

# Bend it, Don't break it

Introducing new flexibilities into the EU Effort Sharing Decision



July 2016

**sandbag**

## How can flexibility in the ESD increase EU targets?

The EU has a target of reducing its greenhouse gas emissions (GHG) by 80-95% below 1990 levels by 2050. Only the upper end of this range is likely to be compatible with the Paris Agreement to pursue “efforts to limit the temperature increase to 1.5°C above pre-industrial levels”. The EU Effort Sharing Decision (ESD) will have to play a stronger role alongside a strengthened EU Emissions Trading System (EU ETS) to ensure that Member States can achieve this target in a fair and cost-effective way.

The European Commission is currently developing its proposal for the ESD II. The

October 2014 Council Conclusions committed the EU to reduce ESD emissions by 30% by 2030 and stress that all Member States will participate in the effort to reduce emissions, balancing considerations of fairness and solidarity, and require that the EU-wide ESD target is translated into national reduction targets in a fair and balanced manner.

In our previous report, [The Effort Sharing Dinosaur \(May 2016\)](#), we demonstrated that the EU Member States emission reductions under the ESD by 2030 could be significantly greater than the expected target of 30% below 2005 levels, and Member States could even deliver reductions of up to 50%.

This report shows that EU-wide cost-effective emission reduction opportunities will not align with Member States’ national reduction targets. These targets will be set based on GDP/capita with some adjustments in line with the solidarity principle. If the sharing of effort were aligned better with cost-effective reduction opportunities spread across the Member States, the ESD target could be increased to 50% below 2005 and up to 2 billion tonnes of additional emission reductions could be delivered between 2021-2030.

The existing ESD includes some flexibilities that allow the transfer of effort between Member States. The October 2014 Council Conclusions set out the further options. This report assesses the options in the Council conclusions together with alternative approaches developed by Sandbag. Namely, the introduction of a European Project-Based Mechanism (EPM) (a domestic offset mechanism by which projects are realised in the ESD sectors and credits traded for compliance) and full flexibility between the ESD and EU ETS.

**Our analysis shows that most flexibilities would not take advantage of the available internal cost-effective emission reduction potential within the ESD, and could dilute the ESD 2030 target by up to 4,496 MtCO<sub>2</sub>, increasing the surplus of Annual Emission Allocations (AEAs).** Therefore, we do not recommend the transfers of surplus AEAs from ESD I to ESD II, transfers

### About Sandbag

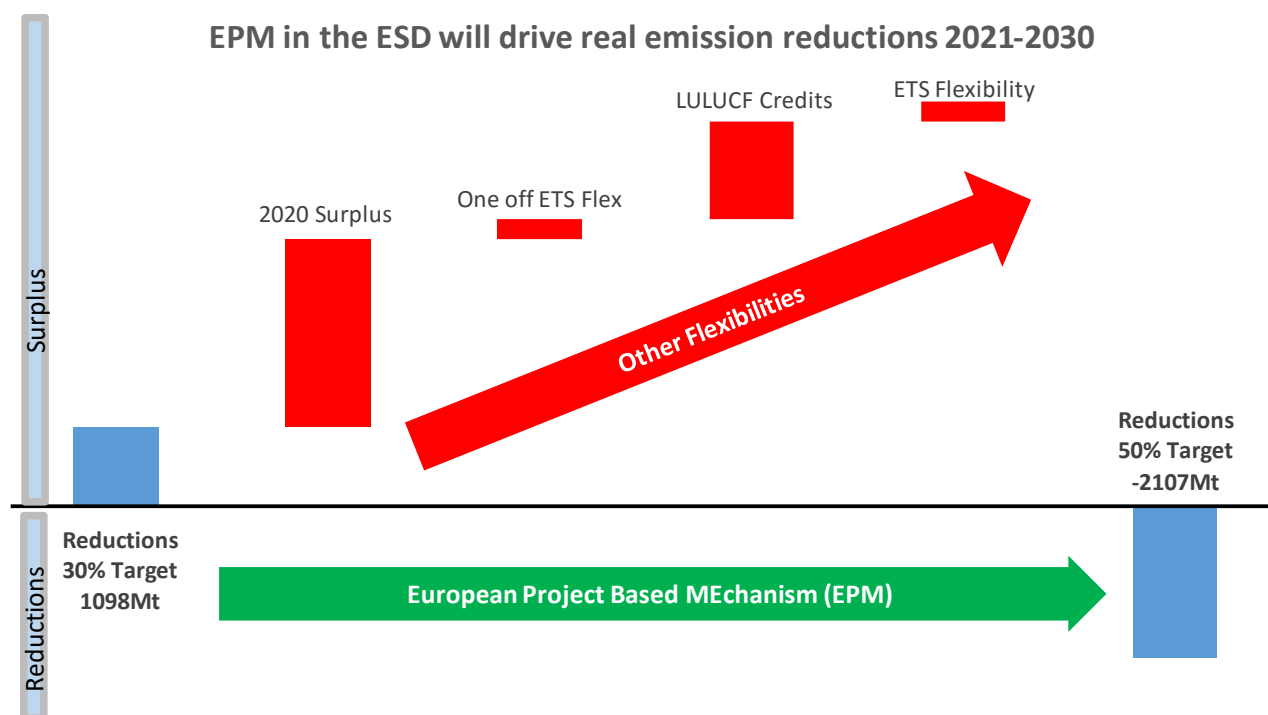
Sandbag is a Brussels- and London-based not-for-profit think tank conducting research and campaigning for environmentally effective climate policies.

Our research focus includes reforming the EU Emissions Trading Scheme and the Effort Sharing Decision; accelerating the phase-out of old coal in Europe; deep decarbonisation of industry through technologies including Carbon Capture Utilisation & Storage.

For more information, visit [sandbag.org.uk](http://sandbag.org.uk) or email us at [info@sandbag.org.uk](mailto:info@sandbag.org.uk)

between the ESD and the EU ETS, or allowing credits from Land Use, Land-Use Change and Forestry (LULUCF) into the ESD.

