



Fact Sheet

Berlin, 16 April 2014

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THE GRID DEVELOPMENT PLAN 2014 CONTENTS, CONSULTATION, FACTORS INFLUENCING THE GRID DEVELOPMENT AND NEXT STEPS

The Grid Development Plan 2014

The Grid Development Plan 2014 (GDP) is based on the scenario framework approved on 30 August 2014. The key issues being discussed with regard to reforming the German Renewable Energy Act (*Erneuerbare-Energien-Gesetz* or *EEG*) had not been raised when the scenarios were being developed. Due to the planned modifications of the goals for energy policy, it no longer seems advisable to designate a “lead scenario” as was done in the GDP 2013. The projected expansion path of 40 – 45% set out by the EEG (according to the coalition agreement and key issues paper) lies roughly between Scenarios A 2024 and B 2024. For this reason, the GDP 2014 looks at Scenario A 2024 in more detail and conclusions about the demand for grid expansion are to be drawn whilst also taking Scenario B 2024 into account.

Content of the Grid Development Plan 2014

The Grid Development Plan 2014 describes the road towards an efficient transmission network for both 2024 and 2034 respectively. The network resulting from the three Scenarios A 2024, B 2024 and C 2024 confirms the grid expansion measures covered in the Federal Requirement Plan as well as the measures approved in the GDP 2013. The current Federal Requirement Plan thus continues to be a solid foundation for the grid expansion required in the future. In comparison with Scenario B 2024, Scenario A 2024 presents the development of renewable energy sources spread out over a longer period of time. The AC grid expansion measures outlined in Scenario A 2023 of the GDP 2013 are also largely necessary in Scenario A 2024. In comparison with the resultant networks of the other scenarios, it is clear that here the need for expansion measures in the long-term does not diminish in any way, but is simply stretched out over a longer period of time.

In all scenarios a starting grid that is simply expanded according to the measures included in the Federal Requirements Plan will not suffice to cover the levels of transmission demand. All four direct current corridors are still required to handle long-distance north-south transmission demands in all three scenarios.

In view of the changes currently being discussed to the Renewable Energy Act, the transmission system operators do not recommend the approval of a target grid whose structure is free from congestion, but rather simply propose the approval of the three regional projects that are directly related to essential, already-approved measures in addition to the measures of the Federal Requirement Plan and the approved measures from the GDP 2013.





The GDP does not detail any specific routes for new transmission lines, but rather documents the levels of transmission demand required between grid nodes and contains specific recommendations for the expansion and construction of the overland transmission network in Germany. The transmission system operators (TSO) follow the so-called NOVA principle (NOVA is a German acronym for the optimisation, enhancement and expansion of the grid [*Netzo*ptimierung, -*verstärkung* und -*ausbau*]). According to this principle, grid optimisation and enhancement have priority over the expansion of the grid.) to determine which measures are necessary.

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In Scenario A 2024, the volume of grid enhancements along existing routes (recabling or circuit requirements, construction of a more efficient power line along existing routes) amounts to 5,300 km. In Scenario A 2024, the required level of expansion is calculated at 3,500 km, 2,000 km of which are HVDC corridors. This also includes the German share in the three direct current interconnectors between Germany and Belgium, Denmark and Norway with an overland length of approximately 200 km. The transmission capacity of the HVDC corridors totals ten gigawatts. Depending on the scenario, the total level of investment over the next ten years sums up to between 21 and 26 billion euro.

Grid Development Plan 2014 Public Consultation

Together with the first draft of the Offshore Grid Development Plan (O-GDP), the first draft of the Power Grid Development Plan 2014 is available for public consultation between 16 April and 28 May 2014. During this period, all interested parties have the opportunity to submit written responses to both Grid Development Plans. The transmission system operators invite everyone to take part in the consultation process and look forward to plenty of active participation. Responses can be submitted using the online consultation portal at www.netzentwicklungsplan.de, by e-mail to konsultation@netzentwicklungsplan.de or by post to the following address: Netzentwicklungsplan Strom, Postfach 10 05 72, 10565 Berlin. At the end of the consultation process, all objective responses for which publication consent has been given, will be successively published online at www.netzentwicklungsplan.de.

