

Technical risks on various stages of a project

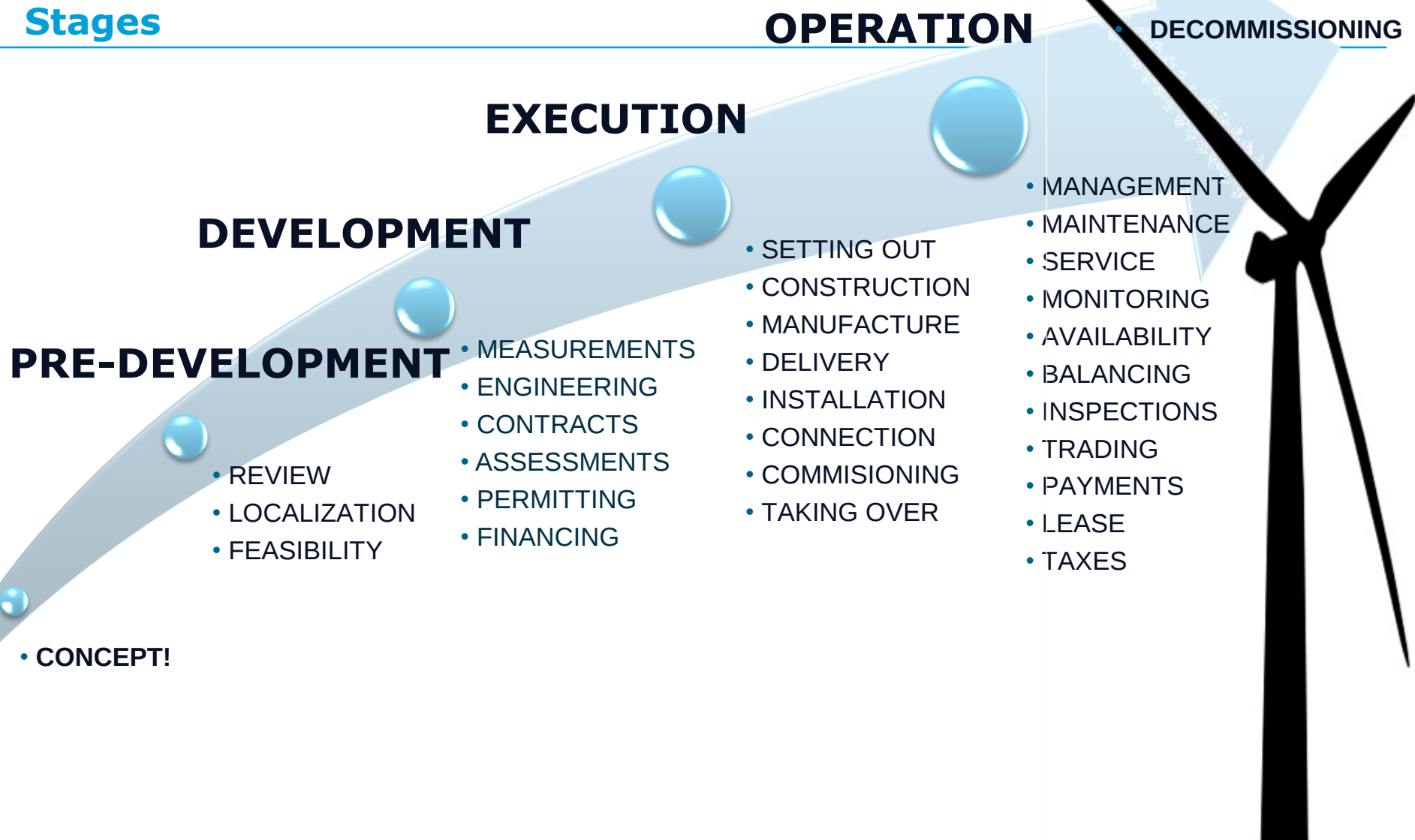
Pure experience in onshore wind energy

19 May 2017

MSc. Maciej Puto



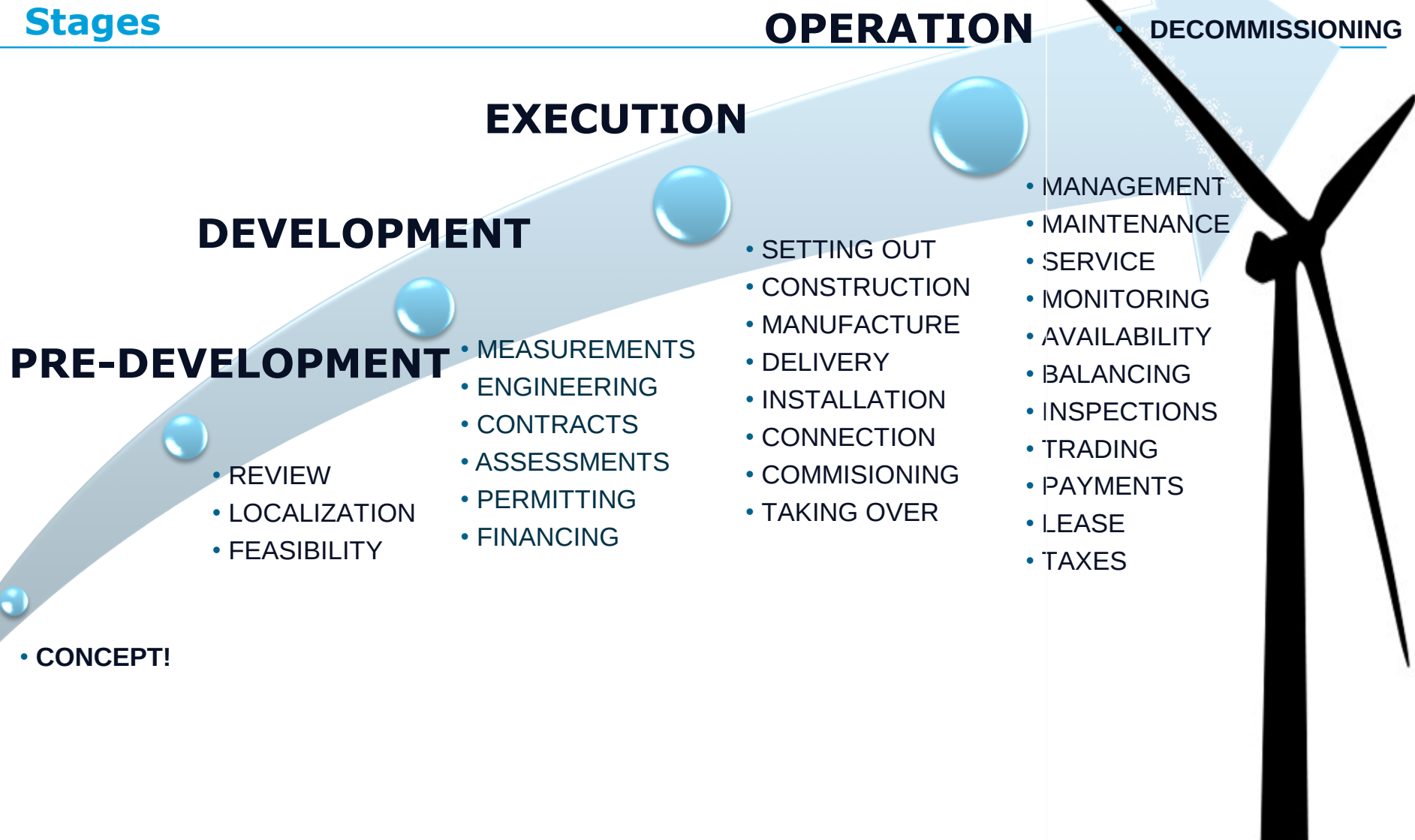
