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Additional explanatory notes

Accompanying the document

COMMISSION REGULATION EU No .../2019

amending Regulation (EU) No 548/2014 of 21 May 2014 on implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to small, medium and large power transformers

{C(2019) 5380 final}

1. INTRODUCTION

The present Staff Working Document accompanies the proposed draft regulation to amend Regulation (EU) No 548/2014 implementing Directive 2009/125/EC with regard to small, medium and large power transformers.

In particular, it describes the process that has been followed to prepare an amending regulation and the nature of the changes being proposed. It also describes the potential consequences of the choices that have been made. To do this, it draws on the findings of the review study and the feedback from the stakeholder and expert consultations that have taken place.

2. LEGAL AND POLITICAL CONTEXT

2.1. The benefits of ecodesign and energy labelling

Ecodesign and energy labelling are recognised globally as one of the most effective policy tools in the area of energy efficiency. They are central to making Europe more energy efficient, contributing in particular to the energy union framework strategy, and to the Juncker Commission's priority of a 'deeper and fairer internal market with a strengthened industrial base'. Firstly, this legislative framework encourages industry to improve the energy efficiency of products, and removes the most energy-inefficient products from the market. Secondly, it helps consumers and companies to reduce their energy bills, boosting competitiveness and innovation in the industrial and services sectors. Thirdly, it ensures that manufacturers and importers responsible for placing products on the EU market only have to comply with a single EU-wide set of rules.

It is estimated[1] that by 2020, ecodesign and energy-labelling regulations will deliver around 175 Mtoe (i.e. about 2035 TWh) of energy savings per year in primary energy in comparison to if there were no measures in place. This is roughly equivalent to Italy's energy consumption in 2010, and close to half the EU's 20 % energy efficiency target by 2020. It is also about 11 % of the EU's expected primary energy consumption in 2020. At 16,2 TWh of energy savings by 2020, the contribution of the original ecodesign regulation on power transformers (Commission Regulation (EU) No 548/2014) to the overall energy savings figure is average compared to the contribution made by other ecodesign regulations.

It is also estimated that by 2020 the average household will invest in more expensive and efficient products, but in return save about EUR 500 annually on its energy bills. Although costs will increase for the industrial, service, wholesale and retail sectors, ecodesign and energy-labelling regulations will also result in EUR 55 billion per year of extra revenue for these sectors by 2020.

The legislative framework created by ecodesign and energy labelling regulations has broad support from European industries, consumers, environmental non-governmental organisations (NGOs) and Member States. These groups support this framework because the regulations promote innovation, increase the information available to consumers, reduce costs and benefit the environment.

[1] See https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products

2.2 The legal context

In the EU, the Ecodesign Framework Directive (Directive 2009/125/EC) sets a framework, which requires manufacturers of energy-related products to improve the environmental performance of their products. They must make these improvements by meeting minimum energy-efficiency requirements and other environmental criteria, such as standards for water consumption, emission levels or the minimum durability of certain components. Only when these criteria have been met can the manufacturers place their products on the market.

The Energy Labelling Framework Regulation (Regulation (EU) 2017/1369) complements the Ecodesign Framework Directive by enabling end-consumers to identify the better-performing energy-related products, with an A-G/green-to-red scale. The energy label is recognised and used by 85 % of Europeans.

The legislative framework builds upon the combined effect of these two pieces of legislation.

The Ecodesign Framework Directive and the Energy Labelling Framework Regulation are implemented through product-specific implementing and delegated regulations. To be covered, the energy-related products must: (i) represent a significant volume of sales (more than 200 000 units a year), (ii) have a significant environmental impact within the EU, and (iii) have significant potential for energy savings without excessively increasing costs (see also Article 15(2) of the Ecodesign Framework Directive).

As an alternative to the mandatory ecodesign requirements, industry can also enter into voluntary agreements or take other self-regulation measures (see also Article 17 of the Ecodesign Framework Directive). If certain criteria are met, the Commission formally recognises these voluntary agreements. The benefits of these voluntary agreements or other self-regulation measures are that they lead to quicker and more cost-effective implementation. Implementation can also be made more flexible and easier to adapt to technological developments and market specificities.

