



Regenerative Energie

Wind farm Bickenbach - Hausbay

WP Hausbay

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- Founded in 1997
- First wind farm taken in operation in 1999
- Development of nationwide first projects in forests in 2004
- Development of worldwide highest wind turbine in 2016



Development



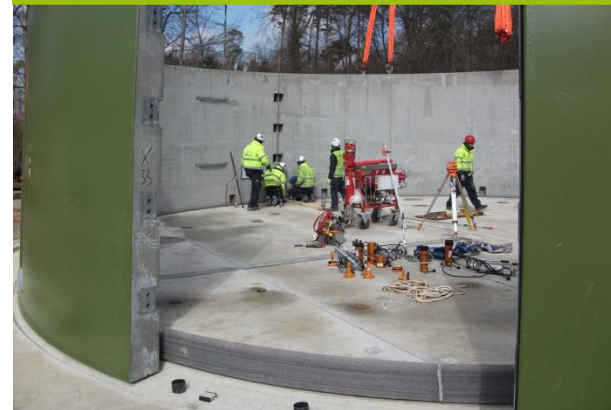
Construction



Operation & Maintenance



Repowering

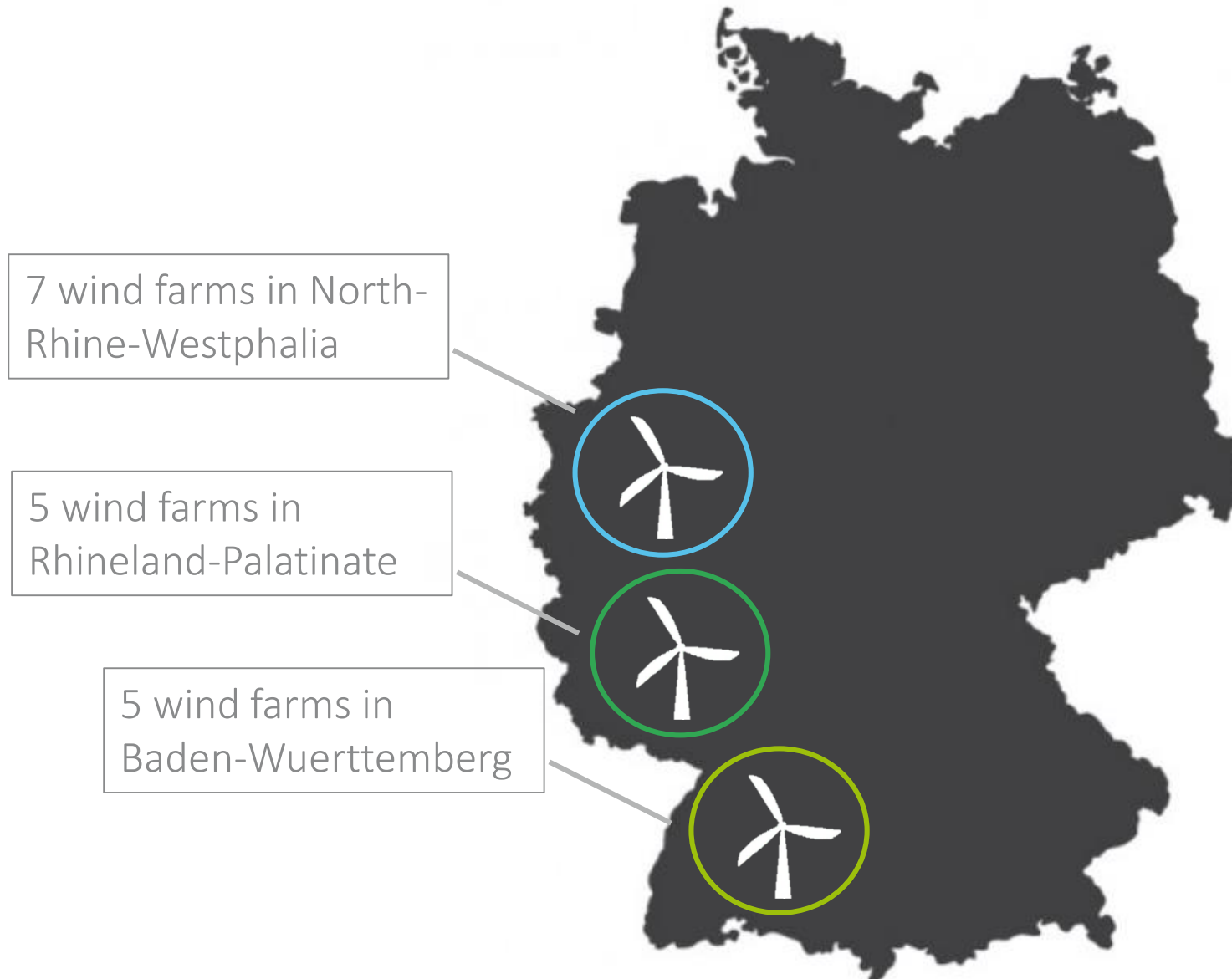


1 Acquisition of location

2 **Development:**
Feasibility study, Assessments (environmental impact, shadow and noise), forecasts, identification of risks, financial planning → Building permission

