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EU: Road to 2030 climate targets still bumpy

- **The EC has reported that the EU is nearing its 2030 climate and energy targets, a crucial step as new targets for 2040 need to be set soon and the timeframe to achieve Net-Zero by 2050 is gradually diminishing**
- **The EC's quantitative evaluation of the National Energy and Climate Plans (NECPs) shows that reduction in greenhouse gas (GHG) emission and usage of renewable energy are expected to be slightly below target, although the gap in energy efficiency remains significant**
- **We have also studied the EC's qualitative evaluation of the NECPs by implementing textual analysis through natural language processing techniques ...**
- **... showing that the majority of the EC's prior recommendations had not been fully addressed and that the EC's sentiment and tone about the dimension 'Decarbonisation' is negative and bearish**
- **Therefore it seems that complete and prompt execution of the NECPs could lag and that the 2030 targets might not be met ...**
- **... suggesting intensified policy measures are needed in the following years, raising the risk of a disorderly transition scenario**

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Introduction

Europe is striving to do its part in the effort to limit global warming. The first hurdle on the road to meeting the target of net zero GHG emissions by 2050 is meeting the EU climate and energy targets for 2030. The next hurdle is setting new intermediate targets for 2040 (also see our previous note here). It is likely that chances of successfully setting a credible and sufficient 2040 target are influenced by the chances of meeting the 2030 target, as climate action will have to be stepped up during the period 2030-2040 in case the 2030 targets were missed. This note focuses on the probabilities of meeting the 2030 targets, based on the European Commission's evaluation of the latest National Energy and Climate Plans (NECPs) of the individual Member States.

Quantitative assessment of NECPs suggests the 2030 targets will almost be met

Almost all EU Member States (except Poland, Estonia and Belgium) have published the final version of their NECPs, which should be compliant with the European Climate Law. The NECP contains a set of quantifiable climate targets for 2030, such as total GHG emissions, the share of renewable energy in total energy consumption and the amount of primary and final energy consumption. With regard to GHG emissions, there is a difference between emission by sectors that are covered by the EU Emission Trading System (ETS) and emissions by sectors not (yet) covered by the ETS, which are governed by the Effort Sharing Regulation (ESR). The NECPs contain targets for ESR emissions, which are set at the national level and differ per country (see here).

The EC has recently published its evaluation of the final version of the NECPs (see here) and a working document evaluating the individual countries (see here). It concludes that the EU currently is on course to reduce net GHG emissions by around 54% by 2030, compared to 1990 levels, which is nearing the Fit-for-55 target of 55%. The assessment of a likely 54%

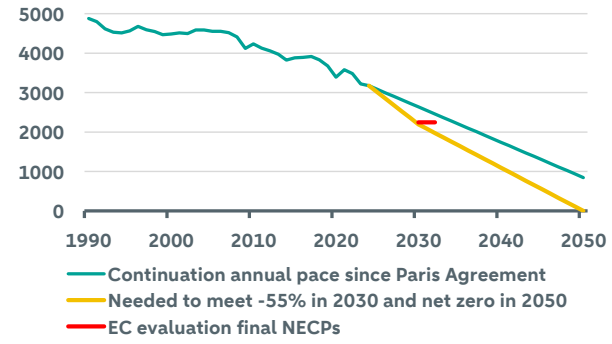
emission reduction is also more positive than the EC's previous assessment of around 51% in October 2024 (see our previous research note here). Preliminary Eurostat data suggest that total GHG emissions fell by around 1.5% in 2024, a significant slowdown compared to the 7% drop in 2023. Reaching the estimated reduction of 54% versus 1990 would require a total extra decline of 31% during the period 2025-2030, implying an average reduction of 6% per year, which would be 2.5 times higher than the average annual reduction since the Paris Agreement (effective in 2016).

The recent EC evaluation is also now more optimistic about the likelihood of the EU meeting its targets for the share of renewable energy in total energy consumption compared to the October assessment. The 2030 target for this share is 42.5%. According to the EC's evaluation of the NECPs, a 'limited' gap of 1.5 percentage points will remain in 2030, which is a more positive assessment than the 3.5 percentage points gap included in its October evaluation. Finally, turning to the target for energy efficiency, the EU has set a binding final energy consumption target at no more than 763Mtoe by 2030 and an indicative target for primary energy consumption at no more than 992.5Mtoe. The EC's evaluation of the NECPs indicates the binding target for final energy consumption will be missed by more than 31Mtoe. According to the EC, this is a 'significant gap, which equals the annual final energy consumption of Belgium'.

All in all, the NECPs indicate that the key energy and climate targets will not be fully met, but that the gaps for GHG emissions and the share of renewable energy are expected to be limited, whereas the gap for energy efficiency is still 'significant'.