For transformers, the energy labelling option was discarded as part of the original impact assessment. As an ecodesign voluntary agreement was not submitted by industry, the option from that policy framework retained at that time was an ecodesign regulation.

2.3 The political context

Several new policy initiatives indicate that ecodesign and energy labelling policies are relevant in a broader political context. The main new policy initiatives are:

- the energy union framework strategy, which calls for a sustainable, low-carbon and climate-friendly economy;
- the Paris Agreement, which calls for a renewed effort in carbon-emission abatement;
- the circular economy initiative, which stresses the need to include reparability, recyclability and durability in ecodesign;

- the emissions trading scheme (ETS), aiming at cost-effective reductions in greenhouse gas (GHG) emissions (the ETS is indirectly affected by the energy consumption of electrical products through ecodesign and energy labelling policies);

the energy security strategy, which sets out a strategy to ensure a stable and abundant supply of energy.

3. THE REVIEW OF REGULATION (EU) NO 548/2014

3.1 The review process

Regulation (EU) No 548/2014 was adopted on 21 May 2014. Like most other ecodesign regulations, it introduces two progressive tiers of energy-efficiency requirements[2] (Tier 1 in July 2015 and Tier 2 in July 2021), which power transformers must meet to be placed in the EU internal market. Unlike most other ecodesign regulations, the review clause was placed in between Tier 1 and Tier 2, instead of after Tier 2, as is normally the case with the other ecodesign regulations.

For reference, Regulation (EU) No 548/2014 was intended to bring the EU in line with the most demanding energy-efficiency requirements for power transformers around the world, such as those in the USA for liquid-immersed transformers (Figure 1) and those in Australia and Israel for dry-type transformers (Figure 2).

Figure 1. International comparison of efficiency levels for three-phase liquid-immersed transformers (source T&D Europe)