Stages



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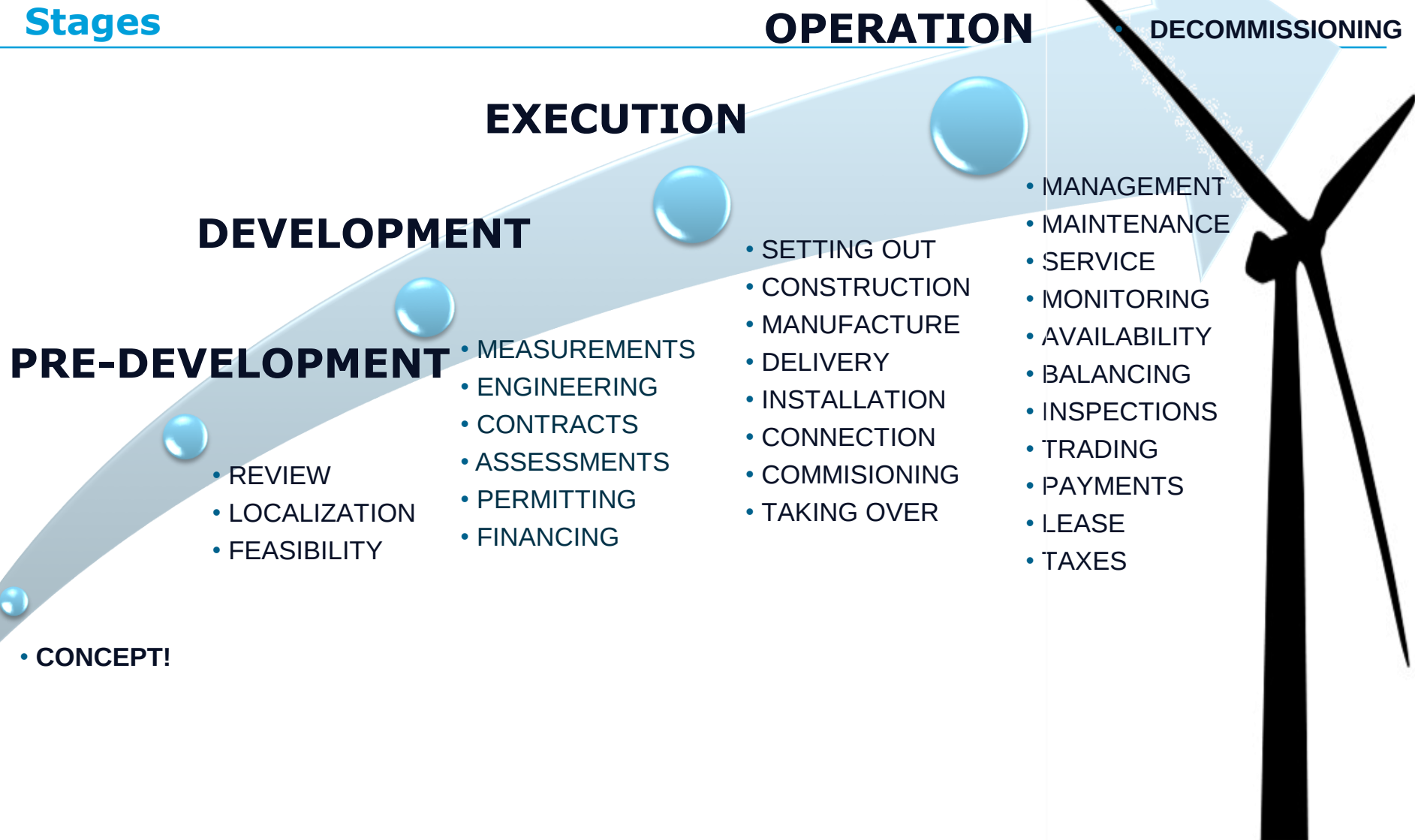
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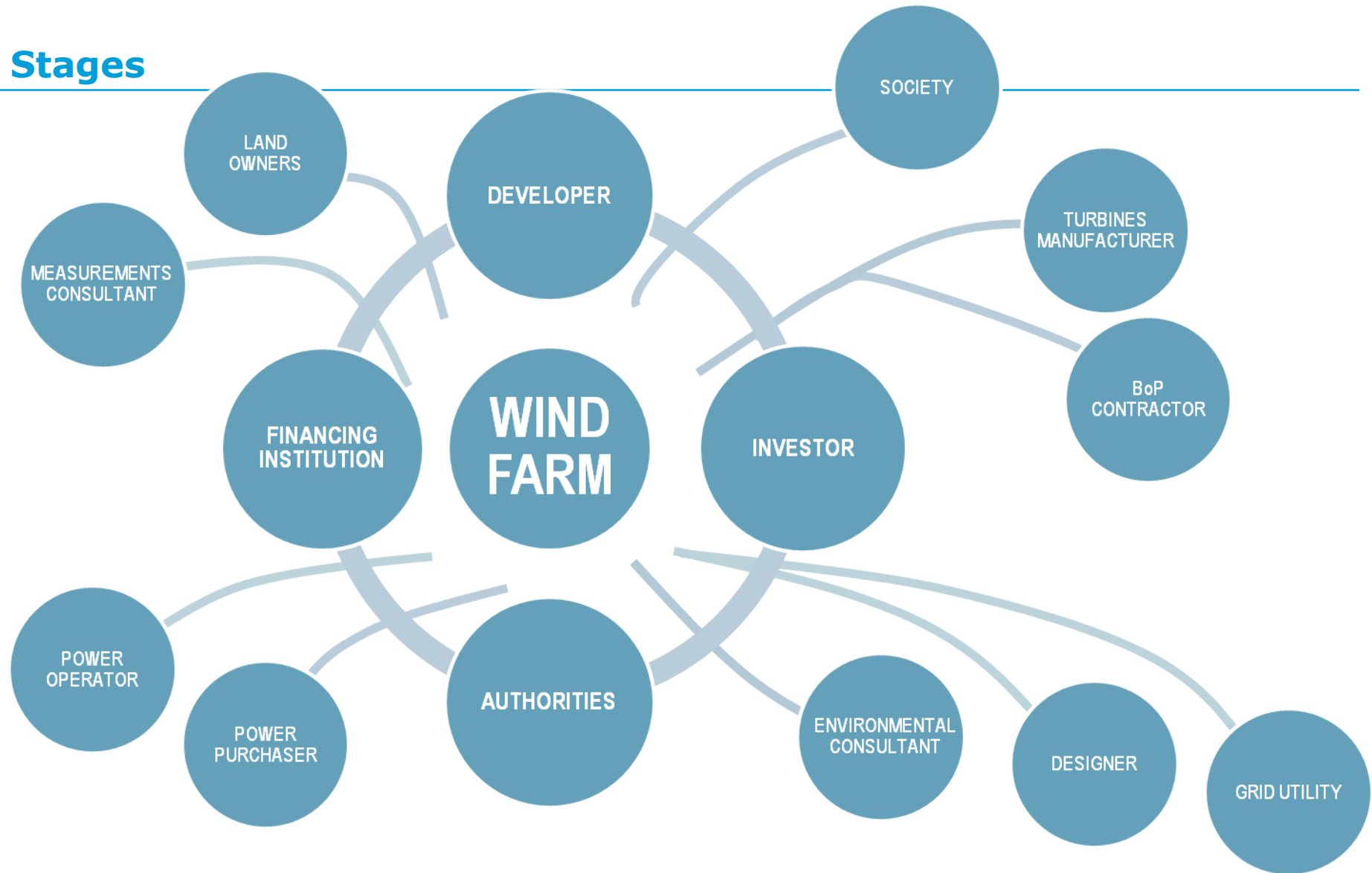
