Impacts & consequences of the adopted CAR

with a focus on the targeted countries under the EUKI project

October 2018

a study by TRANSPORT & ENVIRONMENT

Transport & Environment
Published: October 2018
In house analysis by Transport & Environment
Coordination and modelling: Carlos Calvo Ambel, reviewed by Thomas Earl

To cite this study
Transport & Environment (2018) Impacts & consequences of the adopted CAR

Further Information
Carlos Calvo Ambel
Manager, Analysis and Climate
Transport & Environment
carlos.calvoambel@transportenvironment.org
Tel: +32 (0)2 851 02 13

Square de Meeûs, 18, 2nd floor | B-1050 | Brussels | Belgium
www.transportenvironment.org | @transenv | fb: Transport & Environment

Acknowledgement
T&E acknowledges the generous funding of this project from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

Table of Contents

1. Background

The European Union's (EU) largest climate change mitigation tool, the now named Climate Action Regulation (CAR), covers almost 60% of all climate change causing gases (greenhouse gases [GHG]). It establishes annual carbon budgets between 2021 and 2030 for each EU country, covering sectors like surface transport, buildings, agriculture, small industry and waste.

The CAR is a follow-up of the Effort Sharing Decision [i] (ESD), which established targets between 2013 and 2020. The ESD had a target of reducing emissions by 10% compared to 2005.

In 2014, the European Council agreed on the overall GHG reduction target for the EU: reducing emissions by 40% compared to 1990. To achieve that goal, a sub target for sectors not included in the emissions trading system (ETS) was agreed upon: 30% reduction compared to 2005. The European Commission proposed the CAR to implement that target.

Under the CAR, each country has an individual target, to ensure that collectively the EU would meet its 2030 target. Even if the regulation might seem relatively straightforward because the final target is fixed, that is actually not the case. The fine-print of this regulation is key, because even if the final target is fixed, the annual budget is subject to many factors and considerations.

This report is part of the project "Delivering the EU-2030 and Long Term Climate Objectives in Central, Eastern and Southern Europe, with a Specific Focus on Transport", a European Union Climate Initiative (EUKI) grant, funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of the Federal Republic of Germany.

2. General analysis

In December last year policy-makers reached a deal on what will be one of the key pieces of climate legislation in the decades to come. Fortunately, the agreed deal is an improvement compared to the Commission's proposal of July 2016. Unfortunately, the agreed text is not aligned with the commitments of the Paris Agreement.

This section analyses the different elements agreed in the already approved legislation:

> *Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018, on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013.*

The CAR does not guarantee that the EU will meet its obligations under the Paris Agreement. The CAR has several elements that will allow countries to avoid meeting their "apparent" target by 2030. For example, in 2030, countries will have access to the surplus they accumulated in the first years and that, in combination with other flexibilities, translates into a target below 30% for the EU overall. T&E, Öko Institut [ii] and Sandbag [iii] have estimated that the CAR will be a driver to reduce emissions in 2030 by 25-26% compared to 2005.

The CAR is a fundamental component to meet the EU commitment under the Paris Agreement. Therefore, the EU will meet its overall 2030 commitment of 40% greenhouse gas reductions compared to 1990 only if:

- Both the EU and national governments decide to implement measures that go beyond their CAR targets, either through higher targets in renewables and/or energy efficiency, or through more ambitious national measures.
- The ETS goes beyond its 2030 target of 43% compared to 2005, so a less ambitious CAR is compensated with a higher achieving ETS.

In addition, the CAR does not provide the incentives to put the EU in line to fully decarbonise these sectors by 2050. However, despite some flaws, this proposal is slightly more ambitious than the Commission's proposal, and most European member states will need to do efforts in order to meet their targets.

3. Impacts and consequences by country

The EUKI project includes five different member states. The official reduction targets in 2030 compared to 2005 emissions are:

Country	GHG emission reduction target in the CAR
Hungary	-7%
Italy	-33%
Poland	-7%
Romania	-2%
Spain	-26%

Each country has different flexibilities based on different circumstances and criteria. They will also have more or less difficulties reaching their target based on the starting point that was finally agreed upon. These concepts are briefly explained below to see how they may apply to each country.