**The introduction of an EPM within the ESD would be the only option which balances effort between Member States, ensuring that the most cost-effective and fairest emission reductions can be delivered, enabling the EU to deliver far more than a 30% reduction in emissions by 2030.**



### Key recommendations

In order to facilitate additional, fair, and cost-effective emissions reductions in the ESD by 2030, and consequently, in the whole economy by 2050, in its proposal for ESD II, the EU institutions should:

- Introduce a new market-based flexibility between Member States; the European Project-Based Mechanism (EPM).
- Prevent the inclusion of any flexibilities that would dilute the 2030 target and increase the surplus of AEAs. This includes not carrying-over the expected surplus of AEAs from ESD I to ESD II and avoiding the creation of flexibilities with other climate policies (particularly EU ETS and LULUCF) before 2030;

If an EPM is introduced into ESD, it could pave the way towards the establishment of an EU economy-wide carbon budget post-2030 that will make use of the efficiency created by market based mechanisms (an EPM and the EU ETS) to enable a more ambitious emission reduction effort in the period until 2050.

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## 1 A higher 2030 target for the ESD needs better flexibilities

The EU Effort Sharing Decision (ESD) was first introduced as an integral part of a wider legislative package, the 2009 EU Energy and Climate package. Complementary but disconnected, the ESD and the EU ETS have the same aim: driving emission reductions in the EU to deliver the EU 2050 Roadmap target for an 80-95% reduction below 1990 levels.

The ambition of both the current 2020 and the proposed 2030 EU economy-wide climate targets is inadequate to deliver the lower end of the EU's 2050 target range, let alone the achievement of the additional ambition implied by the Paris Agreement which will require delivery at the top of the 2050 target range, or very likely higher.<sup>1</sup>

This report looks at the role that enhanced flexibilities within the ESD can play in achieving more ambitious cost-effective emissions reductions, to ensure that significant emission reductions can take place before 2030 so that most rapid and costly emissions reductions can be avoided between 2030 and 2050.

Flexibility mechanisms are a means to reduce the overall EU-wide costs of achieving emission reduction targets, and if designed correctly, they can also help capture the cost-efficient emission reduction potential – currently unevenly distributed across the Member States.

The Council concluded in October 2014 that the ESD II target should be 30% below 2005 levels. In July 2016 the EU Commission should publish a proposal for changes to the ESD applying to the 2021-2030 period (ESD II). The Commission will include proposals to enhance flexibilities in the ESD for Member States to achieve the target in a more collective manner and more cost-efficiently.

### Box 1: Effort Sharing Decision in the EU climate policy framework

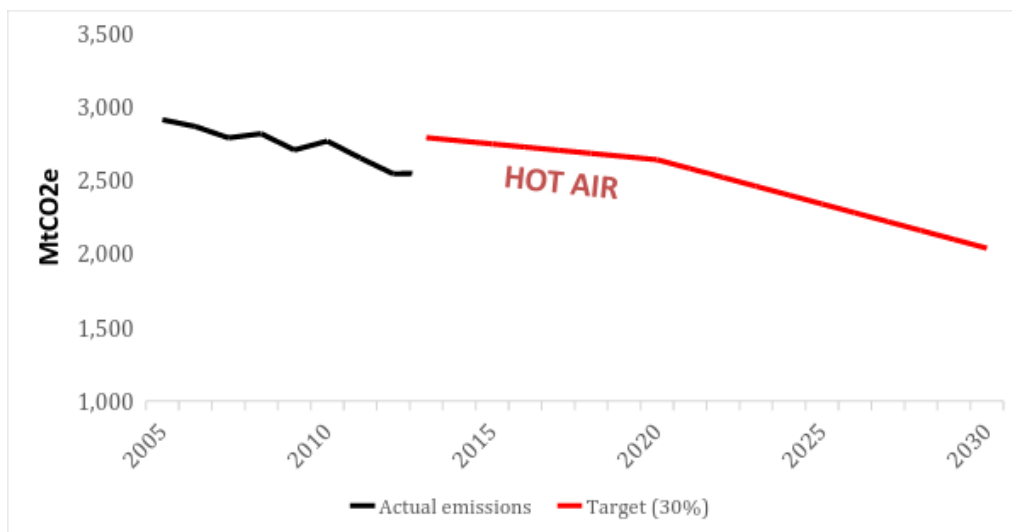
The Effort Sharing Decision (ESD) governs emissions from sectors not included in the EU ETS. These accounted for about 58% of total EU emissions in 2014. ESD I (2013-2020) has a target of reducing emissions by 10% compared to 2005 levels. The target is made up of individual targets for each Member State. These are based on historic emissions weighted by GDP/capita, with Member States with lower GDP having less stringent targets. Targets are expressed in tonnes in the form of Annual Emissions Allocations (AEAs).

### 1.1 The ESD sectors can easily go beyond a 30% reduction in emissions by 2030 compared to 2005 levels

As described in our previous report, [The Effort Sharing Dinosaur](#), European Environment Agency (EEA) data for actual emissions in 2014 show that Member States are on their way to significantly outperform their 2020 collective target under the ESD (see Figure 2).

<sup>1</sup> For more detail see our briefing [Honouring Paris](#).

**Figure 2. Current emission levels and historical trend versus 2020 and 2030 targets for ESD sectors on 2005 levels**



Source: EEA 2014 data.

Under Member States’ own emissions forecast scenario “*With Existing Measures (WEM)*”, existing policies to reduce emission would deliver a reduction of 15% below 2005 levels by the beginning of 2021 (See Annex A). In our previous report, [Effort Sharing Dinosaur](#), we projected that emissions in all Member States under the ESD will actually be 28% lower than 2005 levels in 2021, if the mitigation measures with negative marginal cost are fully taken into account until 2020<sup>2</sup>.

In this context, the current collective 2030 30% emission reduction target for the ESD recommended by the [October 2014 Council Conclusions](#) (2.1) would barely drive any additional emission reductions beyond business-as-usual (BAU). In order to stimulate reductions beyond BAU the target would need to be significantly higher.

Our analysis shows that Member States could reach a 50% emission reduction target by 2030 if emission reduction under ESD were properly incentivised during 2021-2030 and the surplus of AEAs was effectively reduced.