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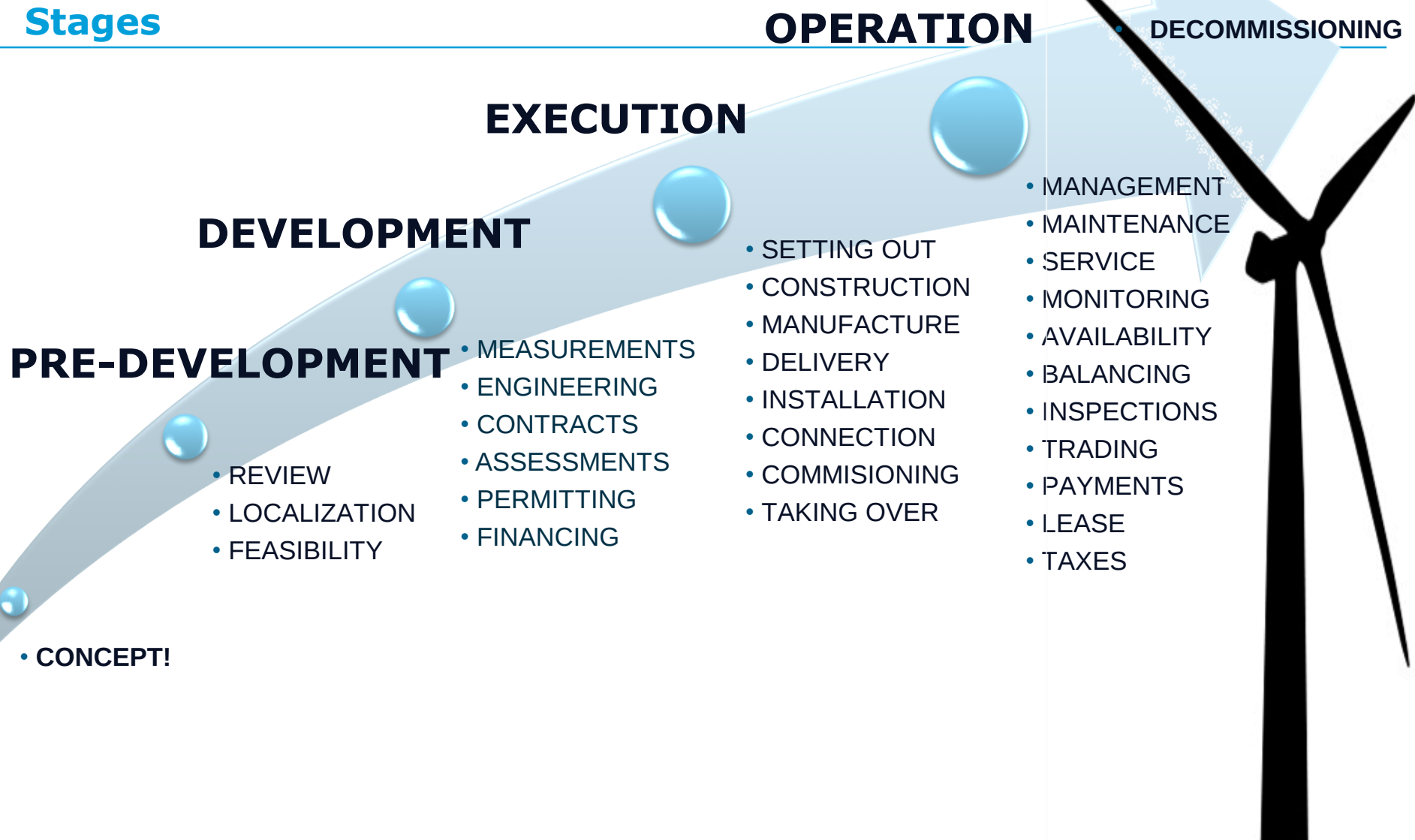
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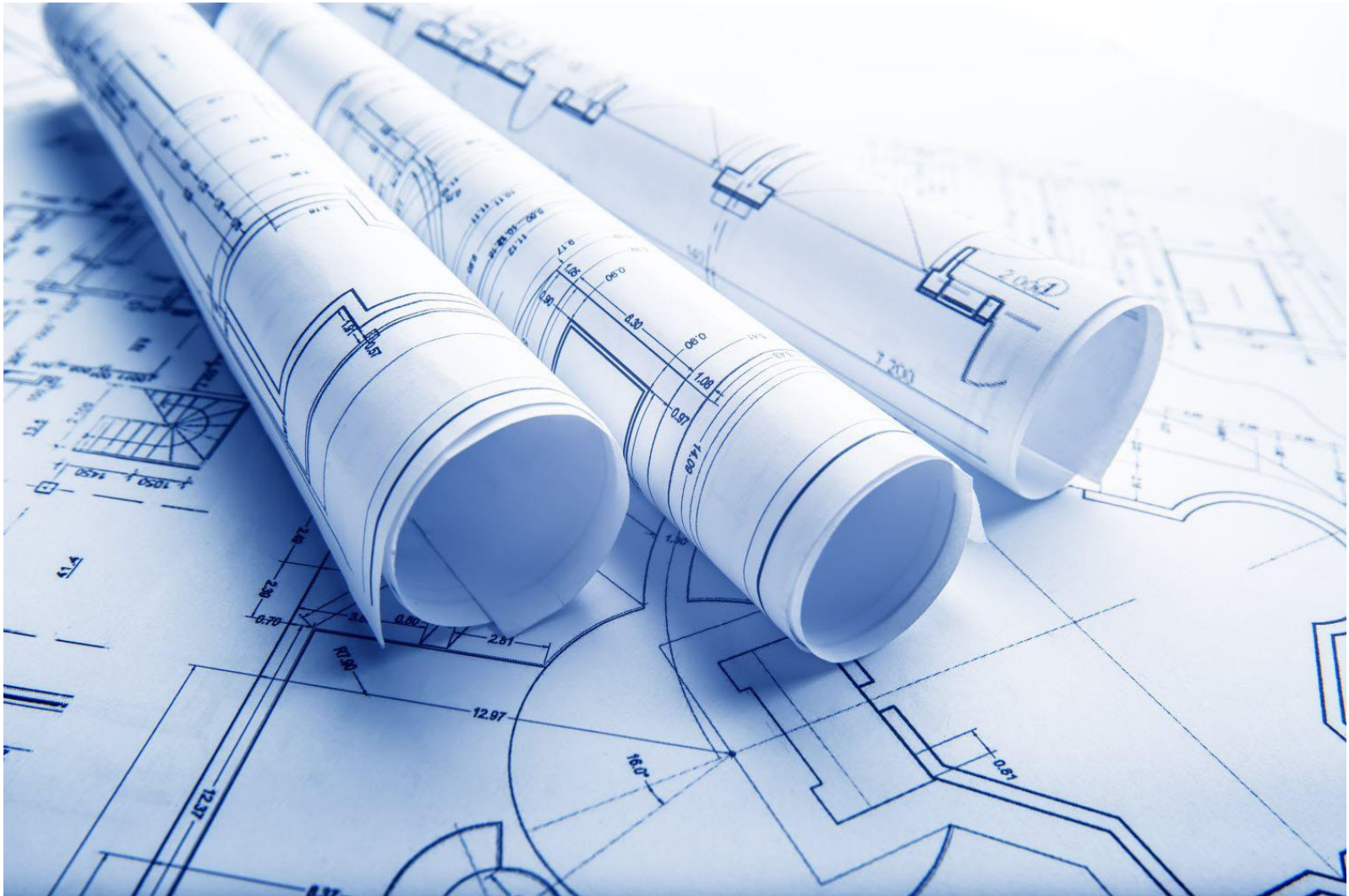