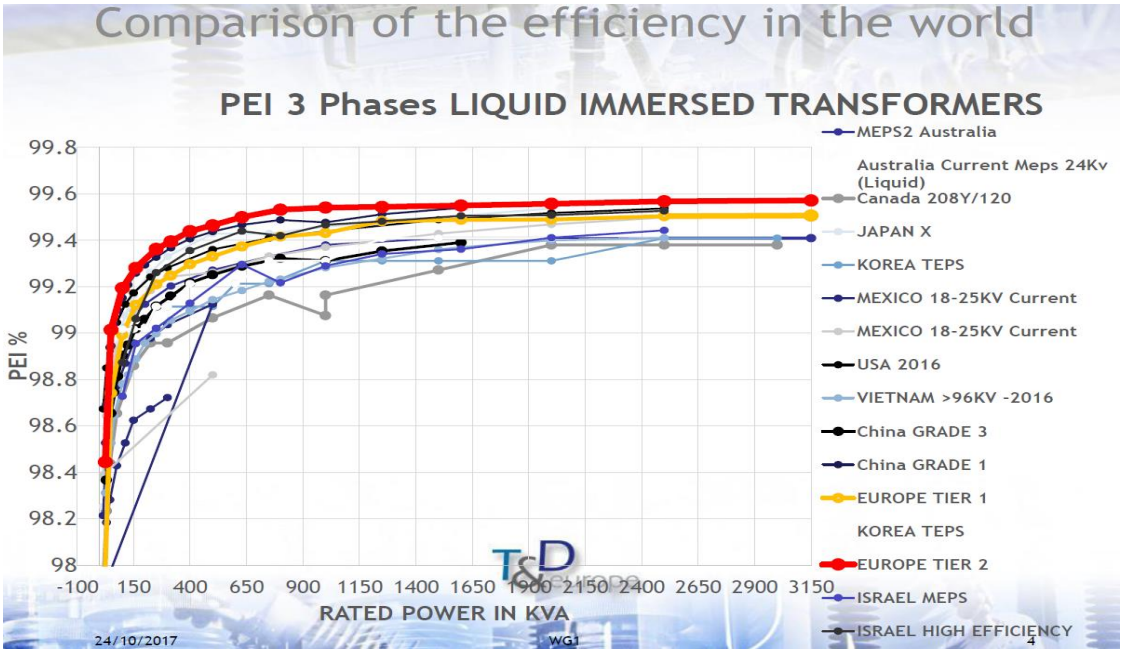
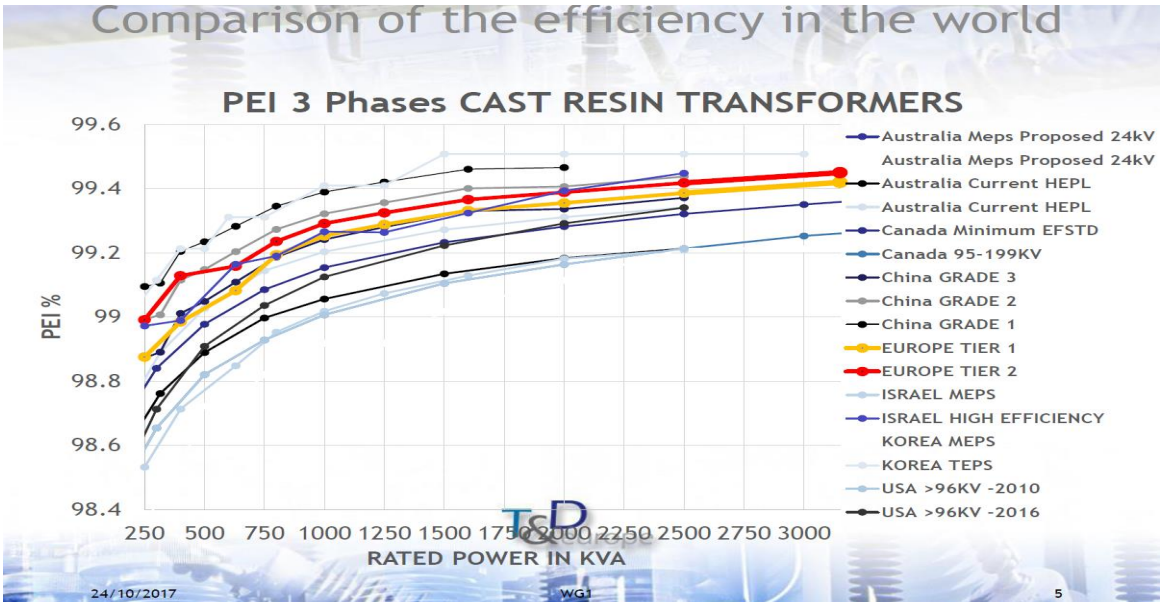


Figure 2. International comparison of efficiency levels for three-phase cast resin transformers (source T&D Europe)

[2] During the ecodesign preparatory study for transformers that took place between 2009 and 2011, no other environmental impact was considered significant enough to propose requirements addressing it.



Article 7 of Regulation (EU) No 548/2014 stipulates that the Commission should review the Regulation in the light of technological progress, and present the results of that review to the Ecodesign Consultation Forum no later than three years after its entry into force in June 2014 (i.e. by June 2017).

To fulfil this legal requirement, the European Commission launched a review study in September 2016, which was completed in June 2017. The review study included two public stakeholder workshops.

Unlike the review studies of other existing ecodesign regulations (which typically take place 4/5 years after entry into force), this particular study did not have enough time to evaluate the impact of the first tier of requirements because this tier of requirements was introduced in July 2015. The review study was instead guided by stakeholder feedback, and the main emphasis was placed on the technological feasibility and cost-effectiveness of Tier 2 requirements applicable in July 2021. The study also tackled the list of issues explicitly mentioned in Article 7 of Regulation (EU) No 548/2014. This shortlist of issues is set out in the bullet points below, including:

- The possibility to set out minimum values of the Peak Efficiency Index for all medium power transformers, including those with a rated power below 3 150 kVA;

- The possibility to separate the losses associated to the core transformer from those associated with other components performing voltage regulation functions, where this is the case;

- The appropriateness of setting minimum performance requirements for single-phase power transformers and for small power transformers;

- Whether concessions made for pole-mounted transformers and for special combinations of winding voltages for medium power transformers are still appropriate;

- The possibility of covering environmental impacts other than energy in the use phase.