## 1.2 ESD national targets do not drive the cheapest emission reductions

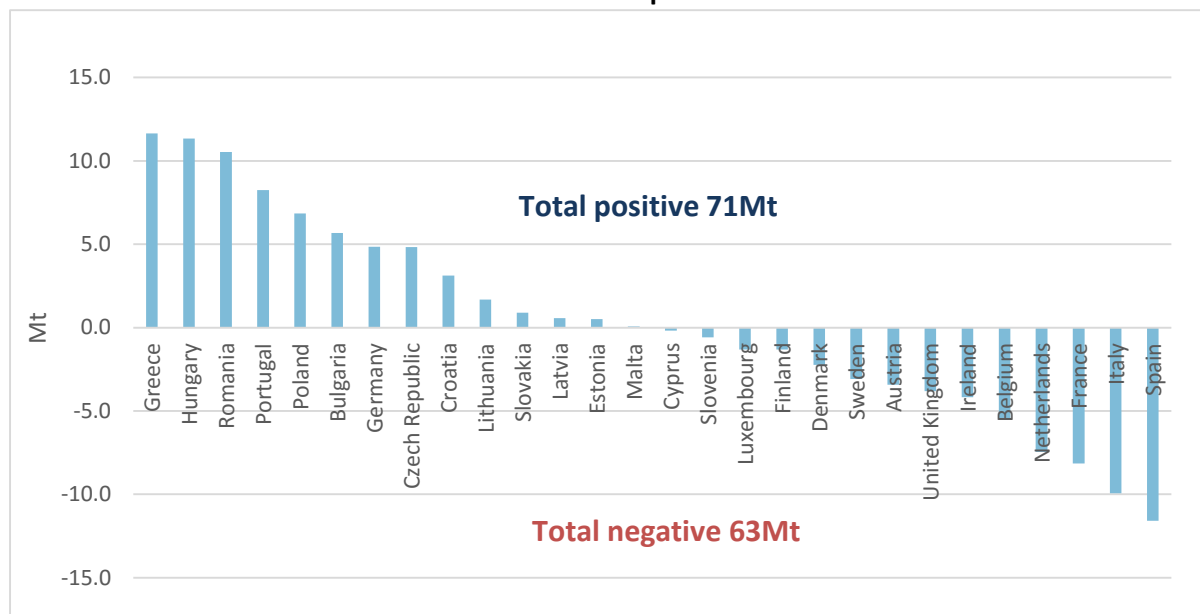
Whilst the EU-wide cost-efficient emission reduction potential will be high enough to allow the setting of a more ambitious ESD emission reduction target in 2030, some of the Member States with higher GDPs might struggle to achieve their share cost-effectively due to the current distribution of national targets based on GDP/capita.

There is a discrepancy between the cost-efficient potential for reductions (CEP) and the national reduction targets set based on GDP/capita following the current effort distribution methodology under the 30% target. Member States’ individual targets draw the burden of mitigation responsibilities away from the lowest cost mitigation potential; this often sits with

<sup>2</sup> See the [Effort Sharing Dinosaur](#) p. 3 for detail on our methodology, and p. 11 for measures with negative marginal costs additional to the EC reference scenario.

Members States with lower GDP per capita and therefore with less stringent targets. This is shown in Figure 3.

**Figure 3. Difference between implied reductions under 30% ESD target weighted by GDP/capita and Member State cost-efficient emission reduction potential in 2030**



Source: Minimum of cost-efficient potential (CEP) for 2030 from European Commission Impact Assessment<sup>3</sup> and Oeko Institut GDP/capita target distribution (2015).

Figure 3 shows that the way the EU-wide target has been translated into national reduction targets has not been calibrated effectively. For example, Spain’s estimated 2030 cost-effective reduction (CEP) potential will be over 10 MtCO<sub>2</sub> lower than the reductions it would be expected to deliver under the 30% target based on the country’s GDP/capita. Greece, Hungary and Romania could cheaply deliver 10 MtCO<sub>2</sub> more each in 2030 than their GDP/capita would require. The discrepancy would become even more pronounced if there is a 50% reduction target.

We applied the minimum values of the CEP estimated by the Commission to control better for overestimation (for example due to appraisal optimism on opportunities). If the average CEP is applied, the positive CEP would equal 122 MtCO<sub>2</sub>e whereas the negative CEP would be only -47 MtCO<sub>2</sub>e. The mismatch between the 2030 targets and CEP using the highest values would amount to 142 MtCO<sub>2</sub>e<sup>4</sup>.

However, the European Council in their [conclusions from October 2014](#) (2.11) recommended that there could be further adjustments in addition to considering GDP/capita:

<sup>3</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014SC0015>

<sup>4</sup> Different CEP values will change the values for the specific countries, while keeping similar redistribution structure. Germany is an exception – its position would change significantly depending on the chosen option as their positive CEP range is influenced by a country’s magnitude of CO<sub>2</sub> emissions and spans from 5 Mt to 52Mt CO<sub>2</sub>e.

*“after 2020 the Member States with the GDP per capita in 2013 above the EU average<sup>5</sup> will have their targets additionally adjusted to reflect cost-effectiveness in a fair and balanced manner”*

As per analysis undertaken by Oeko InSTITUTE ([2015, p. 12](#))<sup>6</sup> based on the Commission’s modelling it appears unlikely that an adjustment to the national targets proposed by the Council could address this problem in a fair and balanced manner for the following reasons:

- the adjustment would not decrease significantly the scale of emission reductions in Member States with targets higher than the EU average but little cost-efficient emission reduction potential;
- some Member States would have to have their targets significantly raised regardless of their already significant contribution. Germany is a notable example;

Furthermore, there can never be certainty over what will be the exact distribution of the cost-efficient emission reduction potential across the Member States when dealing with projections. This is why the ESD needs a well-designed mechanism that would allow adjustments to take place as we advance through the 2020s.

### **1.3 Member States need enhanced flexibility within the ESD to meet their national targets cost-effectively**

Flexibilities would allow Member States to comply more cost-effectively with their national emission reduction targets even under a significantly increased 2030 collective ESD target.

The ESD for the period to 2020 already allows limited flexibilities. Member States can carry over AEAs between years, borrow from the following year, and transfer them bilaterally to other Member States (with certain limitations on the latter two) (Art. 3.2-3.5 of the [Effort Sharing Decision](#)). Member States can also use a limited number of international credits for compliance (Art. 5.4-5.5) and, in principle, the unlimited transfer of credits issued under Art. 24a of the EU ETS Directive (Art 5.7).

The current rules include some features of a market driven climate policy without actually establishing a market for additional reductions. While existing banking rules in the ESD have led to a massive accumulation of surplus AEAs in some Member States, transfers between Member States are subject to restrictions. This has led to a bottle-neck of AEAs in some Member States.

Limitations in transfer arise from:

- no visibility of asset ownership;
- no price signals to communicate cost; and
- no real liquidity of assets.

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<sup>5</sup> Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxemburg, Netherlands, Sweden, the UK.

<sup>6</sup> The Council does not specify how the targets should be adjusted.



