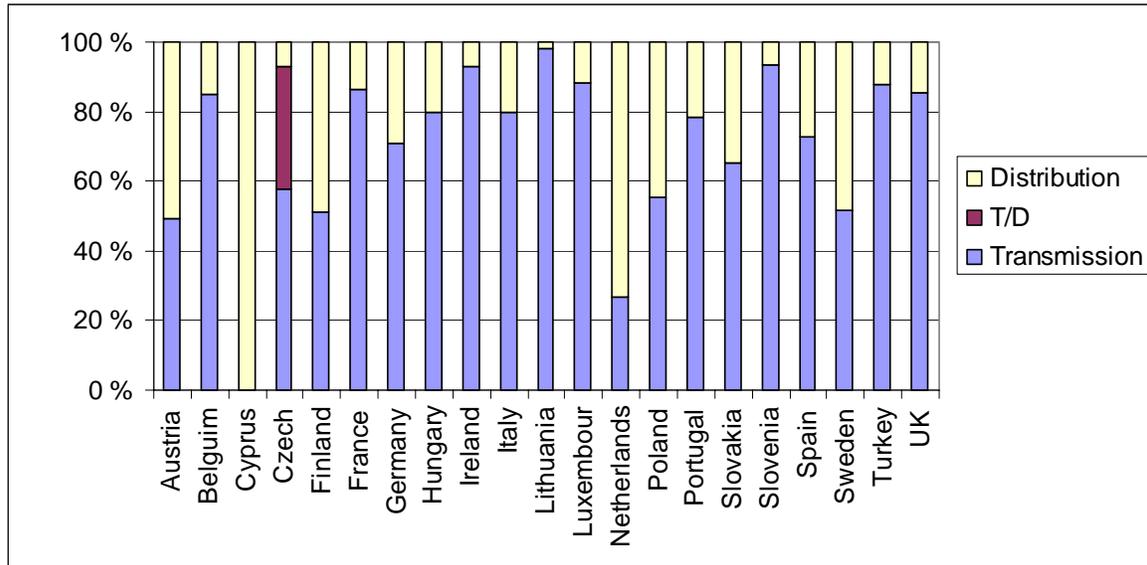


Figure 2¹: Amount of generation (in per cent) connected to the transmission and distribution networks in different countries. T/D denotes the amount of generation connected to 110 kV network, some of which is regarded as transmission network and some as distribution network. National definition of transmission network is applied here.

On average 75 percent of generation is connected to the transmission networks across the EU. This leaves about 25 percent of generation outside the G-charge harmonisation requirement of the draft Guidelines. Charges for this generation depend on the cost recovery principles applied by the network operators in question. These principles may vary largely possibly introducing distortions in competition among generators even those on the same voltage level.

Applying 110 kV voltage level for tariffication harmonisation purposes increases the amount of generation under G-charge harmonisation to about 80 percent. However, 20 percent of generation within the EU is still left outside the scope of harmonisation. Setting the limit to lower voltage levels increases the amount of generation where harmonisation is applied but only inclusion of all voltage levels ensures that all generation can benefit from G-charge harmonisation.

Some countries, e.g. Norway, Italy and Finland have introduced or are planning to introduce national legislation whereby all generation, independent of voltage level, shall be under the harmonisation requirement applied in the draft Guidelines on Transmission Tariffication. In the countries, where G is set to zero at all voltage levels, the harmonisation is already introduced.

Moreover, some generation, e.g. renewables, connected to the distribution network can not be considered as being in the competitive market in some countries because prices they receive for the electricity generated are defined administratively and have no correlation with market

¹ There is no generation connected at the distribution level in Greece.

price. Before harmonised G-charges are introduced to the distribution voltage level, it is also necessary to make a deeper analysis on generation at lower voltage levels and on how this generation is remunerated in the different countries.

4. Conclusions

There is a variation across the Member States which voltage levels are included into the transmission network. In those Member States on which information was available all voltage levels of 220 kV and above are included into the transmission network. However, there exists a range of voltage levels from 50 kV to 220 kV, where the voltage level within a Member State can be included either in transmission or distribution network. All voltage levels included in distribution network fall outside the scope of tariff harmonisation as required by the draft Guidelines on Transmission Tarification.

On average 75 percent of generation is connected to the transmission networks across the EU. Setting the limit in the Guidelines to lower voltage levels increases the share of generation where harmonisation is to be applied, e.g. inclusion of 110 kV networks in all Member States into the transmission network increases the share to about 80 percent, but only inclusion of all voltage levels would ensure that all generation can benefit from G-charge harmonisation.

In principle, to ensure a level playing field for all generators, all voltage levels instead of only transmission voltages should be covered by the Guidelines. However, as a first step harmonisation of G-charges on transmission voltage level should be applied.

Requirements for further harmonisation should be defined on the basis of conclusions from reports under the Guidelines on Transmission Tarification and on further studies conducted after implementation of the Guidelines.