Starting point: The 2030 target is based on a trajectory based on the average emissions from 2016 to 2018. The lower the starting point, the less pollution in the 2021-2030 period and a lower concentration of greenhouse gases in the atmosphere. The lower the slope of the curve, the smaller the carbon budget is for each Member State for a given year. The starting point is conditional, something important to try to avoid rewarding low compliance. The starting point is also combined with banking limitations to prevent the CAR from building a massive surplus, as was the case in the ETS. For more details on the starting point and banking limitations, read T&E's [iv] report on the issue.

Land use loophole: the CAR includes the option to use the land sector as a way to compensate emissions from CAR sectors, to the detriment of taking climate action in the other sectors. Credits can be generated from planting trees (afforestation) or from managing cropland and grassland. However, relying on credits from planting trees is troublesome as the carbon removals can be reversed at any time when trees are cleared and burned. Emissions from fossil fuels, on the other hand, stay in the atmosphere for centuries. Europe should not choose between action in the forestry sector and in CAR sectors. Both are needed to stick to the Paris Agreement.

ETS surplus loophole: it allows nine countries to use a maximum of 100 million ETS allowances to offset emissions in the CAR sectors. This is problematic because it undermines the low-carbon transition of the

CAR sectors, does not help reduce ETS emissions given the huge oversupply in the carbon market and hence leads to higher EU overall emissions. The ETS allowances will be subtracted from the country's auctioning volumes, leaving it with less auctioning revenues to invest in climate measures.

Safety reserve: Countries that are below the average GDP per capita in 2013 and that overachieve their 2020 target will have access to this reserve, disincentivising them to take measures at a national level. Countries might end up using pre-2020 efforts to weaken the post-2020 need for action. The Paris agreement, however, requires the complete opposite approach: pre-2020 action enhances an ongoing downward path to ensure emissions are constantly decreasing. For more details, visit this T&E briefing [v].

Methodology

In order to know what the impact of the CAR in each country, we have taken a series of assumptions and sources:

1. Historic emissions: data from the EEA [vi], based on data reported by countries, was included in the graphs for each country. This includes the CAR emissions in 2005 and 2016 (black line).
2. In order to calculate the starting point, it was necessary to have the data between the years 2016 and 2018. We decided that, in order to estimate the emissions for 2017 and 2018, the average of 2014, 2015 and 2016 would be used (orange line).
3. For longer term projections (2020 to 2030), we used the projections generated by the member states themselves [vii], which included values for 2020, 2025 and 2030. For the years in between, we estimated a linear evolution (grey line).
4. For the CAR allocations between 2021 and 2030, we calculated them, based on the legislation, based on the assumptions above (green line).

3.1. Hungary

CAR emissions in Hungary have considerably decreased between 2005 and 2016, even if they considerably increased in 2015 and 2016 compared to previous years. The higher allocation observed in 2021 can be explained due to the provisions included in article 10.2 of the Regulation, which gave extra allocations to particular member states, including Hungary.

Hungary is among the countries that, based on their own projections, most likely will have a relatively easy time to comply with the CAR. Obviously, it will be dependent on how emissions evolve in the next few years, but there are few scenarios in which Hungary would have a very hard time to achieve its CAR targets.

This can be explained by the fact that Hungary estimates that, under a business-as-usual scenario, their emissions from the residential sector will considerably decrease. That would offset the foreseen increase in transport emissions, also observed in T&E's in-house model. In other reports within this grant, however, we consider that transport would need to do its fair share (-7% by 2030 compared to 2005), and the assumption that other sectors would do more than the assigned target is risky, and definitely not compliant with a long-term decarbonisation of the economy. Transport needs to start reducing its climate impact, no matter what the CAR target is.

In addition, Hungary should aspire to reduce their emissions even more, because in case other European Member States would struggle to achieve their targets, Hungary could sell their allocations, reinvesting the funds to further reduce their GHG emissions.