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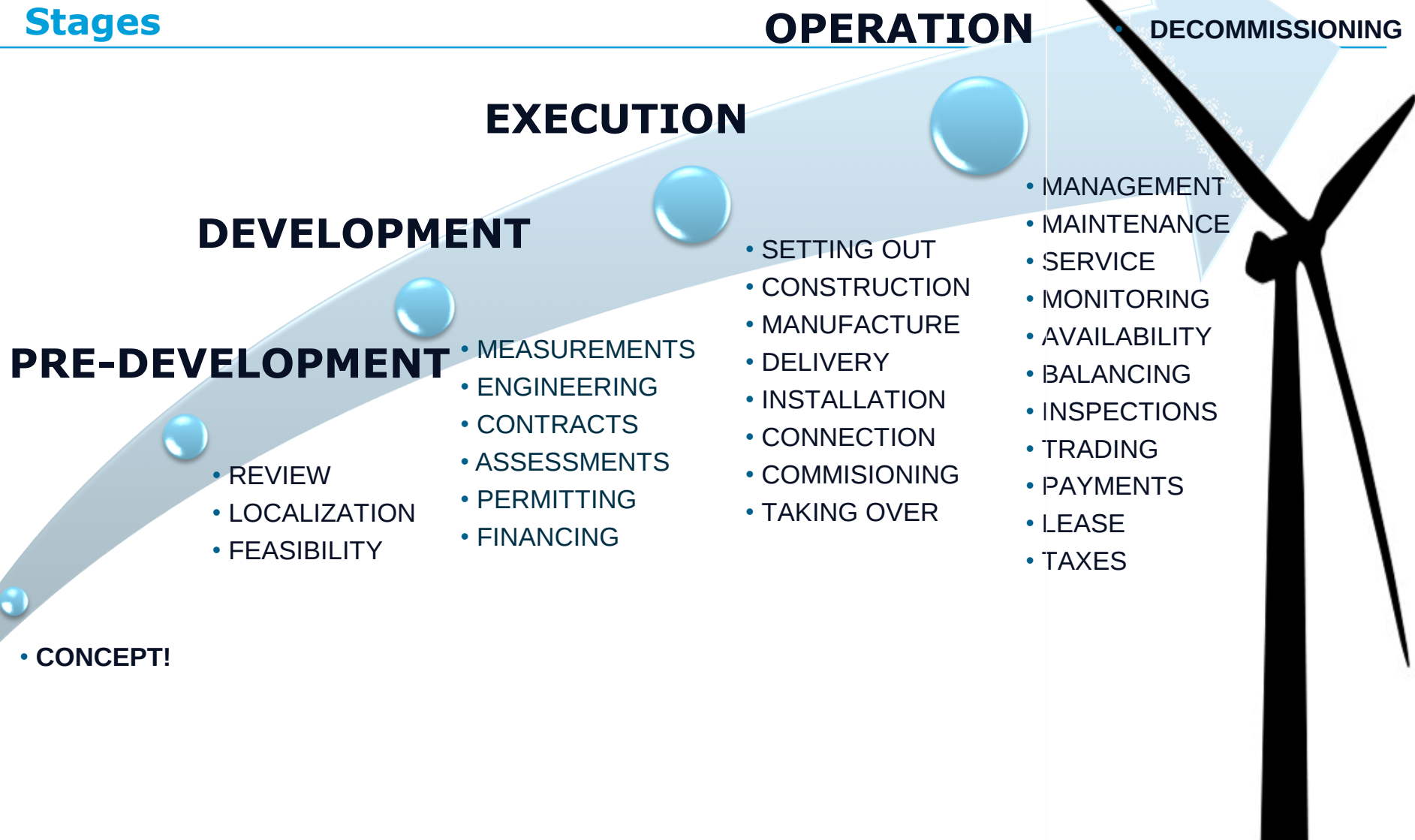
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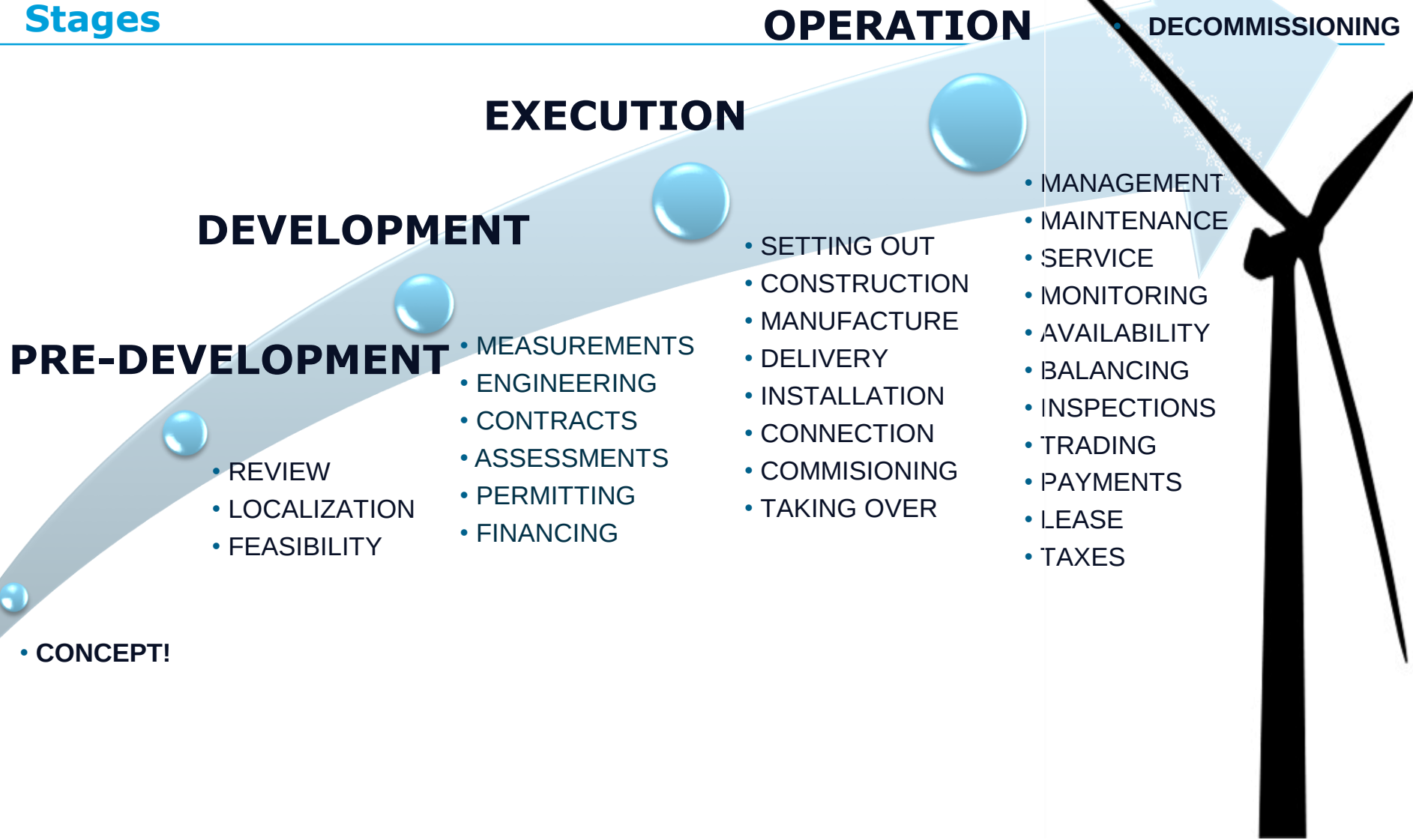