The target of 10% emission reductions below 2005 levels for the first period of the ESD is sufficiently weak for most Member States to be able to achieve their contributions domestically (see Annex A), reducing further the number of participants in the market for AEAs. Consequently, the mismatch between targets and the location of cost-efficient potential has been less visible during the current ESD phase.

This is expected to change in the future as targets become more stringent. In order to uncover the EU-wide emission reduction potential collectively between 2020 and 2030, and allow cheaper compliance under the national targets based on GDP/capita, the existing ESD flexibilities need to be significantly enhanced, while ensuring that transferring AEAs facilitates actual additional emission reductions.

## 2 Available flexibility options

There are different policy options to enhance existing flexibilities in the ESD and allow Member States to increase the 2030 target beyond a 30% reduction and meet it in a collective and cost-effective way.

The European Council, in their [conclusions from October 2014](#), recommended that the new framework includes provisions to:

- achieve the 2030 target domestically, putting an end to use of international project mechanism credits as a flexibility post-2020;
- enhance existing flexibilities within the ESD;
- introduce a new one-off flexibility with the Emissions Trading System for Member States with national reduction targets significantly higher than both the EU average and their actual reduction potential; and
- look into including LULUCF into the 2030 greenhouse gas mitigation framework.

**There are other flexibility options which were not explicitly considered by the October 2014 Council that could allow Member States to achieve their reductions under the ESD 2030 target more cost-efficiently.**

- Introduction of full flexibility between the ETS and the ESD;
- Introduction of a European Project-Based Mechanism (EPM).

Specific mechanisms could be developed within the broad options set out by the Council. In this analysis we will use interpretations presented by [Oeko Insitute](#) (2015, pp. 16-23) supplementing them with our own thinking on other available policy options.

### 2.1 Assessment of flexibility mechanisms

All available flexibility options should fulfil three main objectives before they can be introduced to the ESD II framework:

- improve or maintain cost-effectiveness of collective 2030 reduction efforts;
- improve or maintain equitable distribution of collective 2030 reduction efforts; and
- improve or maintain environmental effectiveness of collective 2030 reduction efforts.

In the period until 2030 most of the options outlined below would help Member States comply more cost-effectively with their national emission reduction targets as well as keep equitable distribution of efforts. However, there are significant doubts with regard to their environmental effectiveness.

### 2.1.1 Enhancing existing flexibilities within the ESD II

This could be implemented in different ways that all assume increased movement of AEA within the system.

First it could enhance two flexibilities to allow increased transfers of AEA **within** a Member State:

- changing the 5% limit on the borrowing of AEA from the following years; and
- changing the current limits on carry-over between years.

Changing the 5% limit would assume that Member States are allowed to use more AEA allocated for the subsequent years for compliance in the first years. Changing carry-over limits would assume that the current banking rules limited to the period up to 2020 be rolled out into the post-2020 period, which, as our first report indicated, would be detrimental to both Member States and the EU as a whole.

Second it could enhance the flexibilities allowing for increased transfers of AEA **between** Member States by making existing AEA transfer more transparent and liquid. Examples of this include:

- setting-up a centralised information platform to enhance AEA transfer. This would involve full disclosure of information on transfers, either before or after a transaction is completed, on a central site;
- setting-up a centralised auctioning mechanism for AEA. This would require transactions to pass through a designated institution;
- obliging Member States to trade their surplus beyond a certain accumulation threshold (“use-it-or-lose-it”). This would require the Member States to auction all surplus AEA beyond a set value or otherwise lose it; and
- obliging Member States to buy all their AEA at auctions. This assumes all Member States receive only a part of their allowances and would need to buy rest of their AEA in auctions.

Enhancing existing flexibilities would most likely be environmentally neutral where there is a surplus of AEA in the ESD. At the same time, unless removed completely, the restriction on AEA transfers will create the bottle-necked market in surplus AEA we describe above. It is therefore unclear whether this option would in reality represent an improvement from the point of view of either cost-effectiveness or a more equitable distribution of efforts when we look at the EU as a whole.

### 2.1.2 One-off flexibility with the EU ETS

Member States with national reduction targets significantly more ambitious than both the EU average and their actual emission reduction potential could make use of allowances from the EU Emissions Trading System (EU ETS). This could be done for example by:

- a one-off reduction of the respective Member States' EU ETS auction shares;
- setting a level of flexibility as a percentage of the AEA deficit; or
- a transfer or transfers of a cumulative AEA deficit to the period 2021-2030.

The quantities of such transfers would depend on the implementation of the October 2014 Council Conclusions both regarding these modalities and the selection of eligible countries. Furthermore, it is likely to be a voluntary provision – some Member States may want to refrain from using it.

For the purposes of this analysis we used the average of the Oeko Institut “broad” and “narrow” options that assume that the one-off transfer would apply to all Member States with national targets either above the EU average and maximum CEP or above +10% of the EU average and their minimum CEP, resulting in a net transfer of up to 269 million EU ETS Allowances (EUAs) into ESD II.

This option would provide a cheaper alternative for Member States to reduce emissions, where it is assumed that it would be very difficult to do so further under the ESD. It could also help with the reduction of the EU ETS surplus, hence potentially have an impact on an increase of EUA prices.

Nevertheless, we believe that effect would be immaterial in light of the size of the surplus both in the EU ETS and ESD and the limited volume of EUAs that would be used through such a one-off measure. The environmental effectiveness is questionable since no additional reductions will be driven either by prices or by the oversupplied cap.

### 2.1.3 LULUCF could be included in EU climate framework

The current EU climate framework does not include emissions and removals from (LULUCF). Inclusion of a flexibility could be done in the following ways:

- creating a separate pillar under the ESD for LULUCF emissions;
- including agriculture under the new LULUCF pillar;
- creating a one-off flexibility of LULUCF credits in the ESD for specific countries; or
- as a full transfer of both LULUCF credits and obligations.