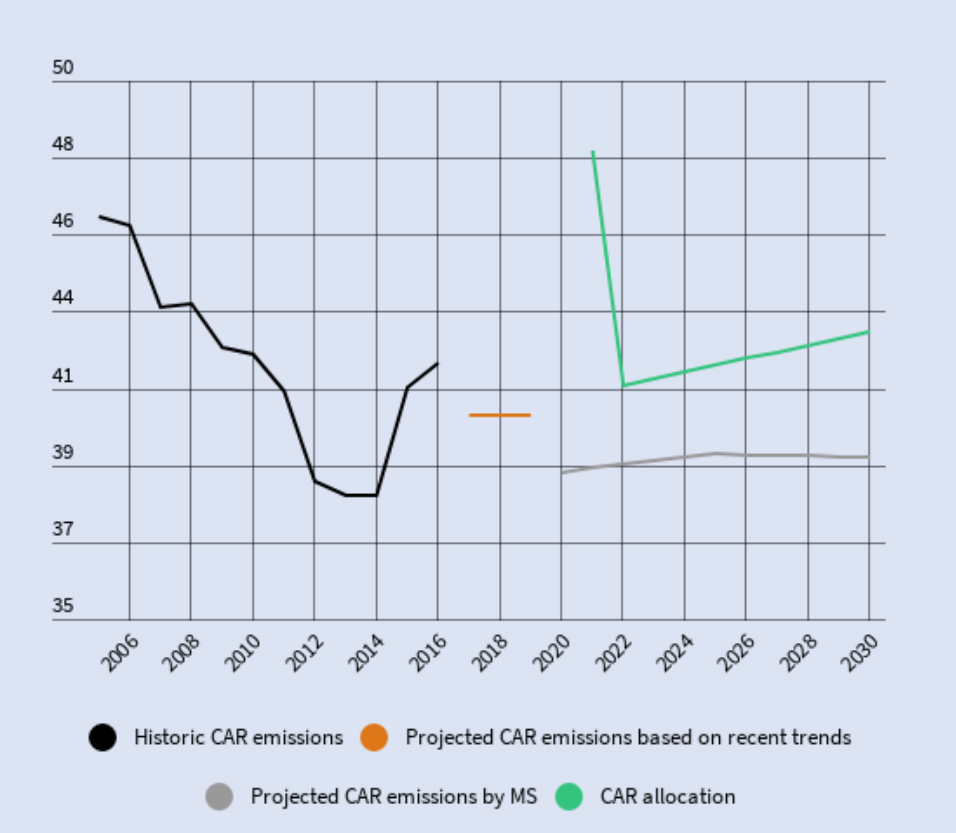

Figure 1: CAR emissions and allocations in Hungary

3.2. Italy

CAR emissions in Italy have considerably decreased between 2005 and 2016, even if they increased in 2015 and 2016 compared to the previous year.

Italy is among the countries that, based on their own projections, unless many measures are implemented both at EU and national level, will have a hard time to comply with the CAR. Obviously, it will be dependent on how emissions evolve in the next few years, but there are few scenarios in which Italy wouldn't have to take the CAR targets very seriously. This is despite the fact that Italy estimates their CAR emissions to decrease under a business-as-usual scenario. The large part of the decrease in their projections come mostly from the residential and waste sectors, while transport would remain more or less stable.

Italy will have access to the safety reserve of 105 million tonnes. However, it is highly unclear how much they could benefit from it. Other countries might also use the reserve, which in practice means that Italy cannot count on a specific amount of allocations.

LULUCF credits will be another possibility. The Regulation gives Italy the option to use up to 11.5 Mt of CO2 eq. However, again it is unclear if that could be achieved. In any case, the LULUCF is not enough to offset the 108 Mt deficit between the forecasted emissions under a business-as-usual scenario and the foreseen allocations.

What is clear is that Italy will need to take measures to reduce its emissions beyond a business-as-usual scenario, including in the transport sector. In other reports within this grant, however, we consider that transport would need to do its fair share (-33% by 2030 compared to 2005). In any case, even if Italy would

be the sole user of the safety reserve, it needs to start reducing its climate impact, no matter what the CAR target is, in order to align with a long-term decarbonisation of the economy.

