Energie. Wasser. Leben.

Berlin / Brussels, 18 November 2021

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BDEW Feedback

on the ENTSOs' draft scenario report for the TYNDPs 2022

feedback in parallel to answers and comments in the online consultation tool

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The German Association of Energy and Water Industries (BDEW) and its regional organisations represent over 1,900 companies. The membership comprises both privately and publicly owned companies at the local, regional and national level. They account for around 90 percent of the electricity production, over 60 percent of local and district heating supply, 90 percent of natural gas, over 90 percent of energy networks and 80 percent of drinking water extraction as well as around a third of wastewater disposal in Germany.

Preliminary remarks

BDEW appreciates the possibility to comment on the draft scenario report issued by ENTSO-E and ENTSOG on 6 October 2021 at https://2022.entsos-tyndp-scenarios.eu.

The present text shows the BDEW answers to the online consultation submitted via the electronic portal at https://consultations.entsoe.eu/system-development/entso-e-entsog-tyndp-2022-draft-scenarios-report-c/. The online questionnaire allows for comments only in the case of negative answers ("No"). Yet, BDEW considers as helpful to also give some explanatory notes and comments also in the case of positive or neutral answers. In order to convey these comments to the ENTSOs BDEW presents the whole answers and comments in the present document.

Since the German TSOs for Electricity and Gas organised with BDEW are part of ENTSO-E and ENTSOG, respectively, they abstain from voting on the present position paper.

BDEW answers to the consultation questionnaire

Part 1:

1. What is your name?

Dr. Michael Wunnerlich

2. What is your email address?

Email
michael.wunnerlich@bdew.de

3. What is your organisation?

Organisation
BDEW Association of German Energy and Water Industries

Part 2: Stakeholder engagement

4. Are you satisfied with the **level of stakeholder engagement** during the joint ENTSO-E & ENTSOG Scenario building process?

O Satisfied

X No opinion

O Unsatisfied

If unsatisfied, please make suggestions how we can improve for the next process:

Comment:

5. Among the different **engagement options**, rank them in the order of your preference. Rank from 1 (most preferred) to 3 (least preferred).

Workshop & webinars	1 O	2 O	3 O
Consultations	1 O	2 O	3 O
Bilateral discussions	1 O	2 O	3 O

BDEW answer: no preference

6. Are you satisfied with the **format** and the **level of explanation** that was provided at the **Scenario Workshop**

O Yes

X Neutral

O No

Please comment:

BDEW did not participate in the scenario workshop

Part 3: Clarity of reports

7. Are you satisfied with the **format** and the **level of explanation** provided in the **TYNDP 2022 Draft Scenario Building Report?**

O Satisfied

X No opinion

O Unsatisfied

Comment:

8. Are you satisfied with the **format** and the **level of information** provided in the **TYNDP 2022 Scenario Building Guideline?**

O Satisfied

X No opinion

O Unsatisfied

Comment:

9. Are you satisfied with the **format** and the **level of information** provided in the **Visualisation Platform/Data set ?**

O Satisfied

X No opinion

O Unsatisfied

Comment:

Part 4: European Targets and Storylines

10. Do you agree that the ENTSO-E and ENTSOG's joint scenarios should be built to be **compliant with the EU -2030 and 2050 targets** as a minimum standard?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

11. ENTSO-E and ENTSOG introduced **National Trends** as the central policy scenario. National Trends is aligned with national energy and climate policies and strategies as stated at the end of 2020. Do you agree that member state energy and climate policies should be used to develop National Trends?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

The National Trends scenario is an important tool to check whether the „sum“ of the national energy and climate policies (NECPs) is sufficient to reach the EU‘s 2030 climate targets. If this is not the case the National Trends Scenario can, in the best case, be a starting point for EU Members to commonly check in which regions and which sectors more efforts are feasible. The grid expansion measures which are needed to achieve the NECPs constitute a robust, no-regret development of the TYNDPs which is to be implemented at any case.

12. Scenario diversity is essential when it comes to the assessment of future gas and electricity infrastructure needs. In your opinion, do the 3 scenarios cover a broad enough range of plausible pathways aiming to achieve 2050 EU-27 targets?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

We should be open for additional scenarios, if necessary, but at the moment these three scenarios provide a broad enough range.