The review process elicited around 30 position papers from stakeholders, including the European association of transformers' manufacturers (T&D Europe), individual manufacturers (Ormazabal), material suppliers (Hitachi Metals, ThyssenKrupp), associations of transmission- and distribution-system operators (ENTSOE, Eurelectric), individual electricity companies (EDF, ESBN, e-Distribuzione, Eandis), as well as environmental (EEB, ECOS) and consumer organisations. These papers are available as annexes to the final review study[3].

The study findings and the stakeholder feedback informed the working document that the Commission services presented to the Ecodesign Consultation Forum on 30 October 2017view of the legal obligation explained above. The meeting of the Consultation Forum prompted more feedback on the presented options. This included feedback from Member States.

3.2 Main study conclusions

The review process showed that only some minor adjustments would be necessary to address the list of issues for review mentioned in Article 7. An enquiry among manufacturers carried out as part of the study also showed that they had no major difficulties producing transformers to meet Tier 1 requirements that came into force from July 2015.

The main conclusion from the review process was that while the production of transformers meeting Tier 2 requirements was confirmed to be technologically feasible, their installation might not always be cost-effective. Material suppliers reported that the production of Tier 2-compliant transformers would most likely increase demand for high-grade magnetic steel, as well as copper and aluminium, but that they did not anticipate any shortages of these metals.

In particular, the study concluded that Tier 2 requirements would make economic sense in most operating circumstances. However, under specific operational expenditure assumptions (depending on the electricity price and discount rates), these requirements might not result in least life cycle costs for certain utility applications.

The main reason for this is that the levels of efficiency necessary to meet Tier 2 requirements result in power transformers that contain more magnetic steel and copper/aluminium, which makes them larger and heavier. This will not be a problem for new installations (so-called greenfield sites[4]), where the size of the substation housing the transformers can be decided in advance.

However, replacement transformers are usually installed in existing substations (so-called brownfield sites[5]), which often have tight specifications[6] and have typically been

[3] https://transformers.vito.be/documents

[4] Greenfield sites are sites where transformers are being installed for the first time.

[5] Brownfield sites are destined for a replacement project that has specific limitations of size and/or weight due to the need to install the transformer in an existing enclosure or substation.

amortised long ago. If a new replacement transformer is larger than the existing transformer, and its installation would also require replacing the substation itself, the future savings in electricity losses might not compensate for the extra indirect cost induced by the Tier 2-compliant transformer[7]. This question was discussed at length at the stakeholder meeting during the review study and at the meeting of the Ecodesign Consultation Forum.

3.3 Stakeholders' positions on Tier 2 requirements

The manufacturers were generally of the view that the introduction of new design techniques and materials would be able to compensate, at least partially, for the increase in size and weight of Tier 2-compliant transformers. Their view is that the resulting cost increases would in many cases be compensated for by the savings in reduced electricity losses during the typical service life of a power transformer. This means that electricity companies would at least break even. This was also the view of most other stakeholders, including material suppliers and environmental NGOs.

Electricity companies (which account for 80 % of the market for medium and large power transformers) were represented by Eurelectric, and were of the opinion that cases of uneconomic Tier 2 transformers (i.e. with negative life cycle costs) could be quite numerous . They also thought that Tier 2 requirements would in many cases not be justified from the point of view of cost-effectiveness.

In general, electricity distribution system operators (DSOs) have their own understanding of cost-effectiveness. This is because their corporate investment decisions are informed by complex national regulatory schemes, which govern how and to what extent capital expenditure may be recovered and passed onto final consumers. Additionally, electricity losses in distribution systems are charged partially to final consumers in their electricity invoices; this constitutes a disincentive to DSOs to invest in more efficient transformers. This incentive structure is therefore not fully aligned with a regulatory intervention logic where saved energy (and CO_2) is, and calculated at a social long-term discount rate of 4 %.

