



#### Your benefits at a glance

- Cost savings through the development of a standard transformer substation for renewable energy projects
- Fast processing and delivery of components through framework agreements with well-known suppliers
- Execution period only approx. 24-26 months\*\* after clarified order receipt incl. approval planning
- Safety through compliance with all applicable regulations and guidelines - e.g. EN, DIN, VDE, AGI and BG
- The service provider Netze BW is certified according to VDN Guideline S1000, DIN EN ISO 14001 and NLF/ ILO-OSH 2001 in accordance with OHSAS 18001:2007
- Possibility of bundling several wind parks in a 110 kV feeding transformer substation as a cost-effective alternative to individual connections
- Regular inspection and maintenance of your transformer substation to minimize downtimes

## Your reliable partner in close proximity

Services for companies, municipalities, RE project developers and municipal utilities:

- Innovative services
- Customer proximity through our regional branches
- Individual and intelligent solutions
- Excellent service

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Our supplier Netze BW is certified as follows:



TSM (Technical Safety Management) according to VDE guidelines



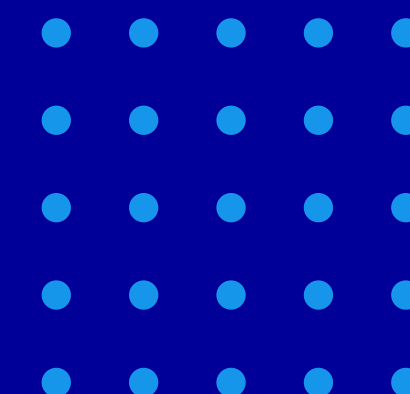
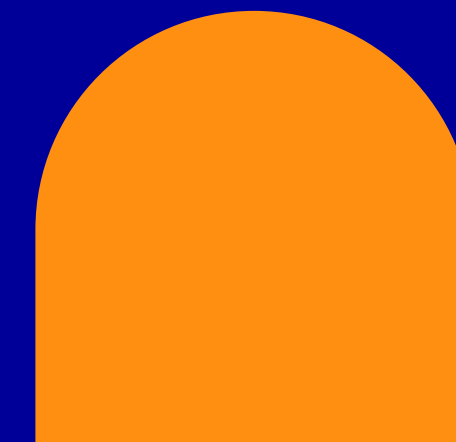
Occupational health and safety, environmental and energy management system



GHG Protocol

# Electricity grid services

110kV-PowerSystem: The transformer substation for wind parks, solar parks and truck loading hubs



\*\* This time specification refers only to the construction phase of the 110kV-PowerSystem. The connection to the regulated grid connection point is not included in this period and must be arranged and agreed upon with the local grid operator.

# Performance for a sustainable mobility and energy transition

Sustainable electricity production from wind power and solar energy is a successful model. It is advantageous to feed the generated energy directly into the 110 kV grid for units in the double-digit megawatt range and above. It is just as important to be able to draw energy from the 110 kV grid for large truck charging hubs, as well as for planned battery storage facilities. Netze BW's Services division provides you with the technology to do this safely, quickly and reliably – combined with a comprehensive service package that relieves you of a large number of complex tasks.



Our concept is customized and finely tuned to meet your requirements.

110kV-PowerSystem - this is the name of the standardized 110/30 or 110/20 kV transformer substation of the Netze BW service division to ensure a technically mature, economical direct feeding of wind and solar energy into the high-voltage grid as well as the extraction of energy for truck charging hubs and battery storage systems. To save you cost-intensive individual connections to the high-voltage grid, several wind and solar parks can also be bundled in a single transformer substation.

### Customized solutions for your requirements

The 110kV-PowerSystem is available as a modular system in various power classes (25/40/63 MVA).

The transformer substation is usually installed in the immediate vicinity of a 110 kV overhead cable. As your partner, we take care of all the necessary tasks\*: From planning and project management to construction and operational management.

\* The connection to the regulated grid connection point is not part of this service and must be ordered separately from the local grid operator.

Our specialists assume full responsibility of your transformer substation project

### Our service portfolio

#### Analysis and consulting

- On-site inspection of economic efficiency and technical feasibility in relation to the grid connection point specified by the local grid operator