Recent trend and target of EU GHG emissions

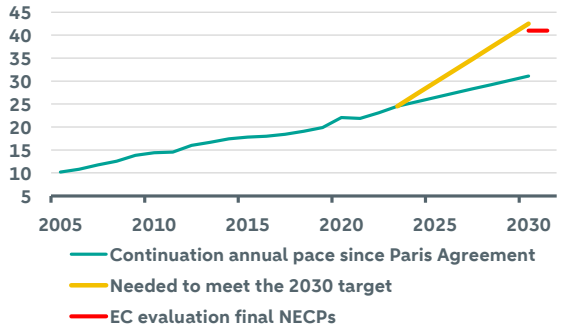
Mton CO2eq



Source: EDGAR emissions database, Eurostat, ABN AMRO Group Economics

Recent trend and target for renewable energy

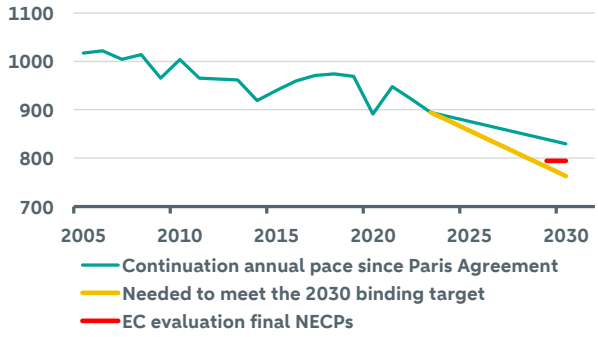
Share of renewable energy in total energy consumption, %



Source: Eurostat, ABN Amro Group Economics

Recent trend and target for final energy consumption

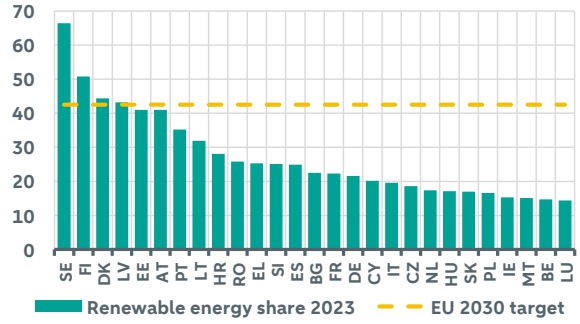
Mtoe



Source: EDGAR emissions database, ABN AMRO Group Economics

Renewable energy share by EU Member States

Share renewable energy in total energy consumption in 2023, %



Source: EC, ABN Amro Group Economics

Qualitative assessment suggests complete and prompt execution of plans could lag

In order to reach the ambitious 2030 energy and climate targets it is of course essential that all countries fully and timely implement all policy plans that they have announced in their NECPs. Therefore, we have also analysed the qualitative assessment by the EC of the NECPs to get more insight into the probabilities of actual implementation and success.

To do this, we have implemented textual analysis through natural language processing (NPL) techniques. These approaches involve applying data science methods to analyse and interpret textual data. Specifically, we are interested in extracting the sentiment of the EC's qualitative assessment for each of the five dimensions that the Energy Union's NECPs will tackle. These are: Decarbonisation, Energy efficiency (EE), Energy security (ES), Internal energy market (IEM) and, finally, Research, innovation and competitiveness (RIC). In NLP, sentiment gives an indication of the general 'mood' of a text and whether this is optimistic or pessimistic. Normally a sentiment score ranges from -1 to 1, with scores below (above) zero indicating a negative (positive) sentiment.

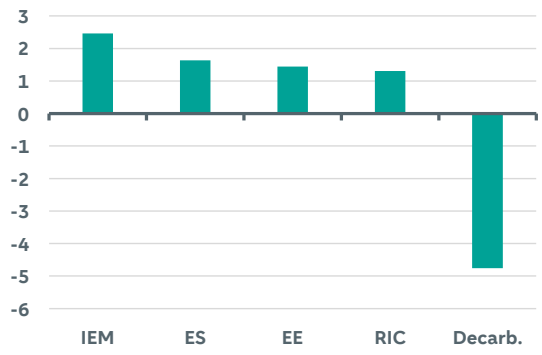
We start our analysis by extracting text from the EC's assessment for each of the aforementioned five dimensions and goals. In the 246-page document, the section of the commission's assessment regarding 'decarbonisation' is overall the most dense, with a total of 17,095 words. Each section contains an average of around 9,000 words, more than enough to conduct the analysis. Once the text was extracted it was transformed to lowercase. Aside from that, no alterations were made; symbols and numbers were retained in the text, as they were considered helpful for assessing sentiment in this instance.

Sentiment was then calculated using a sentiment tool. This tool works on the basis of a large pre-established database of words which defines text as either a 'positive' or 'negative'. The tool used is the most general tool available, meaning it can be applied to a wide variety of text types and is crucially not skewed towards informal text, as most sentiment tools are.

As a next step, we have to adjust the derived sentiment for the bureaucratic structure of the text and inherently neutral tone included in these types of documents. Not making this kind of adjustment would leave us with a sentiment of close to zero across all five dimensions. To correct for this, we scanned through the entire text to define two custom-made dictionaries of 'positive' and 'negative' words present in the EC assessment. A total of 233 positive terms, which appear often in the assessment and are not usually picked up by a general sentiment tool, were defined. Examples of these include "likely to achieve", "overachievement of the target" and "improved its performance". The same exercise was done for negative terms, in which 276 terms were found. Examples of these include "remain unclear", "not outlined in the plan" and "lack of detail in policies". These terms, specific to the document we are assessing, were then used to adjust and customise the sentiment tool accordingly. To do this, we modified the tool to add 0.1 to the sentiment score of a specific dimension if it contained a positive term and remove (-0.1) if a negative term was found.