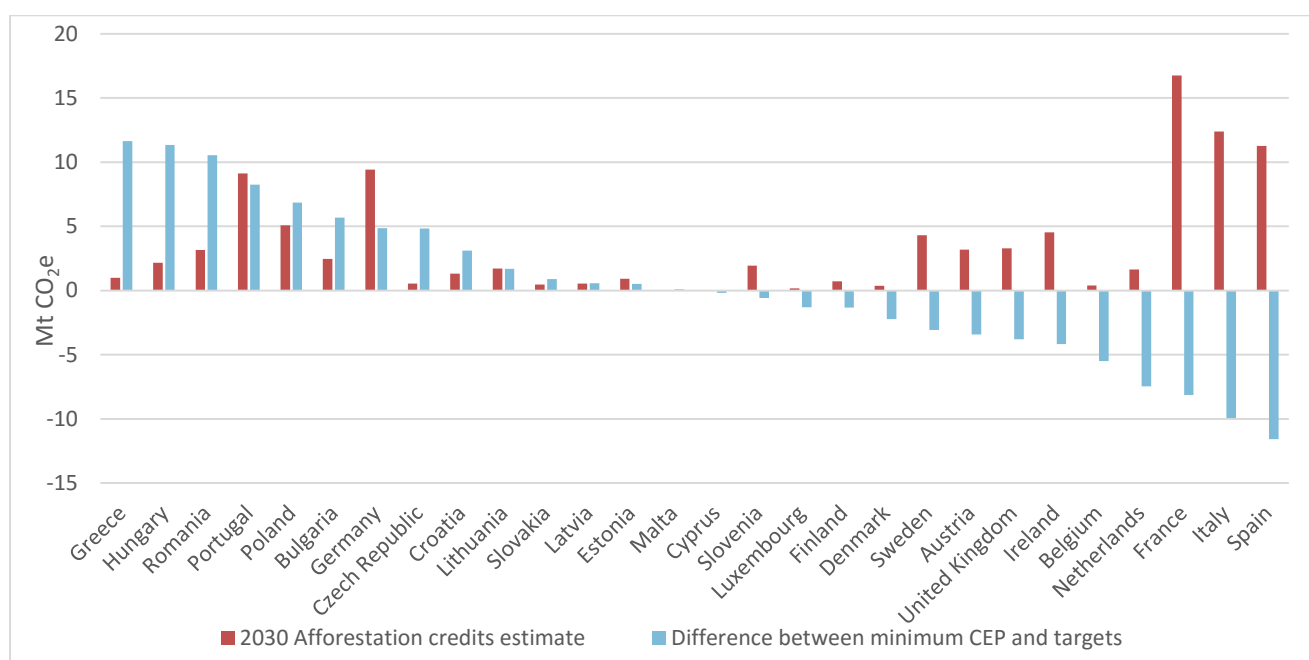
The first option would assume developing a separate LULUCF sector policy approach with an independent target. The second would be similar, but would involve a change of scope and transfer of part of ESD obligations regarding non-CO<sub>2</sub> gases to the new LULUCF pillar. The last two options would be variants of including LULUCF under the ESD post-2020, whether partially for some sectors or countries or fully.

The Commission has announced recently that they are also considering a transfer of LULUCF afforestation credits into the ESD framework to contribute towards achievement of the national reduction targets in Member States with high emissions from agriculture<sup>7</sup>.

The LULUCF sector is different from the EU ETS and ESD sectors in that besides including activities that result in CO<sub>2</sub> emitted, it also contributes to the removal of emissions. These removals, however, are not permanent in nature, take a long time to be realised, and the human impact on them is hard to assess. The data on emissions and removals resulting from forest management is highly uncertain and different accounting methods have led to production of excessive credits from carbon sinks<sup>8</sup>.

EEA data sourced from Member State inventory submissions to the UNFCCC shows that most Member States with targets above the EU average and a lower cost-effective potential could benefit from flexibility with LULUCF (see Figure 4). However, some countries in that group would not be able to benefit (Belgium and the Netherlands in particular due to comparatively lower availability of sinks), so it not a viable solution for the EU as a whole. Furthermore, using credits from a currently uncapped system, would not incentivise necessary emission reductions and countries could find it much more difficult to comply with their ESD targets even in the period to 2030.

**Figure 4. Projection of afforestation credits available to Member States in 2030 compared to difference between CEP and 30% target**



Source: Oeko Institut calculations on EC data from Trends to 2050 Report ([EC, 2014](#)).

<sup>7</sup> The European Parliament Exchange of Views between the Commissioner Miguel Arias Canete and the Agriculture Committee (22/06/2016).

<sup>8</sup> For detail please see [Oeko Institut report \(2015\)](#), p. 15.

We do believe that LULUCF emissions should ultimately be integrated into the EU climate change framework, but without a separate LULUCF cap, using LULUCF sinks as a way out of ESD compliance would only diminish the environmental effectiveness of existing policies.

In the context of the Paris Agreement, LULUCF could support a goal to go beyond keeping emissions below 2°C degrees (the ambition that formed the basis for the current EU 2050 Roadmap) to closer to 1.5°C degrees. But, in order to ensure that the EU follows a cost-effective and realistic reduction pathway towards 2050, the inclusion of LULUCF should only be considered as additional in the case of a stronger target and in the 2050 perspective, as opposed to before 2030.

#### 2.1.4 Full flexibility between ESD and the ETS

Given that the review of the ETS and the ESD are taking place in parallel, Article 10 of the current ESD could be amended to take account of changes derived from the current ETS reform. The final form of the ETS will not be known until 2017, but links allowing full flexibility between the systems could be introduced which allow EUAs to be used for compliance under the ESD, with EUAs used being cancelled. This option is similar to one-off flexibility but without limits on Member States or EUAs quantities. It could apply indefinitely.

The idea of linking the two mechanisms is appealing in principle. It could allow emission reductions to be carried out across sectors more efficiently, for example by allowing sectors covered under the ESD to access cheaper emission reduction opportunities in the sectors covered by the ETS. Buying EUAs to meet ESD obligations would automatically reduce the effective cap within the ETS by the corresponding amount, if the ESD was reformed to allow more transfers.

This could in theory enable the necessary reductions to take place more cost-effectively by allowing:

- private entities to search the cheapest emission reduction options in both schemes;
- common carbon price discovery economy-wide;
- investment signals and incentives to divest investment from carbon intensive economic models economy-wide;
- development of new projects and technologies, as well as technology transfer; and
- more cost-efficient share of reductions between ETS and ESD sectors.

However, in practice there are significant obstacles. The integration of new sectors and gases in the scope of the ETS could encounter problems with robustness of Monitoring, Reporting, and Verification (MRV) given differences between ETS and ESD sectors emissions. Furthermore, any linking would take place in the context of the current surplus of over two billion EUAs under the ETS, projected to increase to 4 billion in 2030<sup>9</sup>, and correspondingly low prices. Providing access to EUAs from the ESD would likely weaken incentives for emission

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<sup>9</sup> <https://sandbag.org.uk/reports/getting-touch-reality/>

reductions in the ESD sectors. Even with ETS reform the surplus may well persist for some years and perhaps longer.