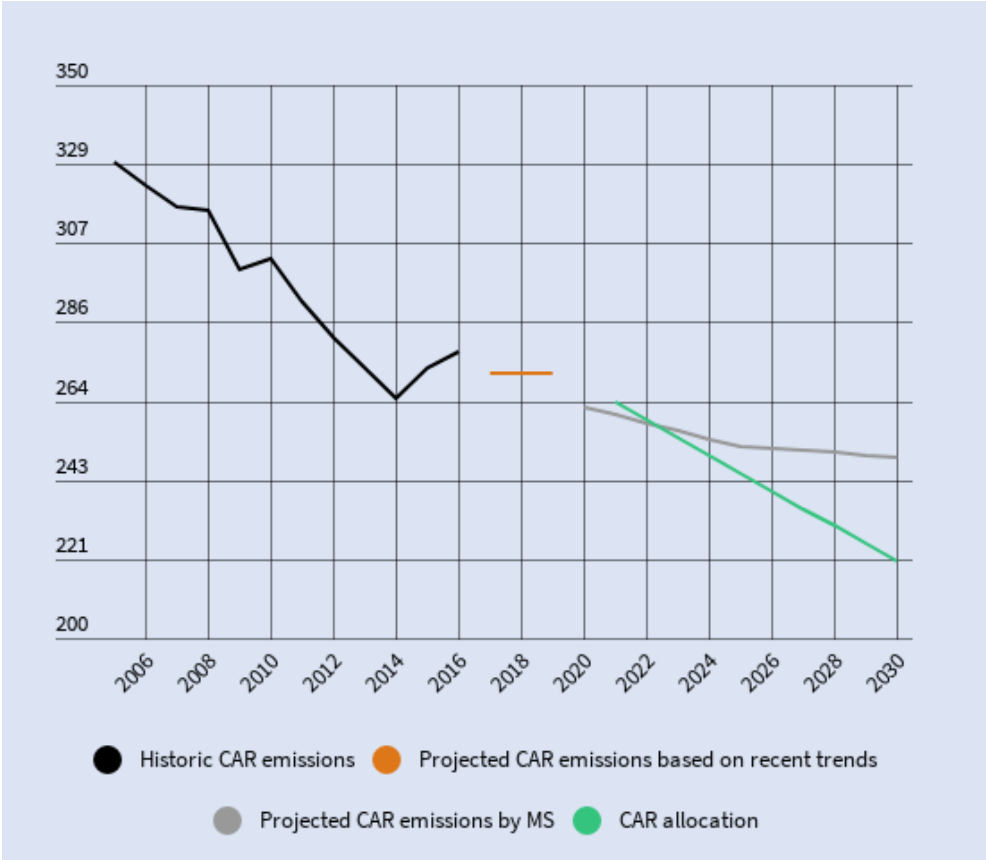

Figure 2: CAR emissions and allocations in Italy

3.3. Poland

CAR emissions in Poland have not decreased between 2005 and 2016. They decreased from 2011 to 2014, but they increased again in 2015 and 2016, undoing much of this reductions, mostly due to raising transport emissions. The higher allocation observed in 2021 can be explained due to the provisions included in article 10.2 of the Regulation, which gave extra allocations to particular member states, including Poland.

Poland is among the countries that, based on their own projections, unless many measures are implemented both at EU and national level, will have a hard time to comply with the CAR. It will be dependent on how emissions evolve in the next few years, but there are few scenarios in which Poland wouldn't have to take the CAR targets very seriously. This is despite the fact that Poland estimates their CAR emissions to decrease under a business-as-usual scenario, although not by much. The large part of the decrease in their projections come mostly from the residential sector, while transport would considerably increase, aligned with the projections by T&E's in-house model. In other reports within this grant, however, we consider that transport would need to do its fair share (-7% by 2030 compared to 2005).

Poland, like Italy and Spain, will have access to the safety reserve of 105 million tonnes. However, it is highly unclear how much they could benefit from. Other countries might also use the reserve, which in practice means that Poland cannot count on a specific amount of allocations.

LULUCF credits will be another possibility. The Regulation gives Poland the option to use up to 21.7 Mt of CO2 eq. However, again it is unclear if that could be achieved. In any case, the LULUCF is not enough to offset the 114 Mt deficit between the forecasted emissions under a business-as-usual scenario and the foreseen allocations.

What is clear is that Poland will need to take measures to reduce its emissions beyond a business-as-usual scenario, including in the transport sector, which is the focus of another report under this grant. In any case, even if Poland would be the sole user of the safety reserve, it needs to start reducing its climate impact, no matter what the CAR target is, in order to align with a long-term decarbonisation of the economy.