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MINGYANG WIND POWER
明阳风电



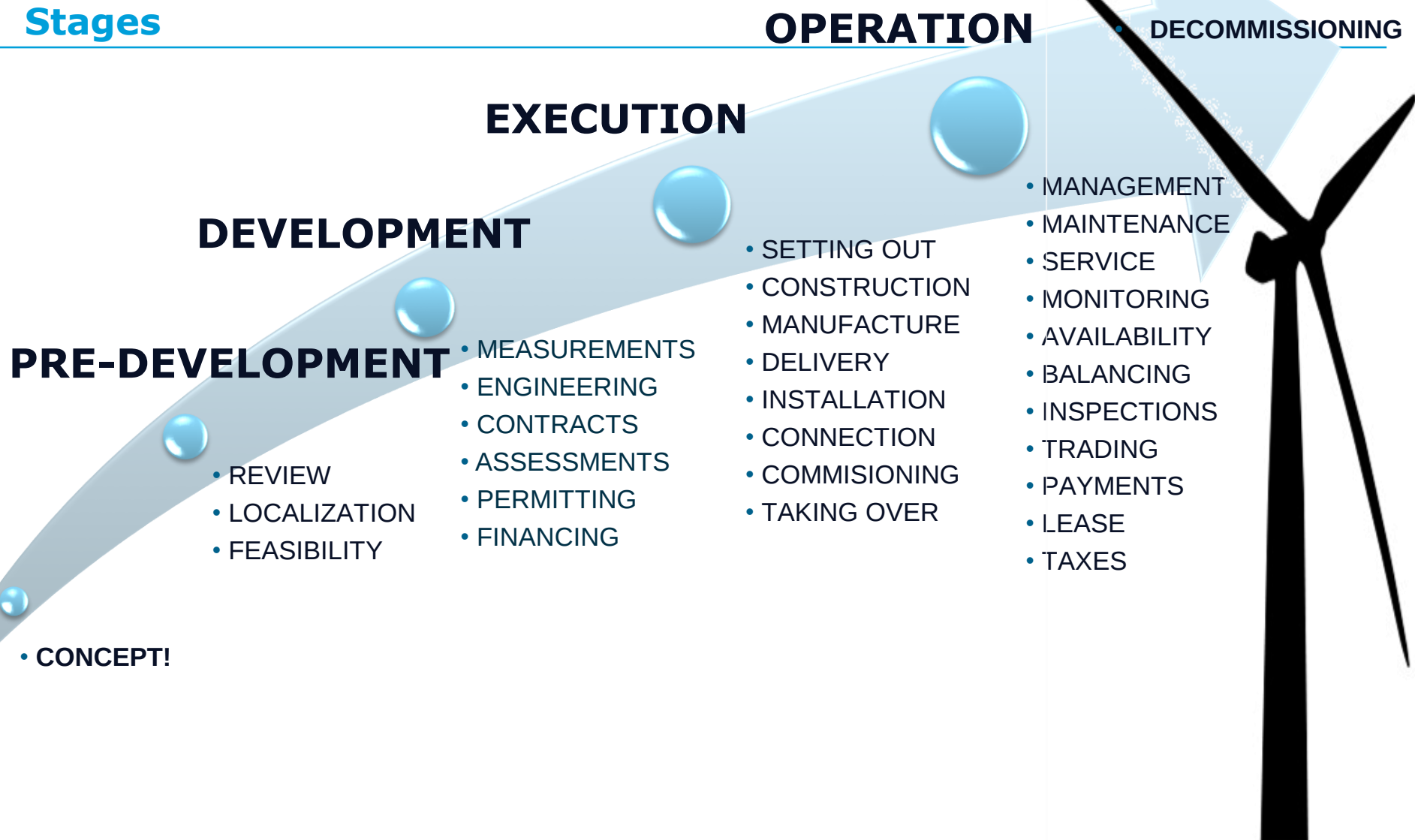
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