Therefore, Eurelectric, supported by some individual utilities, said they requested regulatory exemptions. These exemptions would apply not only when the indirect costs of replacement transformers (i.e. new substations, additional space, etc.) would be disproportionate, but also when the purchase cost of the transformer would not result in a least life cycle cost, based on according to their own calculations[8].

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[6] In general, it appears that European utilities (DSOs) have often been under pressure to limit the urban space used for their substations. Therefore, they have historically drawn up specifications that tightly limited space, without being aware this could create lock-in effects on the size of transformers.

[7] According to the review study, a typical Tier 2-compliant 400kVA distribution transformer would require CAPEX of EUR 8 500, and would have a least life cycle cost of EUR 14 695, while the typical unit cost (in Germany) for a fully installed greenfield 400kVA transformer substation is EUR 36 950 (source www.starkstrom-lobenstein.de/mittelspannung.php).

[8] The formulas for the least life cycle cost used by the study team and the total cost of ownership used by Eurelectric are quite similar, and these are indeed fairly similar concepts. However, the values used for some of the key parameters in these formulas, such as the discount rate, the electricity price or the load factor of the transformer, are different. This makes the comparison of results quite challenging.

The review study speculated that, in the worst case scenario (i.e. when all distribution transformer replacement sales have space/weight constraints), up to 27 % of total transformer sales (by kVA rating, not by units) in the EU could be affected by uneconomic life cycle costs, if the cost of replacing substations (or other infrastructure) was factored in.

Subsequent stakeholder feedback has confirmed that a good approximation for the ratio of brownfield installations to greenfield installations is 60 % to 40 %.

Most substations are normally built to be able to allow the existing transformer to be upgraded with a larger-sized unit, up to a certain maximum size. Therefore, most brownfield installations will generally be able to accommodate Tier 2-compliant transformers, as long as they are not already at their maximum capacity. Using the 60 % estimate for brownfield installations, it has therefore been estimated that up to 15 % of substations may face retrofitting issues because of physical constraints.

In cases where there are physical restrictions, there are a number of technical solutions to replace existing transformers. These solutions are listed below.

- Carry out civil works to remove substations' limitations and allow Tier 2 transformers to be used. This can cause power outages. It can also be expensive, costing many times the price of the transformer in extreme cases.

- Replace the transformer with another old transformer that has been kept energised in another substation.

- Overload a Tier 2 transformer of a lower rating (i.e. 630kVA instead of 800kVA) that can fit into the available space. As the load losses increase with the square of the load, this option would increase overall losses.

- Leave the existing transformer in place and increase transformer capacity in adjoining substations to transfer part of the load. This would increase both overall cost and losses.

- Use a Tier 1-compliant transformer that fits in the available space.

The last option is the most simple and cost-effective in most situations. Given that: (i) these retrofitting situations may happen in up to 9 % of yearly installations, (ii) Tier 1 transformers are on average 40 % less efficient than Tier 2 transformers, and (iii) medium power distribution transformers represented 25 % of the original savings estimate, it can be estimated that the reduction in the original estimate of energy savings would be limited to 0.15TWh[9] per year, or 0.9 % of the total.

3.4 Outcome of the discussion on Tier 2

In view of the concerns expressed by stakeholders about possible difficulties in meeting Tier 2 requirements in all instances, it was decided to propose to the Consultation Forum the introduction of some form of regulatory relief to future-proof the regulation. From the discussion, it was clear that this relief should only be applicable to one-to-one

[9] 16.2 TWh x 0.25 x 0.40 x 0.09 = 0 01458 TWh.

replacement transformers (both for medium and large power), in order to avoid fostering the installation of non-Tier 2-compliant transformers in greenfield sites.

This view was supported by Belgium and Austria, while the Netherlands and Finland were not in favour of introducing any exemptions for Tier 2, and Sweden also expressed a preference not to re-open that discussion. Spain proposed to introduce a less stringent Tier 2 in 2021 and postpone the current Tier 2 requirements until 2025.