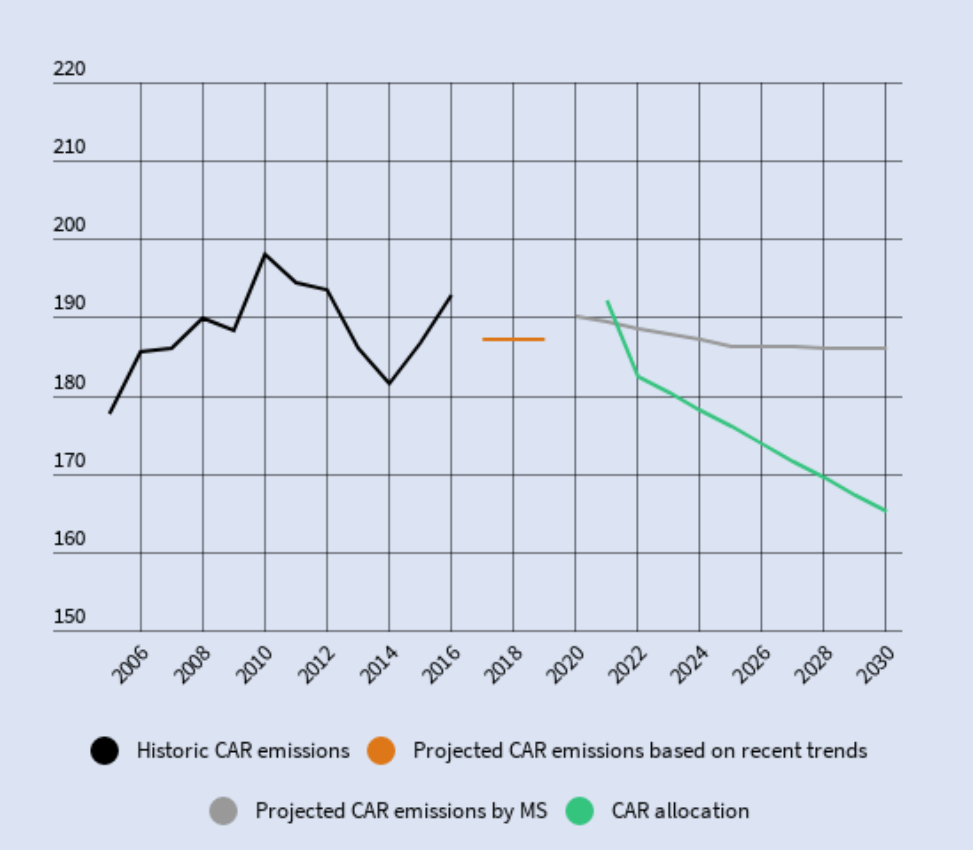

Figure 3: CAR emissions and allocations in Poland

3.4. Romania

CAR emissions in Romania have very slightly decreased between 2005 and 2016. However, during the last few years, since 2011, they have followed an upwards trend, with the exception of 2016. The higher allocation observed in 2021 can be explained due to the provisions included in article 10.2 of the Regulation, which gave extra allocations to particular member states, including Romania.

Romania, despite its relatively low target of only reducing its emissions by 2% by 2030 compared to 2005 levels, based on their own projections, will need to consider many measures to be implemented both at EU and national level. Obviously, these are only projections and their compliance with the CAR will be dependent on how emissions evolve in the next few years, but there are scenarios in which Romania would not achieve the targets unless taken seriously.

Romania's projections consider that, under a business-as-usual scenario, most CAR sectors will increase its emissions, including transport. Our assumption in other reports within this grant that transport would need to do its fair share (-2% by 2030 compared to 2005) is even more relevant in the case of Romania.

Romania, like Italy, Spain or Poland, will have access to the safety reserve of 105 million tonnes. However, it is highly unclear how much they could benefit from. Other countries might also use the reserve, which in practice means that Romania cannot count on a specific amount of allocations.

LULUCF credits will be another possibility. The Regulation gives Romania the option to use up to 13.2 Mt of CO2 eq. However, again it is unclear if that could be achieved. In any case, the LULUCF is not enough to offset the 64 Mt deficit between the forecasted emissions under a business-as-usual scenario and the foreseen allocations.