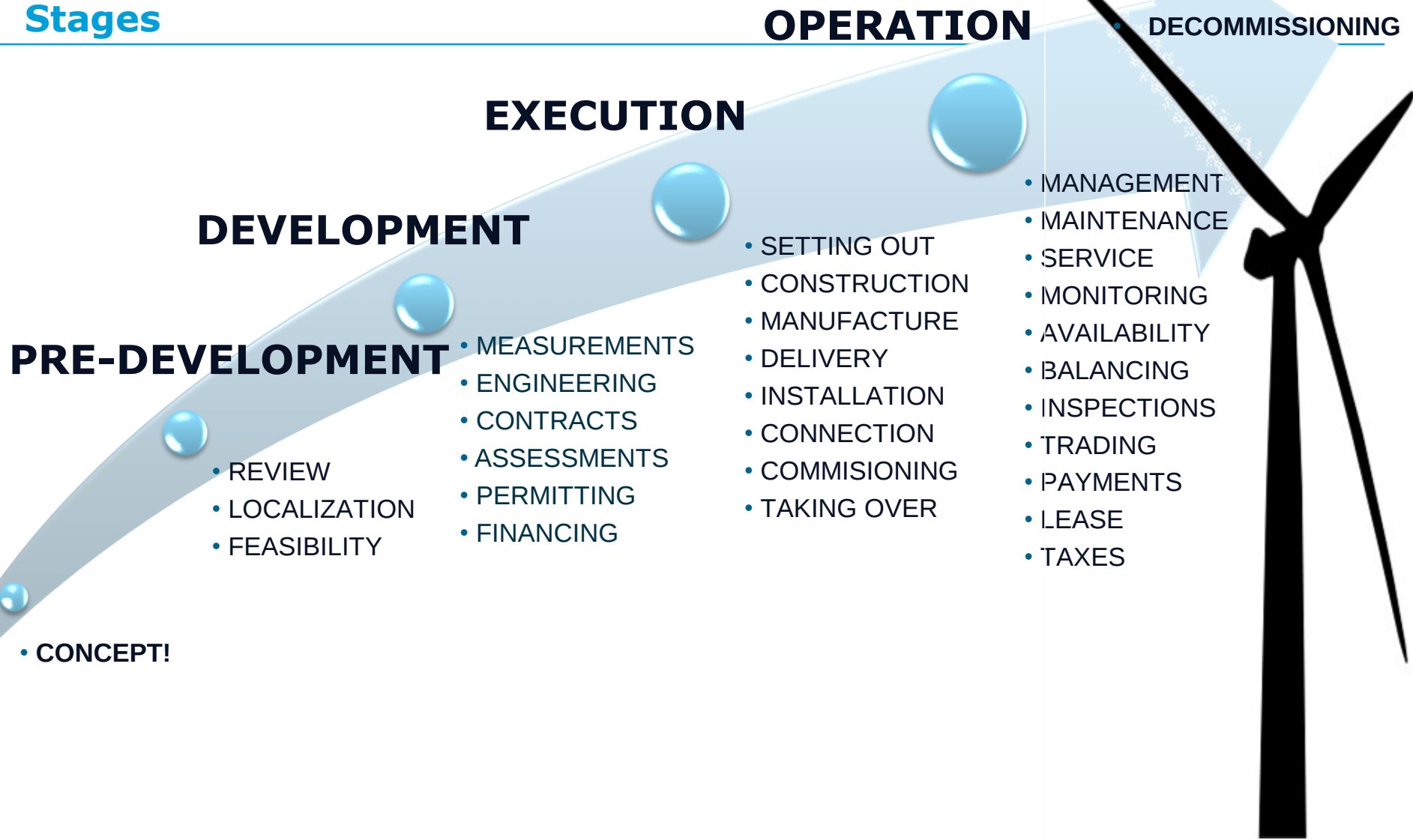
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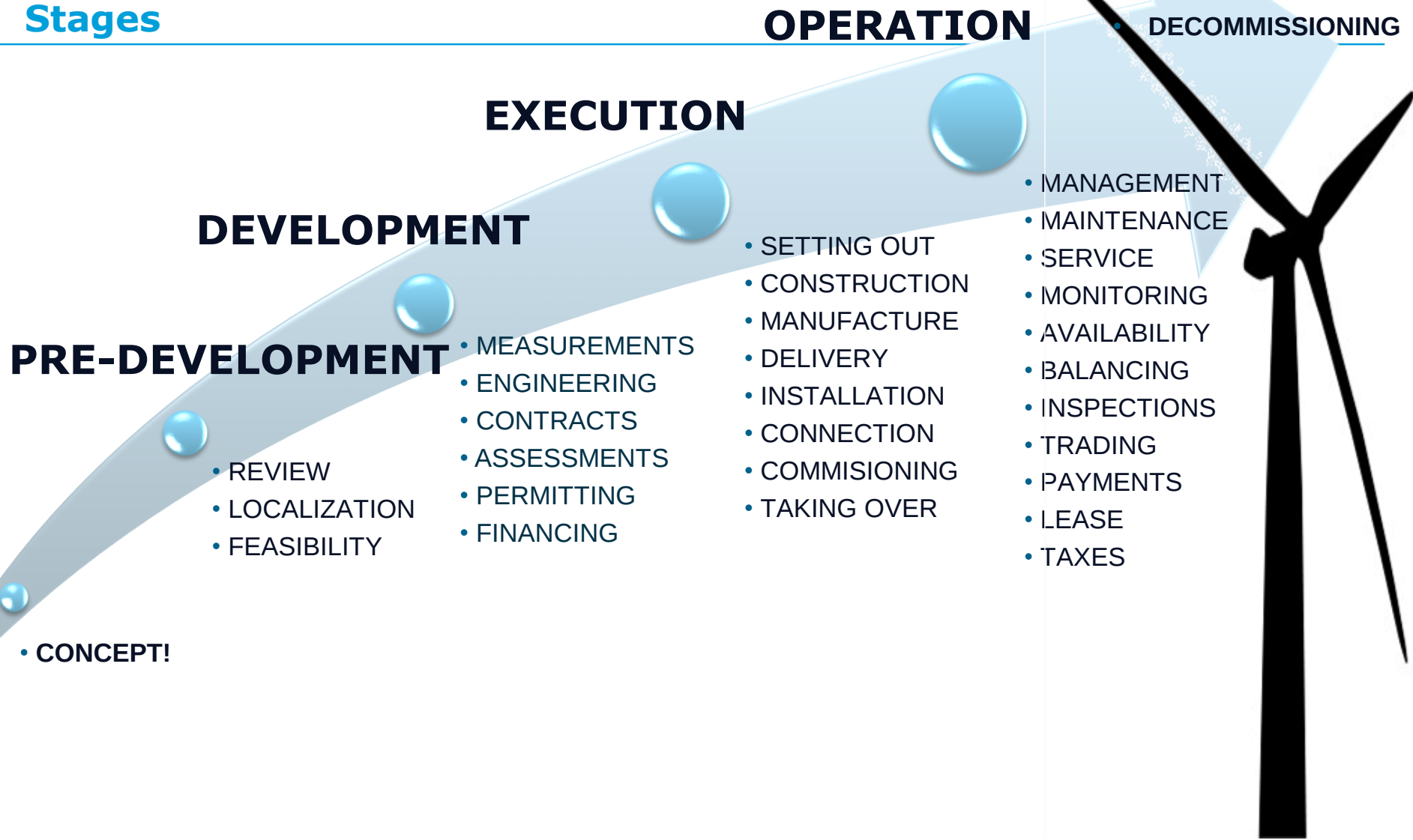
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