While the current reform of the ETS could lead to the removal of the surplus AEAs in the ETS<sup>10</sup> and hence remove the main obstacle to a link between the two systems, there are additional factors that would disincentive emission reductions under the ESD until 2030 if the systems were to be connected now.

### **Different regulatory regimes in ESD and the ETS**

The ETS spells out common rules for a market-based system, while the ESD is a tool of governance that includes the EU-wide target and 28 individual annual targets with which Member States need to comply with. The ETS relies on the private sector to identify and implement cost-effective mitigation measures, whereas in sectors outside the ETS, the main responsibility lies with the Member State Government (Future Camp, 2016, Merits of EMP, p. 7). The unlimited mobility of EUAs from the ETS to such a system would also inhibit price discovery within the ESD itself.

### **Different barriers to entry in ESD and ETS sectors**

Most of the sectors covered by the ESD have a variety of barriers to entry to market instruments, meaning that simply introducing carbon pricing to a distorted market would not deliver the optimal benefits that a market mechanism would achieve in a fully integrated and functional market. For example, in the buildings sector, local and regional authorities usually have specific legislation into place that restricts or places conditions on building renovations.

### **Different stages of technological development in the ETS and ESD**

The ETS sectors are further down the path to decarbonisation, whereas the ESD sectors are at earlier stages of alternative technology deployment. The cost of emission reductions in the transport sector, for example, which amounts to up to 35% of ESD emissions, is very high with current technologies. Estimates suggest that a carbon price of at least €100/t would be necessary before any impact on consumer behaviour can be expected.<sup>11</sup> This is a long way off current price trends and even a price of €30/t, which might be expected to materialise at some point towards the end of the next decade, would be at least three times below levels that could drive emission reductions in this sector.

Furthermore, the transfer of allowances should eventually be two-way, with the ETS able to access credits in the ESD. However, there is currently no adequate market in credits within the ESD. Such a market would likely need to begin through some sort of project based

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<sup>10</sup> See our briefing [Getting in touch with reality](#) for more information on EU ETS surplus projections and on the fixes that should be adopted in the ETS during the ETS Directive revision.

<sup>11</sup> [http://ec.europa.eu/clima/policies/transport/vehicles/docs/alternatives\\_en.pdf](http://ec.europa.eu/clima/policies/transport/vehicles/docs/alternatives_en.pdf)

mechanism, which is described below. An enhanced role of trading and the emergence of a carbon price within the ESD could grow from this.

Given all of the above, this does not seem likely to be an optimal approach in the short term. In the longer term, however, especially after 2030, the option may be promising.

**Sandbag therefore advises against the introduction of any flexibilities that will dilute emission reductions under the ESD ambition before 2030.**

### 2.1.5 A European Project-Based Mechanism (EPM)

The option not explicitly mentioned by the Council is a European Project-based Mechanism (EPM). Under this domestic offsetting mechanism, a project in a host Member State would generate credits which other Member States would buy. This way Member States with higher than the EU average targets and limited cost-efficient emission reduction potential would be able to meet their targets, while the host countries would benefit from the increased investment flows in their economies.

The host Member State account would be adjusted for the credits to avoid them being double-counted. The EPM would involve the private sector in delivering additional emission reductions and result in the issuance of credits that can be used both in the host and the sponsor Member State.

The credits could be issued based on clearly established project baselines and made available to the sponsor countries. A proportion of credits could be retained by the host country to use towards their own compliance.

In theory, Article 5(7) of the ESD already includes similar provisions and Member States can use credits from projects in sectors outside the ETS pursuant to Article 24a of the ETS Directive (2003/87/EC). The Commission, however, has never issued an implementing act for this provision to specify the design of the mechanism. We consider this to be long-overdue and should most certainly be developed ahead of any other decisions on linking the ETS and ESD.

The EPM is therefore a new idea for compliance under the ESD. It would build on the experience with other project based policies such as Joint Implementation (JI) and the Clean Development Mechanism (CDM) while taking into account lessons learned on how to implement credit based mechanisms.

To ensure environmental integrity of the mechanism, the EPM should only operate if there is initial AEA scarcity. The following four alternatives are discussed by the [Oeko Institut](#) (p. 20):

- involving project developers in unregulated bilateral agreements between Member States;
- introducing a common information platform for bilateral agreements;

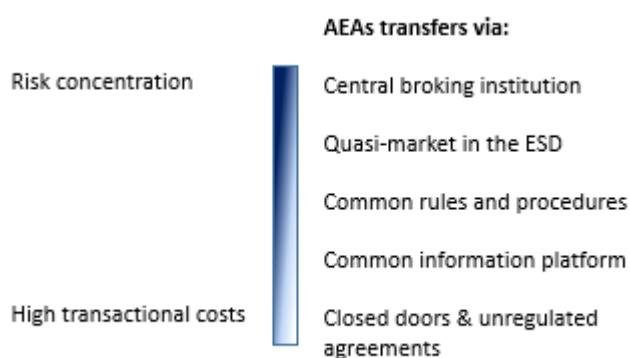
- establishing common rules and procedures for Member States' bilateral agreements; or
- establishing a centralised institution (Clearing House) for broking the demand and supply.

The first option would most likely involve increased transaction costs for all participants. The second option would supplement the first one with a platform for registering information on contracts, offers, expressions of interest, and already delivered projects (e.g. methodologies and prices used in the agreements so as to lower transaction costs). The third and fourth one would establish more a harmonised EU-wide system with various degrees of institutional oversight that lower the transaction cost by eliminating some risk factors.

These options could be supplemented with an ESD quasi-market driven by project developers. This would involve the developers sharing part of the risk in exchange for expected returns on investment. Participating entities would be best suited to recognise the emission reduction projects of the biggest commercial value. Private entities would also have to be assured that there is an available market for the generated credits.

These possibilities provide a spectrum of options with different balances between concentration and liquidity and transaction costs. This is illustrated in Figure 5:

**Figure 5. Interactions between different participants in the EPM**



Source: Sandbag analysis based on Oeko Institut, 2015.

Allowing Member States to purchase transferable credits measured in tonnes from projects implemented in Member States would allow:

- private companies to find the cheapest emission reduction options within the ESD sectors;
- common carbon price discovery in the ESD sectors;
- transfer of knowledge and technologies for emission reductions in ESD sectors; and
- establishment of the actual share of cost-effective potential in ESD sectors compared to the ETS sectors.