What is clear is that Romania will need to take measures to reduce its emissions beyond a business-as-usual scenario, including in the transport sector, which is the focus of another report under this grant. In any case, even if Romania would be the sole user of the safety reserve (which is unlikely), it needs to start reducing its climate impact, no matter what the CAR target is, in order to align with a long-term decarbonisation of the economy.

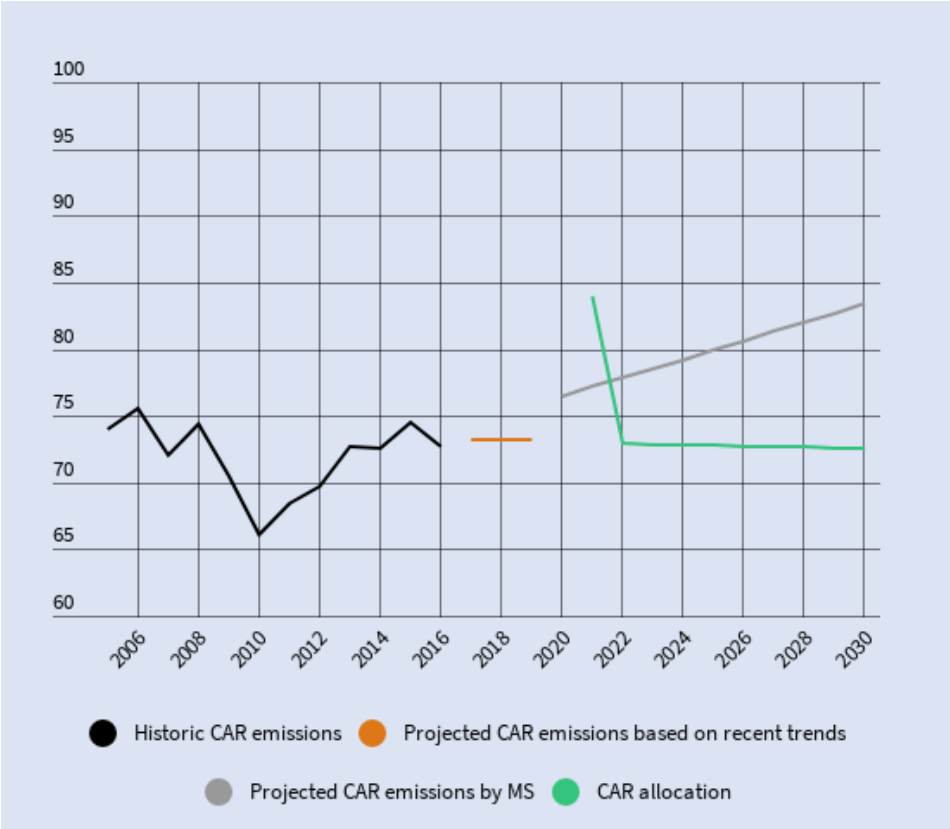

Figure 4: CAR emissions and allocations in Romania

3.5. Spain

CAR emissions in Spain have considerably decreased between 2005 and 2016. Despite the economic recovery, CAR emisisons have not increased yet, even if provisional data for 2017 point in that direction.

Spain is among the countries that, based on their own projections, which are quite aligned regarding transport with T&E's in-house model, will have a hard time to comply with the CAR. This could be prevented by implementing many measures both at EU and national level. This would also be dependent on how emissions evolve in the next few years, but there are few scenarios in which Spain wouldn't have to take the CAR targets very seriously.

Spain's projections consider that, under a business-as-usual scenario, most CAR sectors will increase its emissions compared to 2020 levels, including transport. Our assumption in other reports within this grant that transport would need to do its fair share (-26% by 2030 compared to 2005) is even more relevant in the case of Spain.

Spain will have access to the safety reserve of 105 million tonnes. However, it is highly unclear how much they could benefit from. Other countries, like Poland or Italy, might also use the reserve, which in practice means that Spain cannot count on a specific amount of allocations.