Part 5: Paris Targets and Decarbonisation

13. The COP21 Paris Agreement and IPCC Special Report 1.5°C provide evidence on the **need for a carbon budget in the global effort to tackle climate change.** ENTSO-E and ENTSOG compare the carbon budget resulting from the scenarios to benchmarks based on equity and population. Do you agree that these benchmarks are appropriate?

O Yes

O Neutral

X No

If no, please comment why.

Comment:

A global CO2 budget is a necessary basis for discussion of international climate policy in order to be able to assess the ambition levels of the parties as a whole. Currently, there is no established methodology for the question of how a global CO2 budget could be broken down and if it can be transferred between the nations. However, such a methodology is crucial for determining whether a budget approach makes sense and fits into the target architecture. As long as there is no common agreement amongst the COP, the budget cannot be distributed between the nations.

Moreover, the determination of this budget is a dynamic process. The budgets currently available are still provisional, e.g. reduction scenarios for non-CO2 gases are still to follow.

14. The Distributed Energy and Global Ambition scenarios aim at **achieving a carbon-neutral EU-27 economy by 2050.** Do you think the scenarios are helpful in identifying / assessing those challenges?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

15. ENTSO-E and ENTSOG use a total energy model to capture the impact of **sector coupling between energy carriers.** Modeling of sector coupling has been expanded in the Draft Scenario Report 2022. Do you agree that the ENTSO-E and ENTSOG's approach identifies the potential benefits and challenges of sector coupling?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

BDEW welcomes the dedicated measures to capture the impact of sector coupling. This constitutes a considerable improvement compared to the previous scenario report.

16. ENTSO-E and ENTSOG scenarios use external data on **LULUCF (Land Use, Land Use Change, and Forestry)** to provide input to the scenarios on carbon sinks. The scenarios also consider the development of net negative emission technologies. Do you agree that including external LULUCF and net-negative emission technologies within the scenario is appropriate?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

17. Based on feedback from the TYNDP 2022 Storyline Report, ENTSO-E and ENTSOG's scenarios consider different levels of **deployment of Carbon Capture and Sequestration (CCS) for pre- and post-combustive processes.** Do you agree that the CCS assumptions in the different scenarios sufficiently capture the storylines?

O Yes

X Neutral

O No

If no, please comment why.

Comment:

18. The Distributed Energy and Global Ambition scenarios consider **different technology pathways to decarbonisation.** The Distributed Energy is a scenario focusing on higher RES development and aiming at EU energy autonomy. The Global Ambition scenario focuses on the development of a global clean energy economy with low-carbon technologies and large-scale RES

development. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

The two top-down scenarios are consistent with the respective assumptions made in the Storyline Report. The scenarios can be considered as two extremes, both of which are unlikely to be realised in all details. Comparing the two scenarios BDEW expects the „Global Ambition“ scenario as more realistic.

Part 6: Demand & Supply Ranges

19. Biomass: As outlined in the Storyline Report in April 2021, the biomass assumptions for the Distributed Energy and Global Ambition scenarios were based on the EC Impact Assessment scenarios. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

O Yes

O Neutral

X No

If no, please comment why.

Comment:

Both scenarios foresee a strongly increasing biomass supply (see chapter 4.2.2 of the draft scenario report), with the DE scenario achieving around 10 per cent higher values than the GA scenario. In both scenarios, the increase in biomass used for biomethane production represents the major driving force of this development.

The scenarios are in line with the respective assumptions made in the Storyline Report. Yet, the level of biomass production appears very ambitious, notably in the DE scenario. Besides, the differentiation between the fields of utilisation of biomass (figure 18 in chapter 4.2.2) is not clear: How to distinguish use for biomethane from use for electricity since

electricity is also produced from biomethane? And what is meant by “direct use” of biomass? BDEW asks for more explanation on these aspects.

20. BEV and FCEV: The Storyline Report outlined ranges for the development of **battery electric vehicles** and **fuel cell electric vehicles** based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

The scenarios are in line with the respective assumptions made in the Storyline Report. In view of the current uptake of electric vehicle deployment across Europe the figures foreseen for 2030 appear achievable. It is difficult to evaluate the 2050 EV figures as well as the figures for fuel cell electrical vehicles for 2030 and 2050.

21. Heat Pumps: The Storyline Report defined ranges for the share of electric and hybrid heat pumps in 2030 and 2050 based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

O Yes

X Neutral

O No

If no, please comment why.