Sentiment score for each dimension

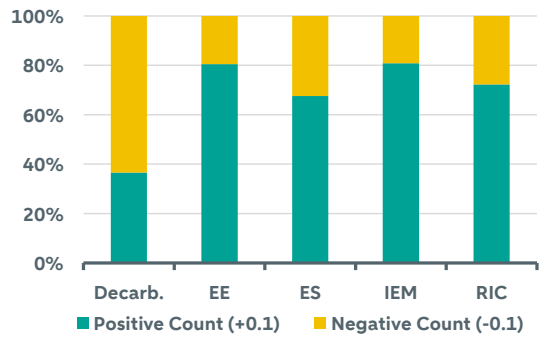
'Adjusted' sentiment score (1=most positive; -1=most negative)



Source: European Commission, ABN AMRO calculations. Note: IEM = Internal energy market, ES = Energy security, EE = Energy efficiency, RIC = Research, innovation and competitiveness

For decarbonisation, negative terms prevail

% of total

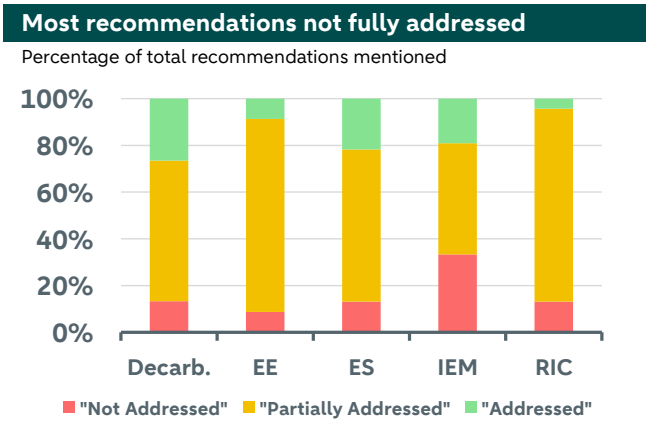


Source: European Commission, ABN AMRO calculations. Note: IEM = Internal energy market, ES = Energy security, EE = Energy efficiency, RIC = Research, innovation and competitiveness

As can be observed in the above chart on the left, the most positive language is used when referring to the dimension of Internal Energy Markets (IEM), across all European countries, with a sentiment score of 2.46. When digging deeper, this result implies that a total of 152 optimistic terms found in the text, while only 36 negative terms were present. The dimensions of Energy Security (ES) and Energy Efficiency (EE) lagged behind, with a positive/negative sentiment of 1.63 and 1.44 respectively. Also the Research dimension (RIC) contains positive sentiment. However, perhaps not surprisingly, the 'Decarbonisation' dimension scored the worst, with the analysis picking up a decisively negative and bearish tone. In total, 538 negative terms were found, versus 311 positive. The graph above on the right illustrates this for every dimension in the analysis. 'Decarbonisation' was the only dimension with more negative than positive terms.

In the 'Energy Efficiency' dimension, the positive term 'energy savings' appeared the most, for a total of 93 times. In the 'Energy Security' section, the most popular positive term was 'energy storage', standing at 19. Overall, the negative term appearing most often in the document was 'gap', signalling the difference between current levels and targets. Other negative terms that appeared often were terms pointing to the lack of progress and information by some of the member states, such as 'does not provide information', 'does not include targets' and 'does not clearly describe measures'.

To complete the analysis we observed whether member states have updated and adhered to recommendations by the EC, which have been provided since the submission of the first NECP draft.



Source: European Commission, ABN AMRO calculations. Note: IEM = Internal energy market, ES = Energy security, EE = Energy efficiency, RIC = Research, innovation and competitiveness

All five dimensions are dominated by recommendations being 'partially addressed', which represent an average of 68% of all recommendations across the five dimensions. While Decarbonisation has the most negative tone, as demonstrated in the first part of the analysis, it has the largest proportion of recommendations that were actually addressed, standing at 27%. Internal energy markets, which have the most positive sentiment, have 19% of the recommendations addressed, above the average of 16%. However, this dimension also holds the highest proportion of recommendations that were not addressed, with a total of 33%, considerably above the average of 16%.

Conclusion

While EU's NECPs indicate progress towards the 2030 climate targets, significant gaps remain, particularly in energy efficiency. Textual analysis reveals that many of the earlier EC recommendations are only partially addressed, and the EC's sentiment and tone about the dimension Decarbonisation is negative. This implies that although NECP's targets are ambitious enough to get the EU close to meeting its 2030 targets, there is still a significantly high probability that the targets will not be met, implying that policy action will have to be stepped up in later years in order to remain on the path to achieve net zero by 2050. Such a scenario would make the transition more disorderly in nature and raise the potential economic damage from transition.

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