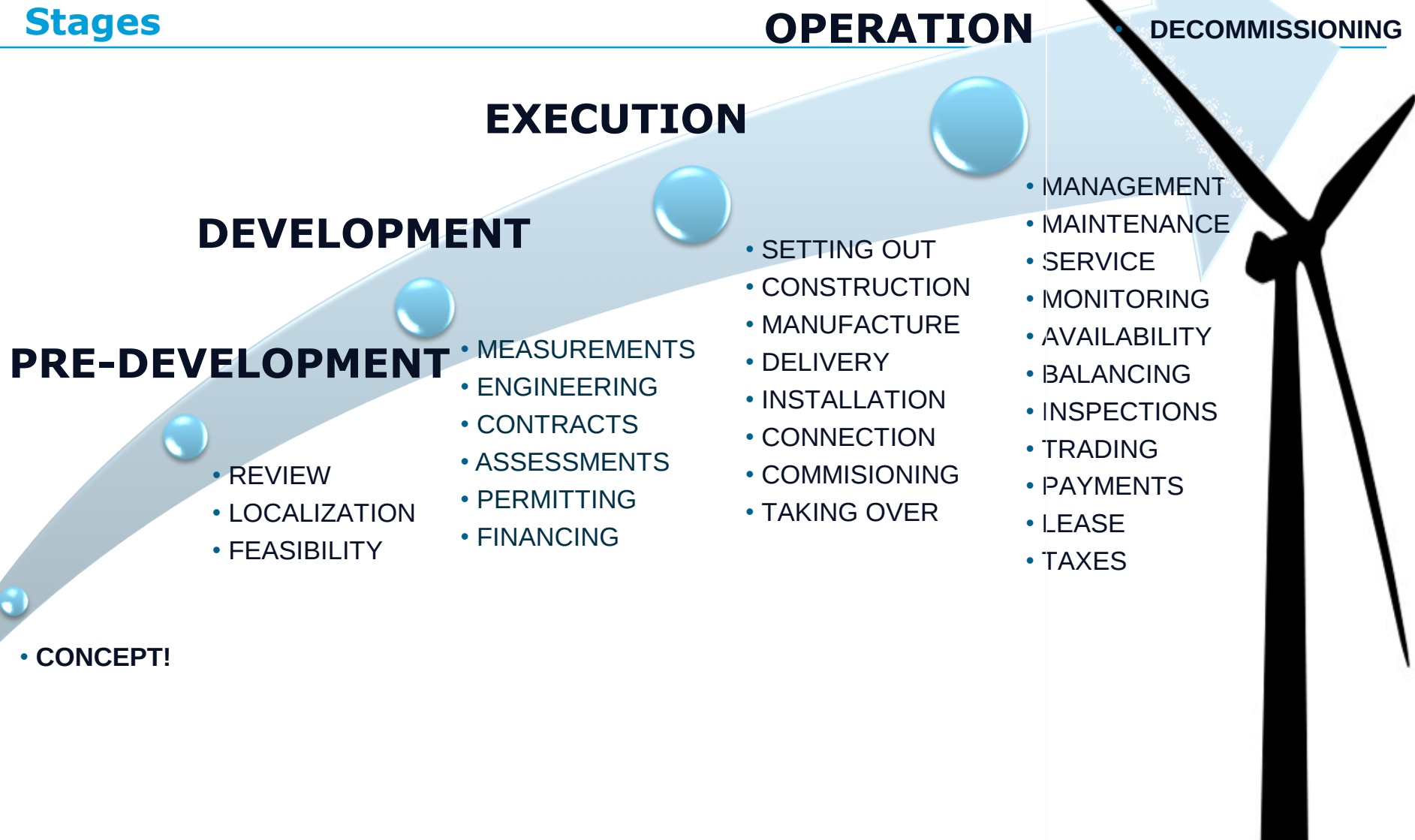
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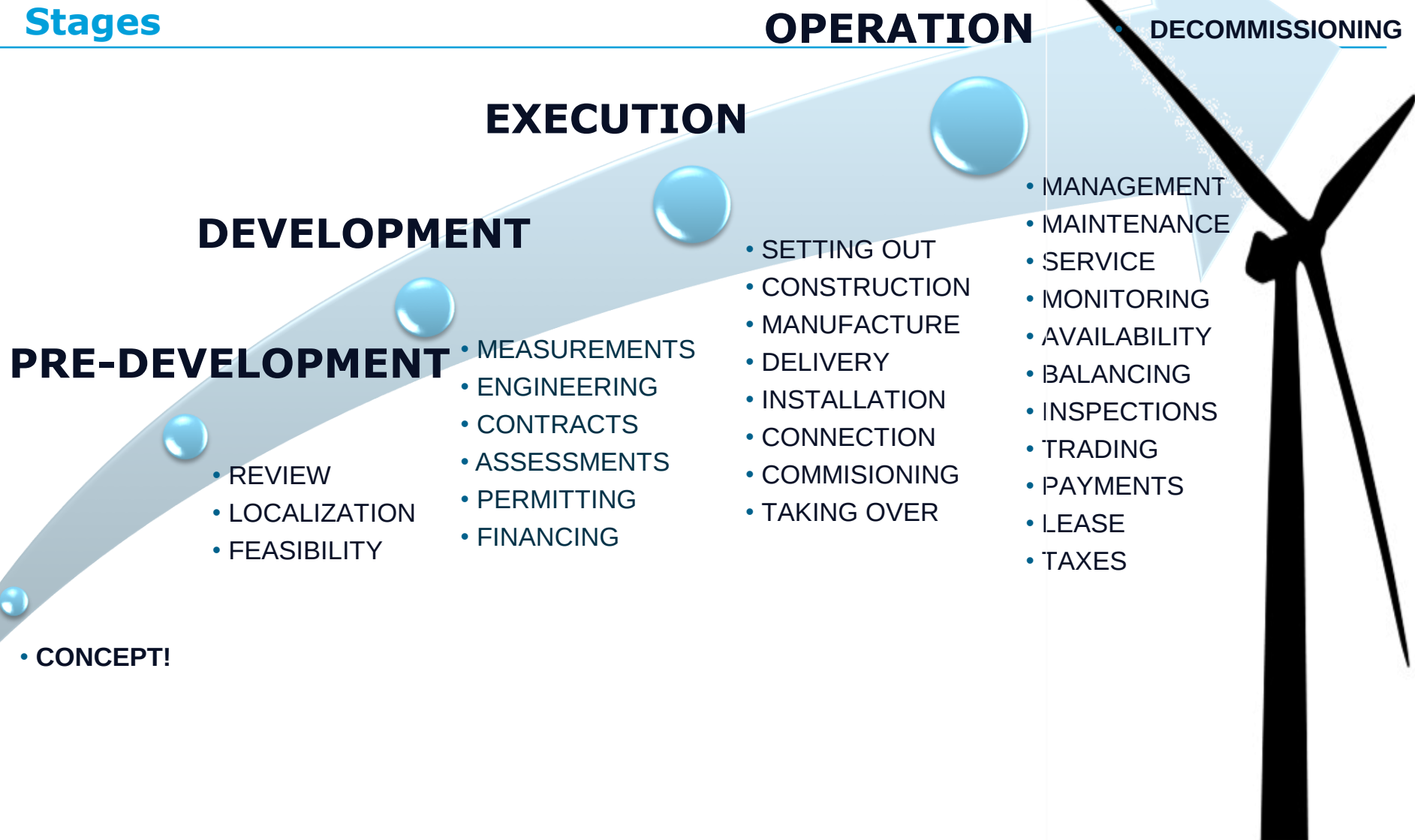
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