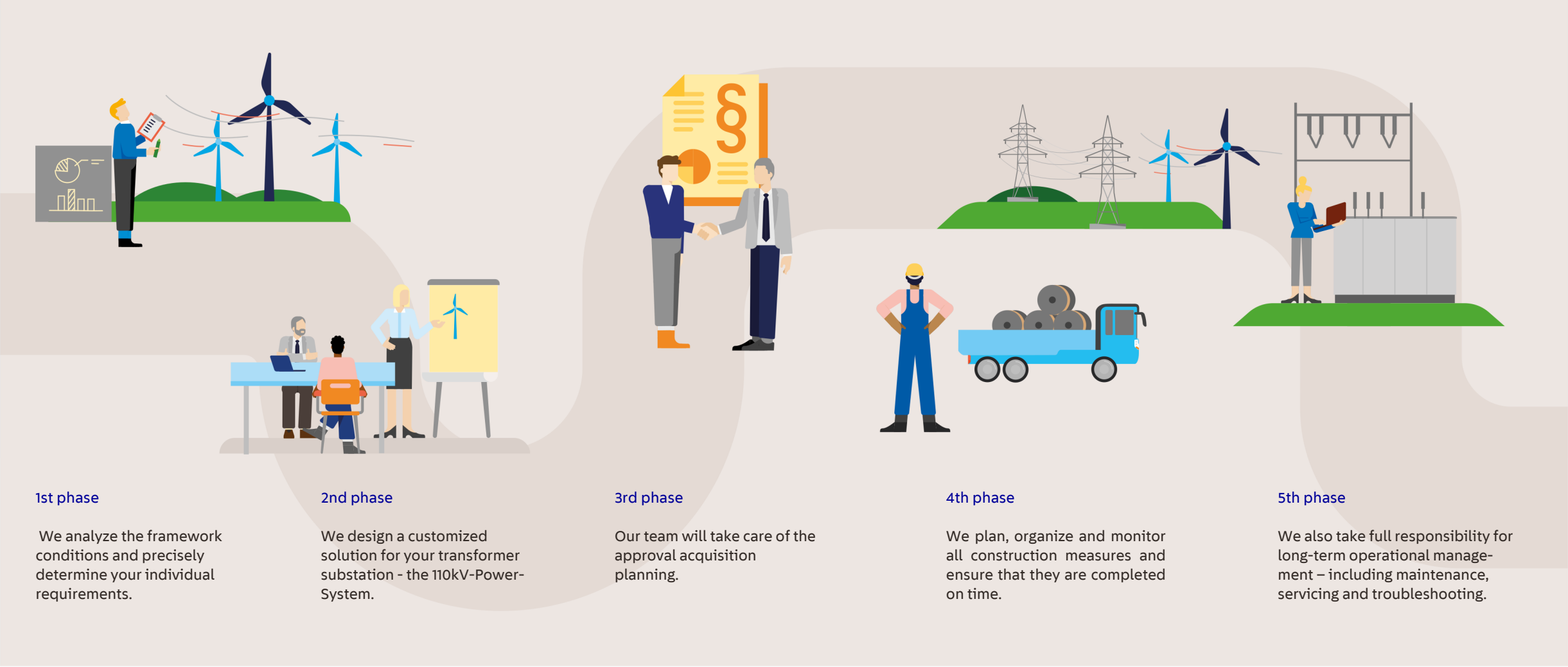
#### Planning and construction

- Realization of the transformer substation with a general contractor: approval planning, project planning and construction of a turnkey transformer substation
- Complete offer including all components – e.g. 110 kV switchgear, 110 kV transformer, medium-voltage system, operating building, protection technology, own requirements, control and communication equipment

- Planning and design of a compensation system to comply with the technical connection conditions
- Individually expandable number of parallel feeding panels
- Construction of the 110 kV switchgear on the basis of a performance specification specially developed for renewable energy projects
- Functional testing of the transformer substation in accordance with the "TAB Hochspannung" of the VDE and the Netze BW standards
- Start of operation

#### Operation

- Takeover of the system responsibility
- Initial recording of the entire system with documentation
- Operational management with fast troubleshooting service
- Maintenance, servicing, inspection, regular cleaning and care of the system
- Repair services
- Renewal of components to optimize performance



### Other services related to the 110kV-PowerSystem

- Procurement process for European countries, tendering, selection, negotiation, quality control, delivery and acceptance
- Assessment of the grid connection point (grid compatibility test)
- Testing the technical connection conditions
- Design and modeling of the wind and solar park grid



Our extensive experience cares for a safe long-term running of the substation

### Our references

- ZEAG Energie AG, Heilbronn: New 110 kV feeding transformer substation for the Harthäuser Wald wind park in Züttlingen
- WIRSOL Windpark Straubenhardt: Construction of 110 kV feeding transformer substation
- Reg.EN - regenerative energien - GmbH, Wangerland: Construction of 110 kV feeding transformer substation for the Niederstetten wind park
- W-I-N-D Energien GmbH, Kirchheim unter Teck: Construction of 110 kV feeding transformer substation for the Burgberg wind park

### Benefit from ...

- a comprehensive range of services
- Many years of experience in the construction and operation of transformer substations from our customers' projects
- highly specialized expertise
- 24-hour-service
- One contact for planning, project planning, construction and operational management of your 110kV-PowerSystem