LULUCF credits will be another possibility. The Regulation gives Italy the option to use up to 29.1 Mt of CO2 eq. However, again it is unclear if that could be achieved. In any case, the LULUCF is not enough to offset the 89 Mt deficit between the forecasted emissions under a business-as-usual scenario and the foreseen allocations.

What is clear is that Spain will need to take measures to reduce its emissions beyond a business-as-usual scenario, including in the transport sector, which is the focus of another report within this grant. In any case, even if Spain would be the sole user of the safety reserve, it needs to start reducing its climate impact, no matter what the CAR target is, in order to align with a long-term decarbonisation of the economy.

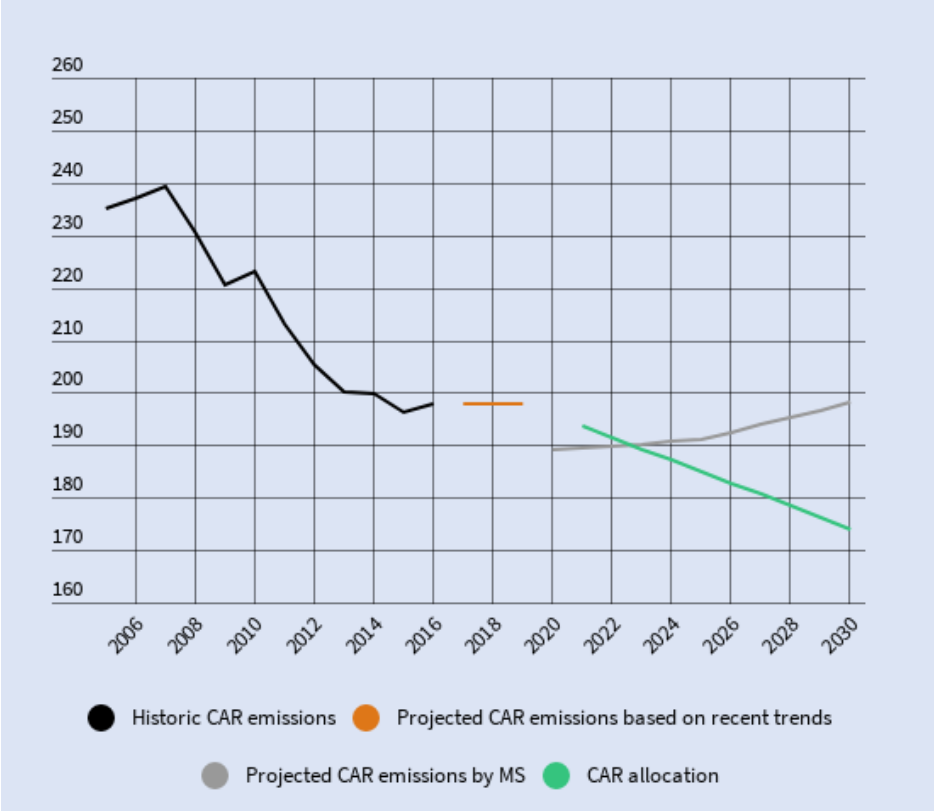

Figure 5: CAR emissions and allocations in Spain

4. Conclusions

This report reaches one main conclusion: all countries analysed, for different reasons, need to take the CAR targets seriously. That implies supporting ambitious measures to decrease GHG emissions at European negotiations, pushing beyond Commission's proposal for specific sectors. Reaching CAR targets also imply defining clear national plans on measures to decrease GHG emissions at all levels, including locally, regionally and at a national level.

Transport is the largest CAR sector when it comes to emissions. Therefore, each of the countries analysed need to tackle transport emissions. T&E will publish, as part of the EUKI project, five reports analysing emission reduction strategies for the transport sector, one for each of the countries included in the study.