The compromise reached in the end was not to change the stringency or timing of Tier 2 requirements but instead to introduce a number of regulatory concessions in the amending regulation. These concessions are meant to avoid situations where the installation of new replacement transformers would entail unintended disproportionate costs (see Chapters 3 and 4 below for the detail).

While the notion of disproportionate costs may seem vague, proper guidance should make this term more clear and help future-proof the regulation. Two exemptions based on disproportionate costs are already present in the original regulation, but no guidance on how to define 'disproportionate' was provided at that time[10].

4. ELEMENTS INCLUDED IN THE PROPOSED AMENDING REGULATION

The proposed new amending regulation introduces the following main changes to the existing regulation:

a. Exemptions

The list of exemptions included in Article 1(2) of the original regulation has been complemented with more precise definitions provided by the relevant CENELEC technical committee dealing with power transformers. As these exemptions are not being widened, just qualified, there are no major implications for the overall savings potential.

A new exemption for transformers installed within nuclear installations has been included. Given the stringent safety measures and constraints under which nuclear plants operate, it was considered appropriate to exclude such power transformers from the obligation to fulfil minimum energy-efficiency requirements. France and the UK supported this view at the Consultation Forum. A reference to Directive 2009/71/Euratom should ensure a precise definition to qualify this exemption.

France is the Member State most reliant on nuclear power generation, followed by Belgium, Slovakia, Sweden, Slovenia and Hungary. Around 800 medium power and 120 large power transformers are installed within nuclear installations in France. These transformers are not necessarily inefficient. However, their replacement with new Tier 2- or even Tier 1-compliant transformers at the end of the service life (or in the case of failure) could conflict with physical constraints and safety measures applicable in these environments.

b. Repair market

[10] Existing exemptions in Regulation EU 548/2014 apply only to large power transformers (LPTs) and the ones being proposed would apply to medium power ones (MPTs). The stock of LPTs in the EU was estimated in the IA to be around 64.000 in 2005, while the stock for MPTs was estimated to be above 3,6 million.

While there is a market in the EU for the repair of power transformers, the original regulation remains silent on repairs. This has led to a grey zone, where electricity companies and other economic operators lack certainty as to whether and when a repaired transformer can be considered a new product and therefore fulfil the minimum requirements in the regulation.

The characterisation of repaired and remanufactured products in EU harmonisation legislation is challenging. A fair degree of consensus among stakeholders[11] advised to make a proposal within the draft amending regulation for the consideration of Member States at the Regulatory Committee. Definitions of 'upgrade', 'retrofit', 'repair' and 'refurbishment' operations have therefore been included in the amending regulation. In two of these situations, upgrade and retrofit, it is proposed that transformers must be considered new products, and corresponding legal provisions have been provided.

The market for repairing transformers is practically non-existent for utilities, while for commercial industrial applications, there seems to be a repair market limited to the segment for medium-voltage-to-low-voltage MV/LV transformers.

The price increase that Tier 2 is likely to bring about could create an incentive to repair old transformers. The provisions being proposed are intended to clarify when a transformer has been repaired to the point that it can be considered a new product, and therefore prevent a substitution effect of new sales for old repaired transformers.

In this context, it is worth recalling what the Blue Guide[12] says:

'A product, which has been subject to important changes or overhaul aiming to modify its original performance, purpose or type after it has been put into service, having a significant impact on its compliance with Union harmonisation legislation, must be considered as a new product'.

c. Definitions

A number of definitions have been fine-tuned at the request of various stakeholders, including Member States, to reflect developments in the categorisation of transformers that have taken place in the standardisation field. Some other new definitions have been included to tighten up and clarify alternative techniques for market surveillance, such as witness testing at manufacturers' premises.

d. Deviations in national electricity distribution voltages

In the Czech Republic, standard distribution voltages in AC three-phase systems are different from all other Member States[13]. Unware of this situation, the original regulation used precisely one of these thresholds, 36kV, to differentiate medium power from large power transformers, which have different minimum requirements (in general, more stringent). This has led to a situation where economic operators and surveillance

[11] This consensus was achieved as part of standardisation discussions under the auspices of CENELEC technical committee 14 and made available to the review process.
[12] The Blue Guide on the implementation of product rules 2016, available at http://ec.europa.eu/DocsRoom/documents/18027
[13] 38.5kV instead of 36kV and 25kV instead of 24kV, according to Annex 2B of standard CENELEC EN 60038.

authorities in that country have difficulties in interpreting some of the requirements laid down in Annex I of the regulation.