The scale to which the EPM can leverage these positive effects is likely to be determined by the following:



- restricting projects to ESD sectors to apply a common framework for accounting and MRV;
- a degree of centralisation, to reduce transaction costs and increase market liquidity and price discovery;
- wide access across all Member States, to enable market efficiency;
- participation of the private sector, to increase the number of projects and diversity of project types; and
- adequate incentives and limitation of the risks.

Box 2 presents Sandbag’s recommendations on how such mechanism should work in practice to live up to its presented potential.

### Box 2. European Project-based Mechanism (EPM) – How should this work?

For the best results in terms of efficiency, equity and environmental integrity the design of the EMP should:

- ❖ limit the projects’ scope to ESD sectors in the EU;
- ❖ establish a harmonised methodology for project baselines;
- ❖ introduce voluntary multilateral trading on exchange platforms;
- ❖ incentivise the private sector financially to find additional emission reduction opportunities;
- ❖ allow discounted issuance of credits to mitigate risks and to incentivise host Member States to participate; and
- ❖ limit volumes of credits issued in cases where there appears to be a risk that very large quantities of certain types of credits may distort the market.

## 3 Groundwork needed before 2030 for cost-effective emission reductions through to 2050

Europe will need to deliver net zero emissions in the second half of this century. Policy options that would not incentivise reductions beyond a BAU scenario until 2030, presented in the previous chapter, will only increase the costs of reductions that need to occur economy-wide after that point in time.

The current ESD target of a 30% reduction by 2030 was set with a view to reaching the less ambitious end of the 2050 EU target range and is the very minimum requirement for ESD sectors. Additionally, the lower end of the 2050 EU target (80%) assumes that the EU ETS sectors will have reduced their emissions by 90-95% by 2050.

Unless the ESD establishes itself as an instrument able to drive additional emissions reductions, the interaction between reductions required under the EU ETS and ESD is likely to endanger both industrial growth in Member States’ economies after 2030 and the ability to

deliver the 2050 target. The same applies to any interactions with the LULUCF sectors. This is summarised in Table 1.

Table 1 presents how the flexibilities assessed above would affect emission reductions that could be made during that period.

**Table 1. Different flexibilities considered in the ESD until 2030 as a percentage of avoided emission reduction**

Adopted type of flexibility	Volume	Avoided reduction (%)	Comment
<b>Total Flexibilities</b>	4496	228%	
<b>Carry-over of 2020 surplus</b>	2598	123%	Sandbag estimate based on WEM projections and additional cost-effective emission reduction potential
<b>One-off ETS Flex</b>	269	14%	Oeko Institut <sup>12</sup>
<b>LULUCF Credits</b>	1350	64%	Carbon Market Watch report <sup>13</sup>
<b>ETS Flexibility</b>	279	26%	Sandbag estimate using our base case emissions scenario, does not include surplus expected to be in the MSR

Source: See comments for detail on each option.

Before inclusion of any flexibilities external to the ESD sectors, stakeholders should first establish what the real cost-effective emission reduction potential in the ESD sectors is, as we are convinced that much of it remains currently unknown due to the mismatch between national reduction targets set based on GDP/capita and solidarity considerations and actual cost-effective emission reduction opportunities.

The overall experience from the Kyoto Protocol flexible mechanisms illustrates that point. If we look in particular at non-CO<sub>2</sub> greenhouse gases such as HFC and N<sub>2</sub>O, we see that emission reductions from these gases ended up representing 50% of the total volume of Certified Emission Reductions (CERs) issued ([UNFCCC data](#)). Whatever misgivings there may be with regard to those the Kyoto Protocol flexible mechanisms, the abundance of CERs clearly shows that there were very cheap and easily implemented solutions that had not necessarily been known or expected at the time those mechanisms were launched.

Furthermore, specific methodologies, including robust emissions monitoring systems, were developed for these and other emission reduction projects under the mechanisms and those can subsequently be used to help demonstrate the suitability of inclusion of a sector in other schemes. For example, following development of Joint Implementation (JI) projects in the EU, emissions of N<sub>2</sub>O from nitric, adipic, glyoxal and glyxolic acids have been included in the EU ETS since 2013.

<sup>12</sup> <http://www.oeko.de/oekodoc/2373/2015-537-en.pdf>

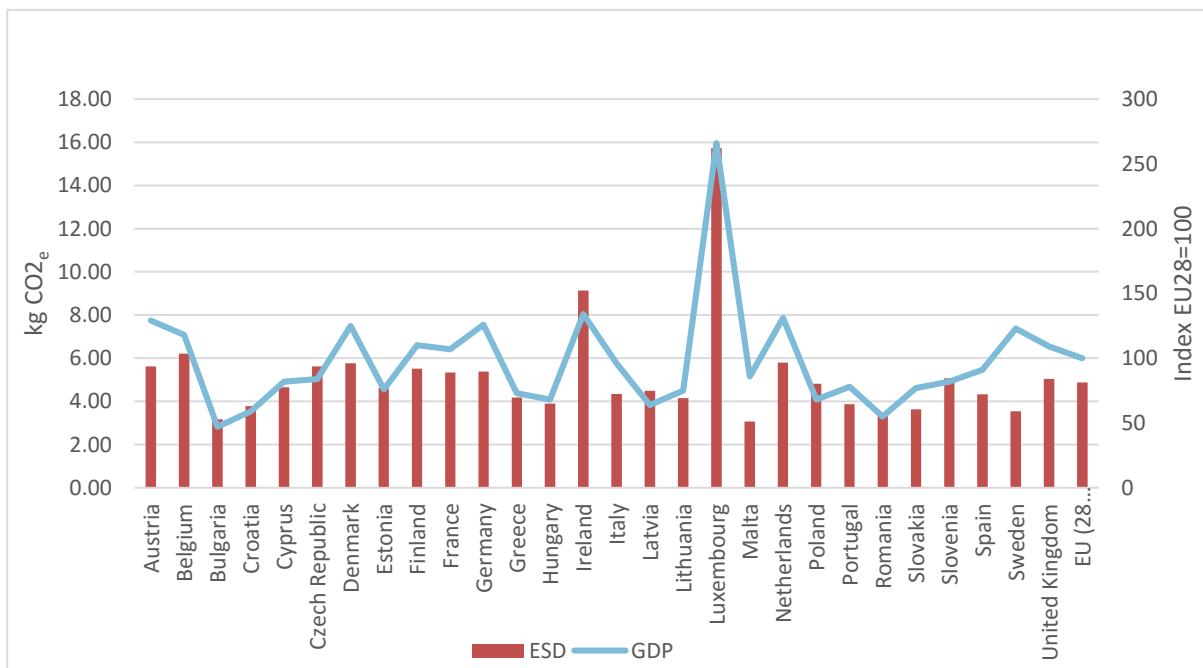
<sup>13</sup> [Carbon Market Watch Policy Brief](#)

Other examples come from the agricultural sector. While it is not generally considered suitable for inclusion in a trading system primarily due to concerns related to monitoring, both JI and CDM projects that reduce emissions from agriculture have been developed.