Comment:

In the draft scenario report it remains unclear which numbers of heat pumps (electric heat pumps and hybrid heat pumps) have been foreseen in the two scenarios.

22. District Heating: The Storyline Report defined ranges for the share of district heating in 2030 and 2050 based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

O Yes

O Neutral

X No

If no, please comment why.

Comment:

The minimum share value of 15 % for district heating is too low. Germany has currently a share of destrict heating in the amount of 14 % at the residential buildings sector. This share needs to be increased by 2030 / 2050 to reach the climat targets. A realistic range for 2050 is between 25 and 35 %.

23. Wind Energy: The Storyline Report defined ranges for the share of wind energy in 2030 and 2050 based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

O Yes

X Neutral

O No

If no, please comment why.

Comment:

After incorporating the feedback from stakeholder consultation, the ranges for installed wind onshore capacities in 2030 and 2050 narrowed considerably compared to the draft storyline ranges. The resulting ranges seem realistic.

Yet, it is difficult to assess whether they are in line with the assumptions made in the Storyline Report.

24. Solar/PV: The Storyline Report defined ranges for the share of solar/PV energy in 2030 and 2050 based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

O Yes

X Neutral

O No

If no, please comment why.

Comment:

After incorporating the feedback from stakeholder consultation, the ranges for installed Solar/PV capacities in 2030 and 2050 narrowed considerably compared to the draft story-line ranges. The resulting ranges seem more realistic but may be somewhat too low, taking into account current studies e. g. for Germany.

25. Nuclear: The Storyline Report defined ranges for the share of nuclear in 2030 and 2050 based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report ?

O Yes

X Neutral

O No

If no, please comment why.

Comment:

Germany will fade out its energy production from nuclear power plants by end 2022. The further development in other European countries will depend on policital decisions which are difficult to foresee. In particular, this includes whether taxonomy assumes nuclear as being sustainable.

26. Energy Imports: The Storyline Report defined ranges for the share of energy imports in 2030 and 2050 based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

The DE Scenario shows a decrease of imports of gases. This is a likely development in absolute terms, as the share of gas in the energy systems will be less compared to today's volumes.

In the GA scenario, with a more diverse supply mix, gas demand is higher than in DE scenario. It is said that with lower uptake of electrolysis within Europe the path to achieve large scale decarbonization entails a more import-oriented vision. From BDEW's point of view it is not necessarily the low uptake of electrolysis that makes import of renewable / decarbonized gases necessary, but the simple amount of volumes of renewable / decarbonized gases that is needed in the sectors which are natural gas supplied today.

BDEW wonders why conventional oil would be imported in 2050 (figure 14 in the Final Storyline report).

27. Hydrogen: The Storyline Report gave an outlook of hydrogen sources available for each scenario. Do you agree that the hydrogen supply in these scenarios is consistent with the assumptions made in the Storyline Report?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

BDEW agrees that while there can be no doubt about the overall future role of hydrogen in a new integrated energy system it is extremely difficult to quantify concrete demand.

BDEW supports the approach of the GA scenario in which hydrogen comes from a wider range of renewable and low-carbon sources being European as well as imports. As a result, it will be used in a wider range of sectors better mitigating the challenge of deep electrification.

28. Electrolysis: The Storyline Report defined ranges for the level of electrolysis capacity in 2030 and 2050 based on stakeholder consultation feedback. Do you agree that these scenarios are consistent with the assumptions made in the Storyline Report?

X Yes

O Neutral

O No

If no, please comment why.

Comment:

Part 7: TYNDP 2022 Scenario Improvements

29. ENTSO-E and ENTSOG have made several improvements to methodologies in relation to **prosumer** and **vehicle-to-grid modeling**. Do these improvements reflect your expectations?

O Yes

O Neutral

O No

If no, please comment why.

Comment:

30. ENTSO-E and ENTSOG have made several improvements to **methodologies in relation power-to-gas configurations.** Do these configurations reflect your expectations about the future operation of these units?

O Yes

O Neutral

O No

If no, please comment why.

Comment:

Part 8: Further use of scenarios

31. As a stakeholder, **do you intend to use our scenarios,** or do you see **opportunities for further use** of these outside the TYNDPs?

O Yes

O Neutral

X No

If no, please comment why.

Comment:

We would use the scenarios as a reference and would use more localized / state allocated scenarios to simulate the impact for us.

32. If you have **any further comments** on the scenarios, please state them here.

Comment: