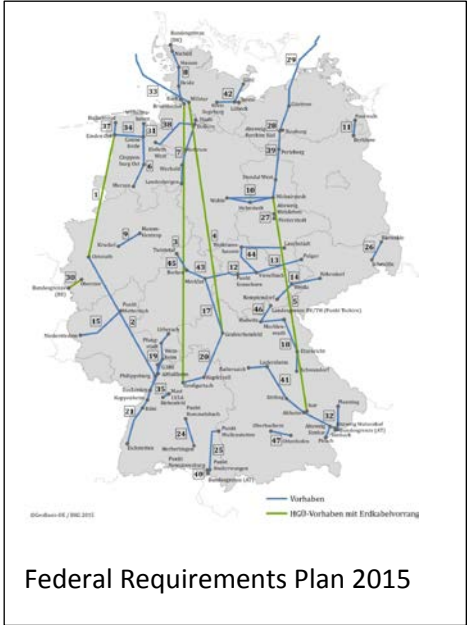


CASE STUDY FACT SHEET

21.12.2017

German Federal Requirements Plan 2015 for the Energy Transmission Grid

|                               |  |
|-------------------------------|--|
| <b>SECTOR:</b>                | Energy   |
| <b>PARTY OF ORIGIN:</b>       | Germany  |
| <b>AFFECTED PARTIES:</b>      | Austria, Belgium, Czech Republic, Denmark, France, Great Britain, Luxembourg, the Netherlands, Norway, Poland, Sweden, Switzerland                         |
| <b>SETTING FRAMEWORK FOR:</b> | Construction of overhead electric power lines with a voltage of 220 kilovolts or more and a length of 15 kilometers or more (Annex 2 No 8 of SEA Protocol) |
| <b>COMPETENT AUTHORITY</b>    | Federal Network Agency   |
| <b>TO BE ADOPTED BY</b>       | German Government/German Parliament  |



1. BACKGROUND

**Goal and content of the plan:** The Federal Requirements Plan (FRP) determines the need for those electrical power line projects on the ultrahigh voltage level, which are needed for a safe and reliable functioning of energy supply in Germany. The FRP (annex to the Federal Requirements Plan Act) has to be updated regularly. The current version of the FRP of 2015 lists 43 projects (mainly overhead power lines, few underground cables) (see Annex, Figure 2).

**Planning Procedure:** As base for updating the FRP Act, the Federal Network Agency transmits at least every 4 years a Network Development Plan (NDP) to the German Government. This plan features all new projects or amendments to existing projects (optimization, expansion and reinforcement) likely to be needed over the next ten to fifteen years offshore and onshore (North Sea, Baltic Sea). Within the development of the NDP the Federal Network Agency carries out a Strategic Environmental Assessment (SEA).

As a first step within this process the four German grid operators\* have to develop a NDP

\*The grid operators are private enterprises who own and operate the electricity grid. The energy prices for consumers – however – will be determined by the Federal Network Agency on the base, e.g. of the investment and maintenance costs.

every two years on the base of scenarios on their view on future frame conditions and related energy production and demand (scenarios to be approved by the Federal Network Agency). The Federal Network Agency examines the NDP and stipulates the results of its examination (i.e. their opinion on the need of each project) in a separate approval document. According to the experience up to now the approval documents concluded in most cases that some of the projects proposed in the NDP are not needed and may thus not be confirmed. Alongside the Agency compiles the environmental report for the NDP. The Agency carries out the further SEA steps (consultation according to Article 8 to 10) on the base of the NDP, the Agency's approval document and the environmental report. After the consultation the Agency updates their approval document on the need of projects taking into account the comments of the public, environmental authorities and other member states. Alongside the Agency updates the environmental report, which is then reduced to the impacts of those projects, for which a need is stated in the updated approval document.

At least every 4 years the Agency submits the NDP, the updated approval document and the respectively updated environmental report to the Government as base for their consideration whether an updating of the respective Federal Requirements Plan Act is needed. Only for projects that are included in this act the Agency is entitled to carry out further procedures in order to issue a development consent.

The establishment of law on energy planning in Germany starting in 2011, was the consequence of requirements of EU Law and the decisions of the German Parliament to deactivate all nuclear power plants (mainly as a result of the Fukushima disaster) and to strongly support renewable energies (e.g. offshore wind farms which cause a high need for electricity transportation throughout Germany). The Federal Requirements Plan Act of 2013 thus performed the first national plan of this kind. It was updated in 2015 on the base of the NDP of 2015 and the updated approval document of the Federal Network Agency.

## **2. SEA PROCEDURE (in accordance with SEA Protocol, quoted below)**

### **Article 3: General provisions**

Relevant law and administrative orders

- German Energy Act (EnWG)
- Federal Requirements Plan Act (BBPlG)
- Grid Expansion Acceleration Act (NABEG)
- German Act on Environmental Impact Assessment (UVPG)\*
- Directive 2001/42/EC on the assessment of the effects of certain plans and programs on the environment (SEA Directive)
- UNECE "Protocol on the Strategic Environmental Assessment" (SEA Protocol)

\*the act regulates EIA and SEA

#### **Article 4: Field of application**

It was mandatory to carry out the SEA for the Federal Requirements Plan (listed under no 1.10 “Federal Requirements Plan according to § 12e of the German Energy Act”, in the annex of the German EIA Act, which lists plans/programs with mandatory SEA).

#### **Article 5: Screening**

As the SEA was mandatory, a screening procedure was not required.

#### **Article 6: Scoping**

The Federal Network Agency carried out the SEA for the NDP 2015 on the base of the approach for the SEA, which was carried out in 2012 for the first NDP of July 2013.

The methodology and scope for the first SEA had been developed since 2011 in a transparent process with the participation of environmental and health authorities such as the German Ministry of Economy and the German Ministry of Environment, the German Environment Authority, German Nature Protection Agency, and the respective authorities of the 16 German States (Länder). Within this process, the non-governmental organizations had the possibility to join meetings and to give their opinion on drafts. In addition, a consulting office was commissioned for external advice. In February 2012 a formal scoping conference took place, where authorities and interested public was invited to discuss the approach for the environmental report. The basis for the discussion was the “Proposal for the scope of the SEA for the Network Development Plan for the ultrahigh-voltage Grid” (18 pages). The Federal Network Agency invited more than 200 authorities, environmental organizations and other stakeholders to participate in this early stage of the SEA procedure and to give comments on the proposal. The public was informed through a press release and on the website [www.netzausbau.de](http://www.netzausbau.de). More than 110 participants joined the meeting. Furthermore written comments were brought into the scope of the first SEA.

As the draft scope for the NDP of 2015 was quite similar to those of the first SEA, the formal scoping for the SEA was reduced to a written format. The Federal Network Agency has sent the draft of the scope to authorities and environmental organizations by e-mail and asked for comments within a period of 5 weeks (from 23.04.2014 until 28.05.2014). Additionally, the draft of the scope was published on the Agency’s website, to invite everyone interested to comment on the draft scope as well. The final scope was published on the website afterwards.

#### **Article 7: Environmental Report**

The environmental report (September 2015, 460 pages excl. annexes) for the NDP 2015 had been developed on the basis of the scoping document of 2014.

As on the level of the Federal Requirements Plan the later routing is quite open, potential effects on neighbour states, i.e. a reliable assessment of significant adverse transboundary impacts of a project, are hardly to be done due to the broad range of possible routes (see chapter 3). In Germany and due to the specific features of the NDP such an assessment is only reasonable on the second planning level, where the corridor for a project is determined more exactly.

The environmental report was later amended according to the outcome of the participation of the public, environmental and health authorities and transboundary consultation according Articles 8 to 10.

Hierarchic Planning: The NDP forms part of a hierarchy (see also Annex, Figure 1): On this first planning level only the start- and endpoints of all projects (i.e. the power lines) are determined. Due to the specific frame conditions and the features of the power lines (e.g. high length), the potential environmental impacts can only be considered very roughly in the SEA (see further explanation in chapter 3).

In the second step – the corridor finding procedure (Federal Sectoral Planning, Bundesfachplanung), to be carried out for each project - a decision is taken on the corridor of the power line. This procedure goes along with a second SEA. The grid operator (in its role as proponent of the project) – who is responsible for the part of Germany where the project will be located - specifies the project (i.e. the corridor and possible alternatives) and proposes a 500-1000 m corridor and alternatives for the corridor. On this more detailed level and due to the limited area to be investigated (in comparison to the first step of the NDP) the potential environmental impacts can also be specified in more detail.

The third and last step – the planning approval (which is comparable to the development consent of the SEA protocol) for the project - entitles the grid operator to start the realization of the project and ends with the determination of the exact route of the power line and the frame conditions for the realization. During this procedure an environmental impact assessment (EIA) is carried out.

For projects which are spanning two or more of the federal states (Länder) or which cross national borders the Federal Network Agency is the competent authority for the Federal Sectoral Planning and planning approval procedure.

### ***Alternatives***

In the SEA for the NDP 2015 the Federal Network Agency examined the likely impacts of alternative energy supply and demand concepts (scenarios) and different technical designs.

From the scenarios, presented in the NDP, and the respective need of power lines the Federal Network Agency has chosen two scenarios - a more conservative one and a more ambitious one regarding the expansion of renewables - for an alternative assessment. The alternative assessment of a whole network includes about 70 individual projects.

For 15 out of these 70 projects, alternative start and endpoints were also examined. Since no exact routes have been determined at this level of planning, the result is a rather broad forecast of effects.

It was also examined which alternative grid network would be necessary if two parameters in the network calculations were different, not as a formal alternative, but with a view to the altered environmental effects: These parameters are a reduced feed-in of electricity from offshore wind farms and a temporary reduction in the production of electricity from certain installations.

## **Article 8: Public participation**

The Federal Network Agency consulted the general public on the NDP, the Agency's approval document and the environmental report, i.e. everybody interested could participate in the consultation (not only the potentially affected public).

The consultation was announced in the internet at [www.netzausbau.de](http://www.netzausbau.de). The documents were accessible via internet and in print at the main office of the Federal Network Agency in Bonn for a period of 6 weeks. The public could react to the documents within a period of 8 weeks in total (minimum time frame according to German EIA Act: 1 month).

Non-governmental organization whose activities - as described in their statutes - were affected by the Network Development Plan including associations which promote environmental protection, were asked actively (by E-Mail) to send their comments to the documents.

Beforehand, the Federal Network Agency informed by public notes (inter alia by official announcement in the federal bulletin and press release), the newsletter and electronic media, where the documents were displayed and information on the modalities of participation was provided.

Comments could be sent in a written form, by letter or e-mail, within the consultation period to the Federal Network Agency.

As the documents were rather broad and detailed (NDP Onshore: approx. 450 pages, NDP Offshore: 175 pages, approval document of the NDP Onshore: 443 pages/ Offshore: 63 pages, environmental report: approx. 1070 pages), the Federal Network Agency provided the public with a more comprehensive summary pointing out the different steps of examination of the Network Development Plan, the methodology of the environmental report and the outcome of both. During the consultation period, the Federal Network Agency carried out several public information events in different cities of Germany to explain and inform about the process, the outcome of the examination and the methodology.

The public display of documents as well as the general participation period for the first NDP of 2013 lasted from 06.09.2012 to 02.11.2012. As a result, the Federal Network Agency received about 3.300 comments which were considered.

The participation for the NDP of 2015, took place from 27.02.2015 to 15.05.2015 (extended period because of the Easter vacation). The amount of comments during that process rose to more than 34.000.

*Transboundary participation of public: See under Article 10.*

## **Article 9: Consultation with environmental and health authorities**

The Federal Network Agency consulted relevant German ministries and authorities at federal and state (Länder) level, including those with responsibility on environmental and health issues, on the NDP, the approval document and the environmental report.

Regarding the NDP of 2015 comments could likewise be sent in written form within the same period as the public (minimum time frame according to German EIA Act: 4 weeks) to the Federal Network Agency, namely from 27.02.2015 to 15.05.2015.

Additionally, a series of roundtables or workshops with stakeholders throughout the year are carried out to take further input and considerations into account.

*Transboundary participation: See under Article 10.*

#### **Article 10. Transboundary consultations**

Early information: Just before the start of the participation of the public and of the German environmental and health authorities on the NDP of 2013 (September to November 2012) and those of 2015 (February to March 2015) the Federal Network Agency informed the Espoo point of contacts (POC) of all neighbouring states (Austria, Belgium, Czech Republic, Denmark, France, Great Britain, Luxembourg, Norway, The Netherlands, Poland, Sweden, Switzerland) on the content of the NDP and of the environmental report and the SEA procedure. As the NDP 2013 was the first plan of this kind, the Federal Network Agency informed all points of contact in August 2012 on the hierarchy of the grid planning in Germany according to the new energy laws (NDP, corridor finding procedure, planning approval on projects level) and the possibility to participate in all levels of procedure.

The early information on the NDP 2013 and NDP 2015 was sent by e-mail in English, German and for Poland in Polish language. Further attached were a list of the projects in the border regions, an excerpt of the NDP and of the environmental report (approx. 20 pages) and an English brochure about grid planning in Germany. This was meant to give likely affected Parties an early possibility to get acquainted with the contents of the NDP and make up their mind whether they consider one or more projects as relevant. This was done in the sense of a precautionary principle, as a rough appraisal by the Federal Network Agency showed that significant transboundary impacts of the NDP measures are not likely to occur. The Federal Network Agency thus invited these Parties to express their interest to be notified officially.

All Parties renounced both times to be notified on the NDP (but showed their interest in being notified on the next planning level – the routing procedure) and therefore no further transboundary SEA steps took place for the NDP 2013 and 2015.

The first project that might lead to formal transboundary consultations is the so-called A-Nord, a DC connection from Emden (East) to Osterath. The Federal Sectoral Planning (including an SEA) is expected to start in the beginning of 2018. Currently, the TSO regularly inform the authorities in the affected region about the status of the planning and the different options for the corridors. As it is likely that one of the corridor alternatives will get close to the Dutch border, the Federal Network Agency already informed the Dutch authorities (Espoo-Contact, Dutch-German Spatial Planning Commission, ministries and provinces along the German border) about the project.

#### **Article 11: Decision**

The first Federal Requirements Plan Act was adopted in July 2013. It was updated in 2015 on the base of the NDP of 2015 and the updated approval document of the Federal Network Agency, which

points out for which projects a need is stated, taking into account the outcome of the participation process and the environmental report respectively.

In September 2015 the documents were made publicly available on the website [www.netzausbau.de](http://www.netzausbau.de) jointly with a Summarized Statement pointing out how the opinions of the participation process have been taken into account, which measures of the Network Development Plan were confirmed and how the environmental report had been adjusted.

The authorities, NGO's and stakeholders were informed individually and received the final documents in a digital or printed version, including the summary.

The following rules applied for the review of opinions:

- All opinions have been reviewed by the Federal Network Agency, distinguishing between matters that concern the need of the measures and matters that are related to the environmental impacts.
- Comments with identical contents that are submitted more than once have only been taken into account once.
- Given the high number of comments, they were not answered individually, but dealt with in a consolidated form in the summary of the consultation process, which had been published and made available on the Website.

The German government and parliament adopted the Federal Requirements Act taking into account the outcome of the SEA, including the environmental report and the results of the consultation.

### **Article 12 Monitoring**

The purpose of the monitoring measures is to identify at an early stage whether significant environmental impacts may arise from the implementation of the Federal Requirements Plan and to take measures that prevent and mitigate adverse environmental impacts. According to the high level of abstraction the monitoring of the Federal Requirements Plan is quite complex. This first SEA in the whole planning process is an early warning system to identify potential conflicts with justified safety concerns for human beings and the environment at the beginning of the process and, subsequently, to reduce them as much as possible or, preferably, avoid them entirely.

### **3. SEA METHODOLOGY**

The SEA focuses on examining where and to what extent environmental effects are to be expected and in what way they are regarded as likely significant. On the first planning level – the NDP -, only the start- and endpoints of power lines are determined. As several power lines stretches over long distances up to 600 kilometers, the area of possible alternative routes, to be considered at this level are rather broad (see Annex, Figure 2) and thus limit the detail of the assessment of likely impacts.

At this level for each power line the spatial conflicts of the area within an ellipse was determined (see Annex, Figure 3). The ellipse covers the whole area where a later route may be possible. It includes the start- und endpoint of a project and even goes about 5 km beyond these points.

Within the ellipses, the environmental features are shown using a set of criteria. In particular, existing areas of conservation such as natural conservation areas or Natura 2000 areas and human

settlements are taken as criteria. Three sensitivity categories are used to show how sensitively individual criteria will respond to the construction and working of the power lines. The categories are derived from the environment objectives and impact factors.

The assessment of the environmental effects itself has two phases. Firstly, it is determined whether the sub-area under assessment contains a space which is completely highly sensitive, both for each individual protected asset and then as a whole. In a further stage, the extent to which significant environmental effects are likely in the remaining area of the ellipse is shown. Combining these two assessments gives rise to an overall estimate of the likely significant environmental effects for each project. At the end of the environmental assessment, all the individual assessments were combined to provide an overall view on the environmental effects of the whole plan.



# Annex

Figure 1: Levels of Hierarchic Grid Planning in Germany

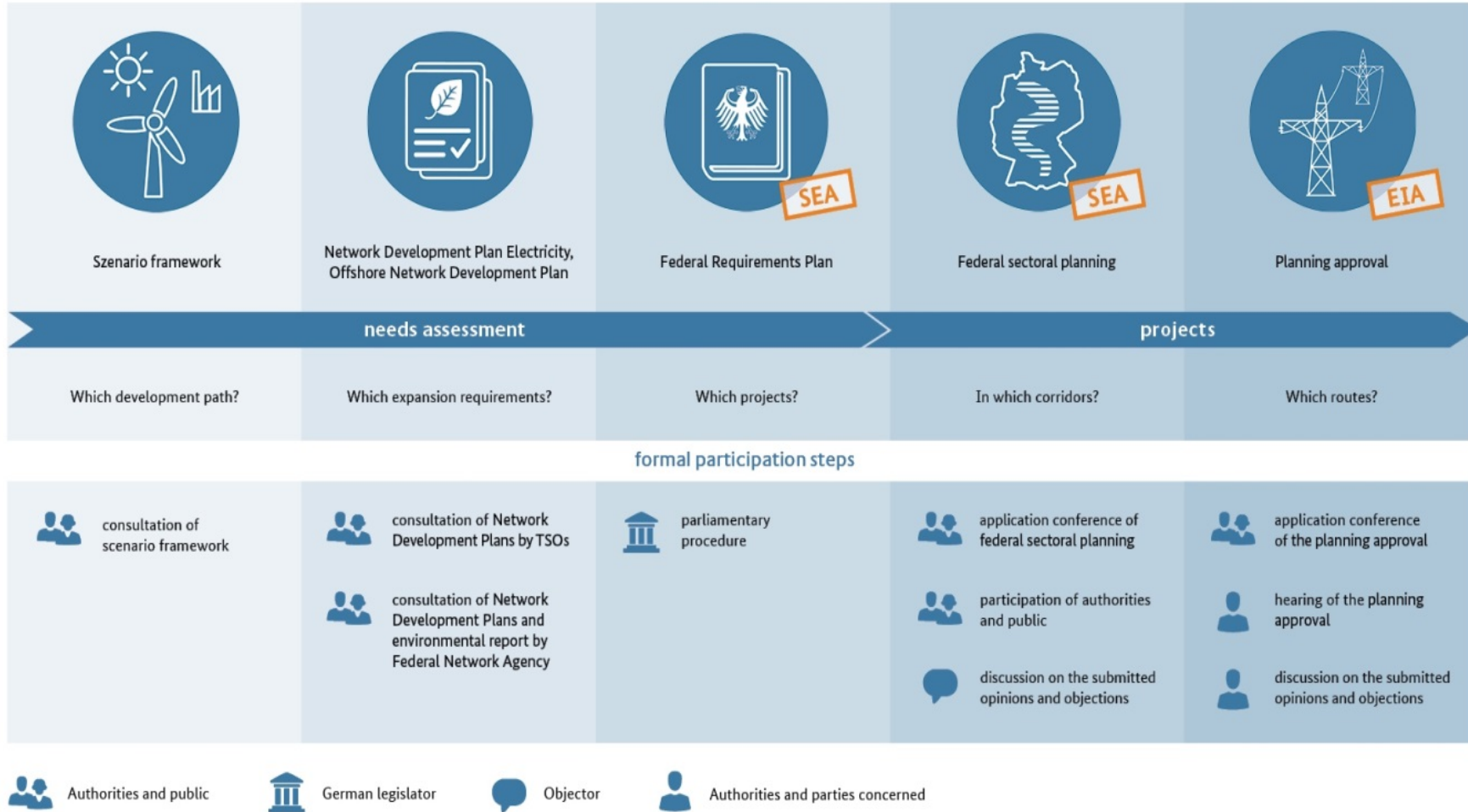


Figure 2: Federal Requirements Plan 2015

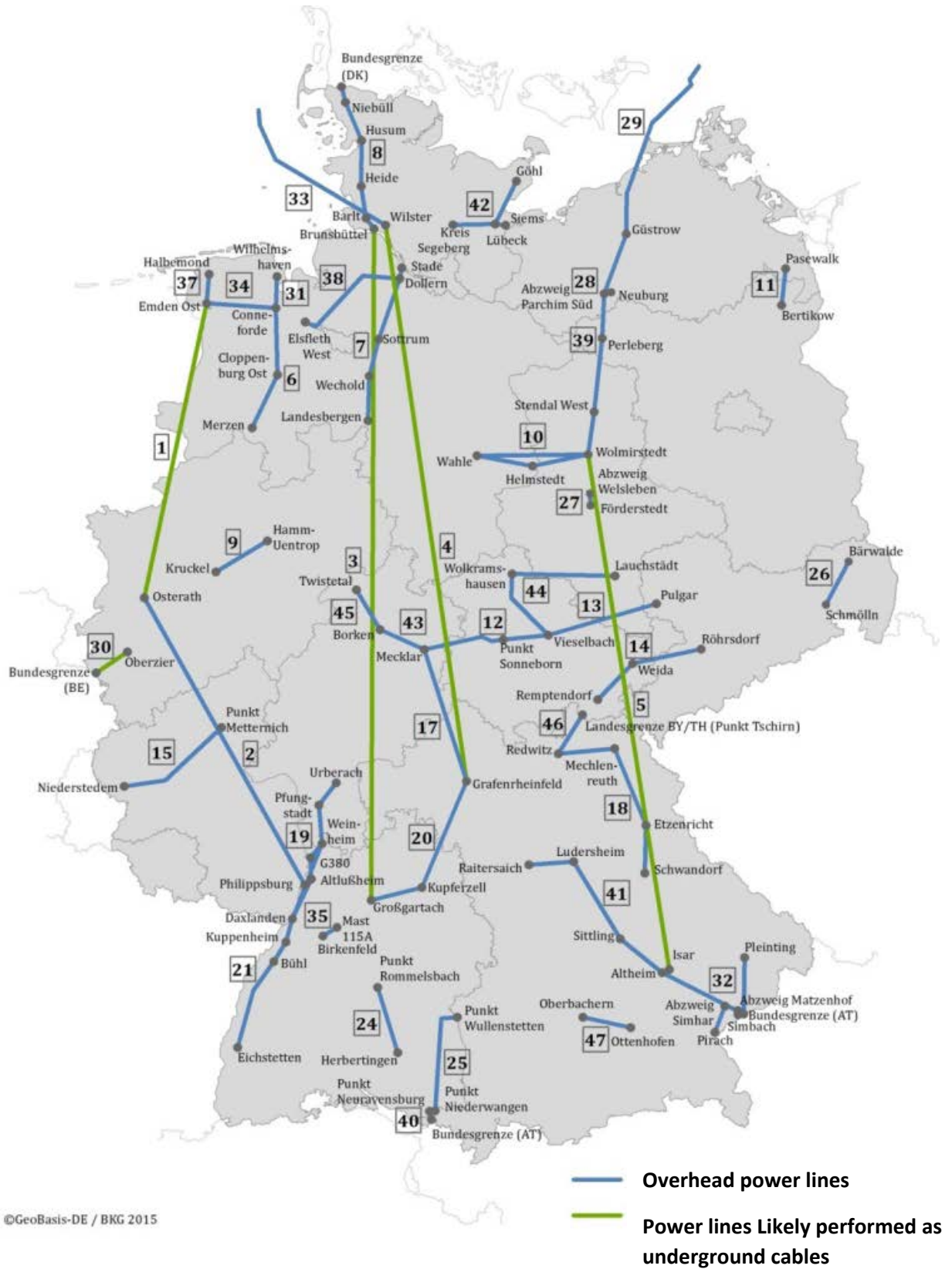


Figure 3: Ellipse – Area to be investigated in the SEA due to possible routing of a power line