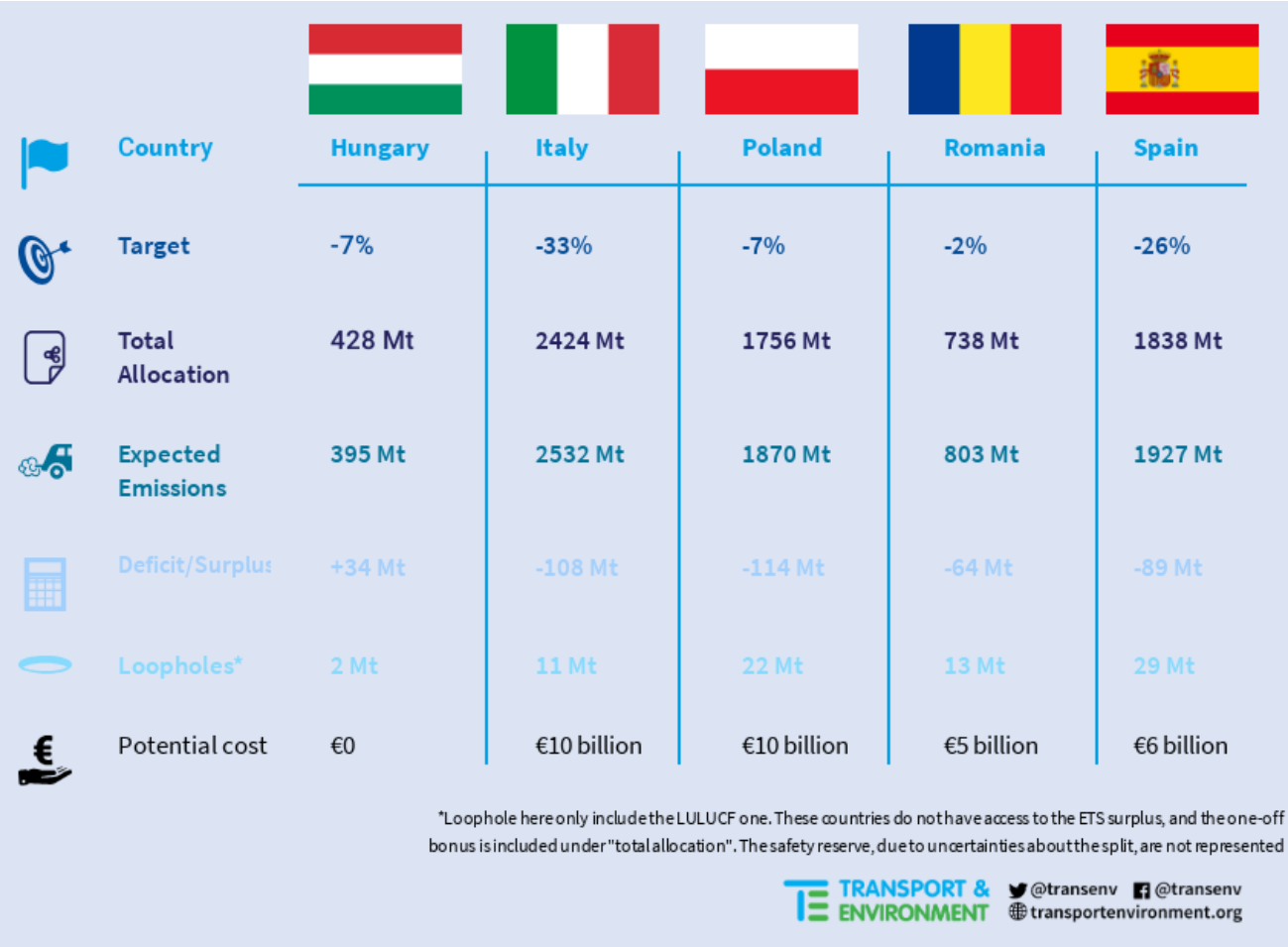

Figure 6: Summary of CAR impacts on selected member states

[i] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2009.140.01.0136.01.ENG

[ii] https://www.oeko.de/en/publications/p-details/does-the-effort-sharing-regulation-require-sufficient-emission-reductions-to-meet-the-eu-2030-target/

[iii] https://sandbag.org.uk/2017/12/21/esr-deal-eu-off-track-for-2030-targets/

[iv] https://www.transportenvironment.org/publications/starting-point-banking-fatal-combination-esr

[v] https://www.transportenvironment.org/publications/frequently-asked-questions-esr-safetyearly-action-reserve

[vi] https://www.eea.europa.eu/data-and-maps/data/esd-1

[vii] https://www.eea.europa.eu/themes/climate/trends-and-projections-in-europe/trends-and-projections-in-europe-2017/annexes/annex-1