Next steps – continuing along the road to grid expansion

All responses received will be carefully reviewed by the transmission system operators. The GDP will then be revised based on these responses. The second draft of the GDP will include a summary, explaining how the responses have influenced the draft. This will be published in summer 2014 and delivered to the Federal Network Agency (*Bundesnetzagentur*). The Agency checks through the revised draft and once again makes it available for public consultation together with an environmental report. The Federal Network Agency takes the results of the participation by the public and authorities into consideration when approving the Grid Development Plan.

At least every three years, the approved GDP is used as a foundation for creating the draft of the Federal Requirement Plan. The Federal Requirement Plan Law (*Bundesbedarfsplangesetz* or *BBPIG*) was enacted by the lower house of the German Federal Parliament (*Bundestag*) on 25 April 2013 and was approved by the Parliament's upper house (*Bundesrat*) on 07 June 2013. The first Federal Requirement Plan contains a total of 36 proposals based on the results of the ap-





proved GDP 2012. These include pilot projects for high voltage direct current transmission lines for long-distance transmission as well as a total of 21 transmission lines that cross state or national borders. The Federal Network Agency is responsible for the approval (federal sectoral planning and planning permission) of transnational or cross-border transmission lines¹.

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Report on factors influencing grid development 2014

The German Federal Network Agency asked the transmission system operators to investigate the impact of two factors influencing the grid development on the measures included in Scenario A 2024 of the Grid Development Plan 2014. These factors (*Sensitivitaeten*) are as follows:

- offshore capping (factor 1)
- injection management (factor 2)

They also provide additional advice about how changes to certain political conditions could affect the network development. Thus, the TSOs make a significant contribution to the current debate on EEG reform.

Alongside the Grid Development Plan 2014, the transmission system operators also published the report on factors influencing grid development 2014 on 16 April 2014 online at www.netzentwicklungsplan.de. Furthermore, the transmission system operators are also investigating a third factor, the results of this are expected to be published at the end of June. They are looking at the effects of a significantly higher price for CO₂ emissions certificates, based on Scenario A 2024.

Results of analysing factors which influence grid development

Factor 2 was calculated based on Factor 1. However, these factors cannot be seen as any more than additional indicators and do not allow for the investigation of a new, to-be-confirmed target grid in terms of the Grid Development Plan as only the effect of varying two parameters with regard to Scenario A 2024 was investigated. Certain measures could not be identified under the assumed conditions. However, this does not mean that these measures can be permanently dispensed with. Demand would only be postponed due to the continuing progress in the development of renewable energy sources. All HVDC corridors can be satisfactorily detected under the constraints of these factors.

Invitation to comment on the factors influencing the grid development

Interested members of the public have the opportunity to submit written comments to the factors influencing the grid development between 16 April and 15 July 2014. Comments can be submitted using the online consultation portal at www.netzentwicklungsplan.de, by e-mail to sensitivitaeten@netzentwicklungsplan.de or by post to the following address: Netzentwicklungsplan Strom, Stichwort "Sensitivitaeten", Postfach 10 05 72, 10565 Berlin. The transmission system operators will then review all comments they receive. However, unlike the procedure for the Grid Development Plan, these will not lead to a revised draft of the report on factors influencing the grid development.

¹Exceptions to this are international projects for the construction of power lines that have been labelled as "Pilot project for the low-loss transmission of high voltages over long distances" in the BBPIG.





Instead, the transmission system operators will present and discuss the results of the public consultation at a subsequent dialogue event. All objective comments for which publication consent has been given, will be successively published online at www.netzentwicklungsplan.de.

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Legal Basis

The four transmission system operators 50Hertz, Amprion, TenneT and TransnetBW share the task of drawing up a Power Grid Development Plan, as regulated by the Energy Industry Act, for the expansion of the German transmission network over the next ten years. This is to be prepared every year and submitted to the Federal Network Agency who are the regulatory authority responsible. Prior to the preparation of the GDP, a so-called scenario framework is created, which uses three scenarios to describe the range of possible developments in energy consumption and generation as well as the regional distribution of these; this forms both the foundation for the GDP and the targets of the German government.