A solution to address this situation had to be carefully crafted, so as not to impose different requirements in a particular Member State that would go against harmonisation rules in the internal market. Therefore, a mechanism is proposed for Member States to notify national deviations in distribution voltages to the Commission, so that a public notification can be made for the correct interpretation of minimum requirements in Annex I.

e. New review clause for 2023

A new clause (replacing Article 7) is proposed for the Commission to review the amended regulation, indicatively by July 2023, (i.e. two years after the entry into application of Tier 2 requirements). The clause explicitly mentions a list of issues that should be reassessed at that time.

Depending on the measure of technological progress, this review might propose Tier 3 requirements sometime in 2025 or thereafter. It may also include requirements for solid-state transformers, whose use is likely to grow substantially in parallel with the deployment of electric vehicles and charging stations around cities.

f. Minimum requirements for medium power transformers (Annex I)

During the meeting of the Ecodesign Consultation Forum, a number of options for the Tier 2 requirements were discussed. Broadly, these options included postponing the date they come into force (for instance by two years) or reducing their level of stringency (for instance by 10 % or 15 %). However, a sizeable number of Member States[14] were in favour of keeping Tier 2 requirements the way they are, and this was the prevailing view in the end.

But in order to address the retrofitting issues with replacement transformers in brownfield sites, the following fall-back provision has been added in the amending regulation:

'when the one-to-one replacement of an existing medium power transformer entails disproportionate costs associated with their installation, the replacement transformer is, exceptionally, only required to meet Tier 1 requirements for the given rated power'.

Guidance on what can be considered disproportionate costs has also been included. The guidance tries to strike a balance between being too prescriptive and too open-ended. It is expected that national market-surveillance authorities will require a certain level of technical and economic expertise to enforce these provisions.

To prevent misuse of the fall-back provision, the manufacturer or importer is required to state in the technical documentation of the transformer the following information obtained from the commissioner of the unit.

[14] The minutes of the Ecodesign Consultation Forum are available in CircaBC in the library of the Ecodesign Consultation Forum Group.

- Address and contact details of the commissioner of the unit.

- The station where the replacement unit is to be installed. This can be either a specific location or a specific installation type (e.g. station or cabin model).

- The justification for installing a unit that is only Tier 1 compliant. If the unit(s) were commissioned by a tendering process, this must include all the necessary information on the analysis of bids and the award decision, but not information that may be commercially sensitive for bidders.

Finally, stakeholders reported that provisions in Table I.3[15] of the original regulation were confusing and difficult to understand by some stakeholders. Therefore, a new pair of Tables I.3(a) and I.3(b) are being proposed to replace the original Table I.3. All affected stakeholders agreed on these provisions.

g. Minimum requirements for large power transformers (Annex I)

In line with the new fallback provision being introduced for medium power transformers, new provisions are also being introduced for large power transformers.

In this case, the fallback provision into Tier 1 requirements would be justified not only by disproportionate costs for their installation, but also by disproportionate costs for their transportation. This extends the provision in the existing regulation for disproportionate costs associated with the transportation and/or installation of replacement large power transformers. The idea is that this provision should apply to both new and replacement large power transformers if either transportation or installation costs are disproportionate.

This provision was created for situations such as a large power transformer being installed next to a hydroelectric plant, which would require substantial changes to sites and/or infrastructure (entailing disproportionate costs) to meet Tier 2 requirements. In practice, the provision may only be applicable in a limited number of situations. All stakeholders agreed on the inclusion of this provision.