We expect the market could uncover similar cheap emission reduction opportunities not only for the non-CO<sub>2</sub> gases, but also for CO<sub>2</sub> itself.

A well-designed EPM could pave the way to an increased number of private-public partnerships working to uncover these opportunities and, consequently, higher investment, and job creation. This will help Member States with higher national emission reduction targets achieve their targets more cost-effectively while financing emissions reductions in Member States with lower GDPs. An EPM would help towards convergence of emissions per capita in EU Member States. Such development until 2030 is needed as we see a clear pattern of higher emissions in those Member States with higher targets and higher income levels, as shown in Figure 7.

**Figure 7. ESD Emissions per capita 2014 compared to GDP per capita in Purchasing Power Parity**



Source: EEA, Eurostat

## 4 Conclusions

**Table 2. Post-2020 ESD policy options to achieve increased EU targets cost-efficiently and fairly**

	Enhancing existing ESD flexibilities	Introducing one-off flexibility with ETS	Introducing unlimited flexibilities with ETS	Introducing flexibilities with LULUCF	European Project based Mechanism (EPM)
Cost-efficient and fair achievement of the 2030 collective ESD II target	✓	✓	✓	✗	✓
Cost-efficient achievement of 2050 economy-wide target	✗	✗	✗	✗	✓

An EPM is the only flexibility option that could allow cost-efficient and equitable achievement of high ambition EU emission reduction targets both for 2030 and 2050. Member States will be able to keep their national targets based on GDP/capita in line with solidarity considerations, while being able to transfer AEAs or credits generated as a result of the projects with economic benefit to both host and sponsor countries.

Transferring allowances and trading credits will create a quasi-market within the ESD and increase the role of the private sector in delivering emissions reductions. This way the ESD could become more like the EU ETS carbon budget while maintaining the regulatory incentives until 2030. Such policy development will pave the way to connecting the two schemes after 2030 and will allow the market to find the most optimal emission reductions across the economy.

The introduction of an EPM should, however, be conditional on the cancellation of excess allowances (hot air) from the ESD I period. This is the utmost priority in the current review process to ensure environmental integrity of the mechanism.

## 5 Recommendations

In order to facilitate additional, fair and cheap emissions reductions in the ESD until 2030 and the achievement of the economy-wide 2050 ambition at the lowest possible cost the EU institutions should:

- Introduce a new market-based flexibility between Member States; the European Project-Based Mechanism (EPM).
- Prevent the inclusion of any flexibilities that would dilute the 2030 target and increase the surplus of AEAs. This includes not carrying-over the expected surplus of AEAs from ESD I to ESD II and avoiding the creation of flexibilities with other climate policies (particularly EU ETS and LULUCF) before 2030;

## Annex A. Cumulative surpluses under ESD to 2020 assuming WEM forecasts

(MtCO<sub>2</sub>e) (Surplus = +ve number)

	2013	2014	2015	2016	2017	2018	2019	2020
Austria	2.9	7.1	6.4	5.3	3.9	2.2	0.1	-2.1
Belgium	4.8	10.6	12	12.1	11.1	8.9	5.6	1.1
Bulgaria	3.9	6.9	10.8	15.2	19.9	25.2	30.8	36.9
Croatia	2.4	5.5	8	10.3	12.5	14.5	16.4	18.1
Cyprus	0.6	1.7	3.9	6.2	8.8	11.6	14.5	17.6
Czech Republic	1.3	3.1	6	10.5	16.4	23.9	32.9	43.4
Denmark	5.2	10.3	14.4	17.7	20.1	21.8	22.2	22.4
Estonia	0.2	0.8	1.3	1.9	2.5	3.1	3.8	4.5
Finland	2.3	4.2	6	7.2	8.2	8.7	9	9
France	15.5	48.5	69.1	88.3	106.1	122.5	137.5	151
Germany	-0.6	14.7	20.5	25.8	30.9	35.5	39.8	43.7
Greece	12.9	26.5	38.8	52.2	66.5	82	98.5	116
Hungary	11.6	25.2	36.3	49.4	64.5	81.5	100.5	121.6
Ireland	10.9	21.6	23.6	23.9	23.4	21.2	17.6	12.7
Italy	38.8	83.5	116.6	146.6	173.7	197.8	219	237.2
Latvia	1.1	1.9	2.7	3.5	4.3	5.2	6	6.9
Lithuania	1	2.1	3.2	4.5	6.2	8	10.2	12.6
Luxembourg	0.5	1.2	0.8	0.2	-0.9	-2.3	-4	-6.2
Malta	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8
Netherlands	16.4	41.6	52.1	61.6	70.3	77.9	84.6	90.4
Poland	7	13.1	22.5	32.6	43.5	55.3	67.8	81.2
Portugal	8.6	18.3	26.6	35.9	46.2	57.4	69.5	82.6
Romania	7.7	17.1	25.3	34.1	43.6	53.7	64.4	75.8
Slovakia	2.6	5.8	8.4	11.3	14.5	17.9	21.6	25.6
Slovenia	1.4	3	4	5.1	6.4	7.7	9.2	10.7
Spain	32	61	86.1	107.1	124.3	137.7	147	152.8
Sweden	7.3	15.4	20.6	25.8	30.9	36.1	41.2	46.3
United Kingdom	42.9	100.7	121.8	142.8	160.7	175.7	187.4	198.9
<b>EU28</b>	<b>241</b>	<b>552</b>	<b>748</b>	<b>938</b>	<b>1,120</b>	<b>1,292</b>	<b>1,455</b>	<b>1,613</b>

**Briefing Author:** Ola Mirowicz

**Contributors:** Suzana Carp, Adam Whitmore, Boris Lagadinov

Contact: [ola@sandbag.org.uk](mailto:ola@sandbag.org.uk) or on (+44) 207 1486377

or [suzana@sandbag.org.uk](mailto:suzana@sandbag.org.uk) or (+32) 2893 9208

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