3 **Implementation & Renaturalization:**
Construction of transport routes for logistics, construction of foundation and wind turbine, initial operation, connection to grid, renaturalization

4 **Operational management:**
Monitoring of wind farm 24/7; technical and commercial services



Project Hausbay

- 4 wind power plants
- 1 Enercon E-115: hub height: 149m
- 3 Nordex N-131: hub height: 164m
rotor diameter: 131m



Project Hausbay

- Development over 5 years
- In operation since June 2016
- Worldwide highest wind turbine until October 2017



Project Hausbay

- Construction period of 6 month
- Steel and concrete hybrid tower
- Total height of 230 m
- The higher the better: better and more resistant wind layers



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K&S regenerative Energie GmbH & Co. KG



- Nominal power 3,3 MW
- Output 11-12 Mio. kWh
- Supply of 3000 four-person households
- Full-load hours 3500
- Start 3 m/s
- Stop 25 m/s

K&S

Next pilot project:

Windfarm Oberwesel:

- rotor diameter: 149 m
- nominal power: 4,5 MW

Technology

Next generation of wind power plants:

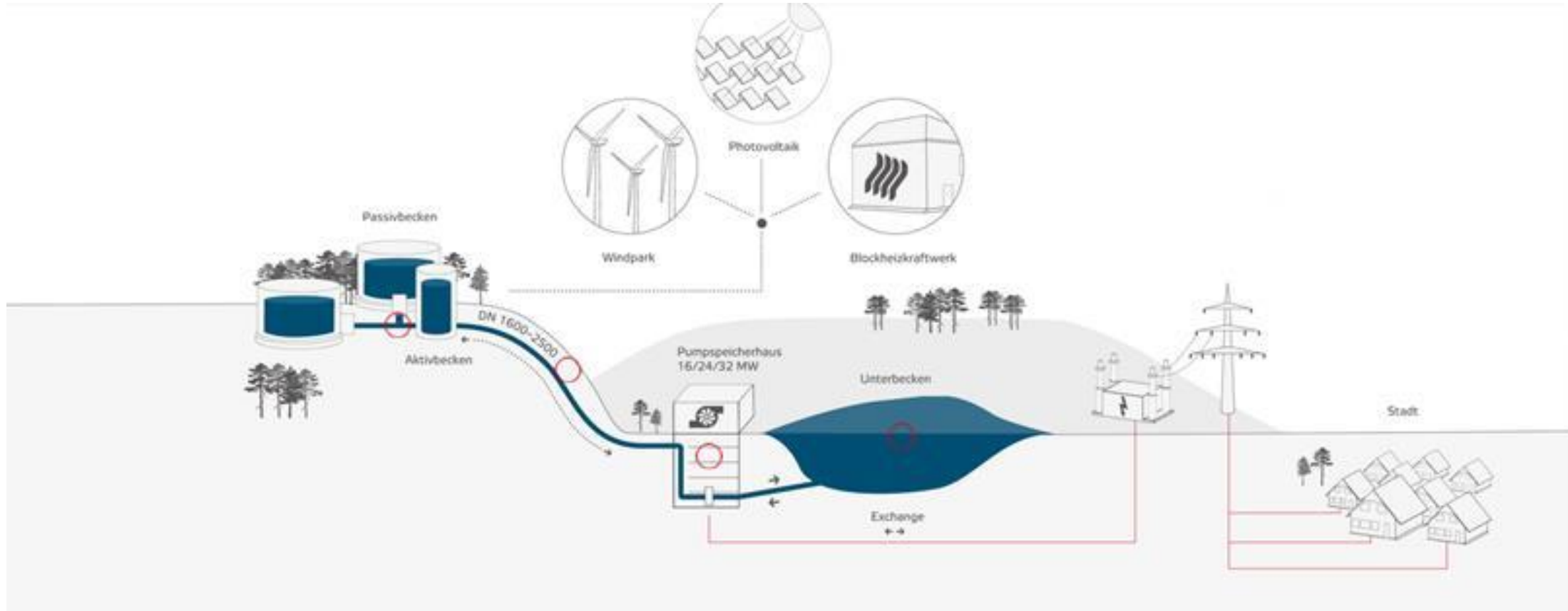
- 200 m hub height
- 200 m rotor diameter
- prospective in 2020

Outlook – Storage Technology



- Integration of pumped storage power plants
- Storage of surplus electricity
- Decrease in volatility → Contribution to stability of grid

Outlook – Storage Technology





Thank you for your attention!



Your wind experts.

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