Anecdotal evidence has been reported of a 600 MVA large power transformer in southern Europe weighing 210 tonnes and worth EUR 2.2 million, which took 5 months for transportation to its final site at a cost of EUR 900 000. In exceptional circumstances such as these, Tier 2 requirements can increase transportation and/or installation costs dramatically at the expense of only a marginal improvement in energy efficiency.

New information provisions on manufacturers and importers similar to those for medium power transformers also apply to large power transformers.

5. IMPLICATIONS OF THE CONCESSIONS BEING INTRODUCED FOR TIER 2 REQUIREMENTS

As discussed in Chapter 2.2, the main conclusion of the review study is that Tier 2-compliant transformers are technologically feasible, but may not be cost-effective in all applications. This discussion did not figure so prominently during the preparation and

[15] Table I.3 deals with requirements for medium power transformers with special combinations of winding voltages, which are primarily used in niche applications.

adoption of the original regulation, which took place 7 or 8 years before the applicability of these requirements.

A number of Member States and stakeholders argued that the problem of disproportionate costs involved with the installation of Tier 2-compliant transformers was not critical, and that the market would find solutions to the size and weight constraints being discussed. It was also argued that in other ecodesign and energy labelling regulations, the minimum requirements being imposed are not cost-effective in all situations and applications.

However, a balanced reading of stakeholder feedback suggests that it would be appropriate to allow targeted regulatory concessions (as described in Chapter 3), if installation costs end up being disproportionate in specific situations. In those cases, the burden of proof rests with economic operators to demonstrate why the installation of Tier 2 transformers would not be justified economically. Market surveillance authorities would need to verify these justifications when inspecting technical documentation.

Some stakeholders pointed out that the implementation of Tier 2 onwards created a risk of fragmenting the market into greenfield and brownfield applications. Brownfield facilities could systematically opt for less stringent Tier 1 requirements with poor justifications. It was argued that this could force manufacturers to keep two different stocks and production lines for each kVA rating power, therefore increasing costs. As we discussed in Section 2.3, only 15 % of yearly brownfield installations (accounting for 9 % of total yearly installations) might be affected by retrofitting issues. It is expected that technological advances and the natural replacement of substations will gradually reduce this problem. Proper enforcement of the regulation by Member States through regular follow-ups of notified installations would be the best way to monitor the situation.

It is also clear that each regulatory concession being introduced risks being misused and turned into a loophole. In this particular case, the provisions being introduced leave a certain degree of flexibility to economic operators as to when costs may be considered disproportionate.

To address this risk, it is expected that Member States and the Commission, through the Ecodesign Administrative Cooperation (ADCO) Group, will gradually draw up guidance on what constitutes disproportionate costs in the context of the application of the proposed amending regulation.

6. MONITORING, EVALUATION AND REPORTING FRAMEWORK

The proposed amending regulation includes a clause for review in 2023. That review is likely to be substantive and extensive, as it will have benefited from a period of 8 years from the time Tier 1 requirements came into force in 2015 and 2 years from when Tier 2 requirements came into force. As is normally the case, the Commission will have to present the results of the review to the Ecodesign Consultation Forum no later than 1 July 2023.

The evaluation and reporting framework will include data collected from stakeholders, (i.e. manufacturers, electricity companies and standardisation bodies) and feedback from the activities performed by market surveillance authorities.

In order to inform the next review, it will be very important that Member States systematically notify to the Commission of the number of cases where the fallback provisions described in Chapter 4 are being used by economic operators. Member States must also notify the Commission of the circumstances under which these provisions are used, and whether the decisions to use these provisions were found to be justified. The two main methods for collecting this feedback will be the general reporting obligations of the Member States to the Commission on market surveillance activities,[16] and the periodic meetings of the Ecodesign ADCO Group, where implementation issues are reported and discussed.

In the light of this feedback, the Commission may propose adjustments to the amending regulation by the time it is reviewed, or earlier if necessary.

[16] As established in Chapter III of REGULATION (EC) No 765/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products