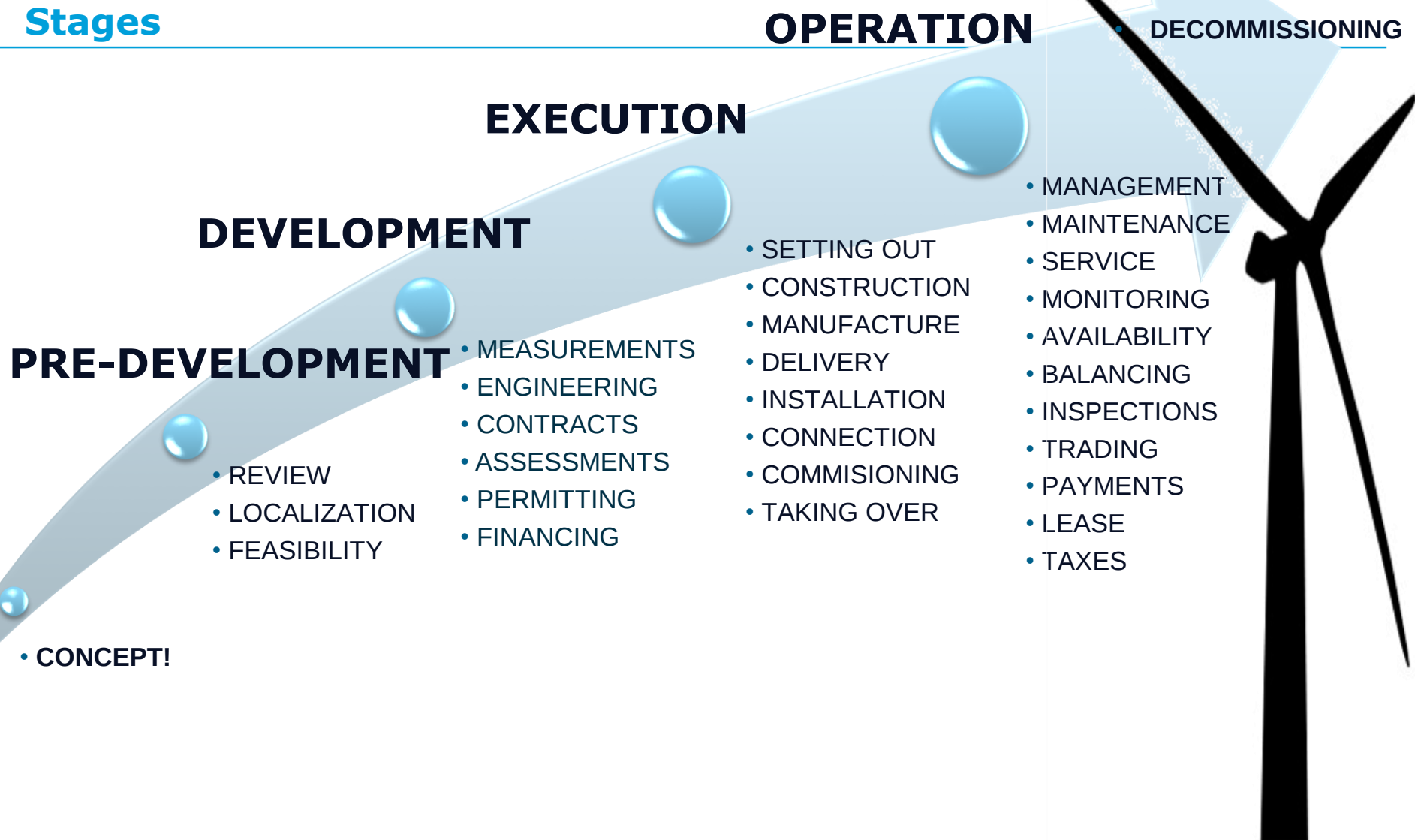
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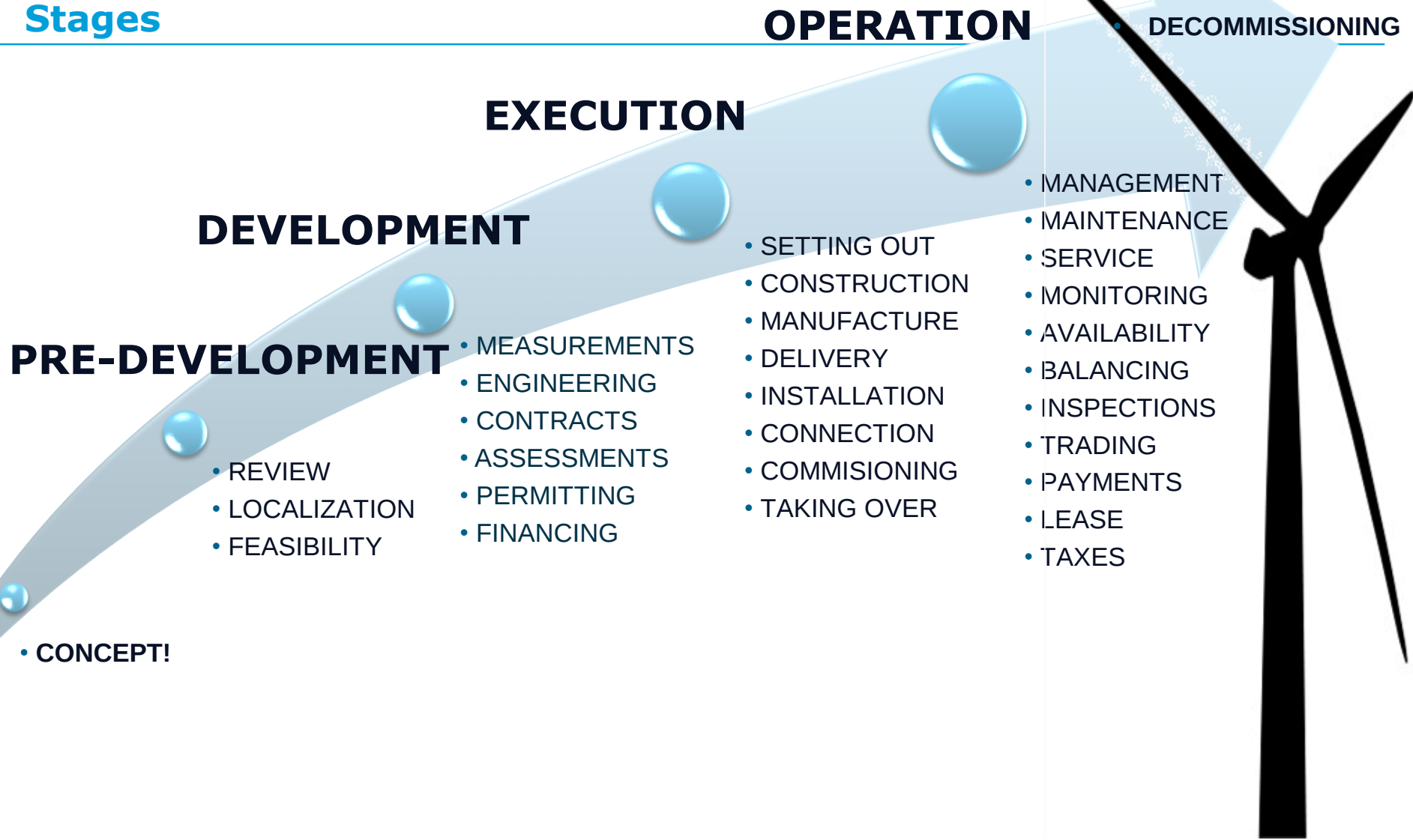
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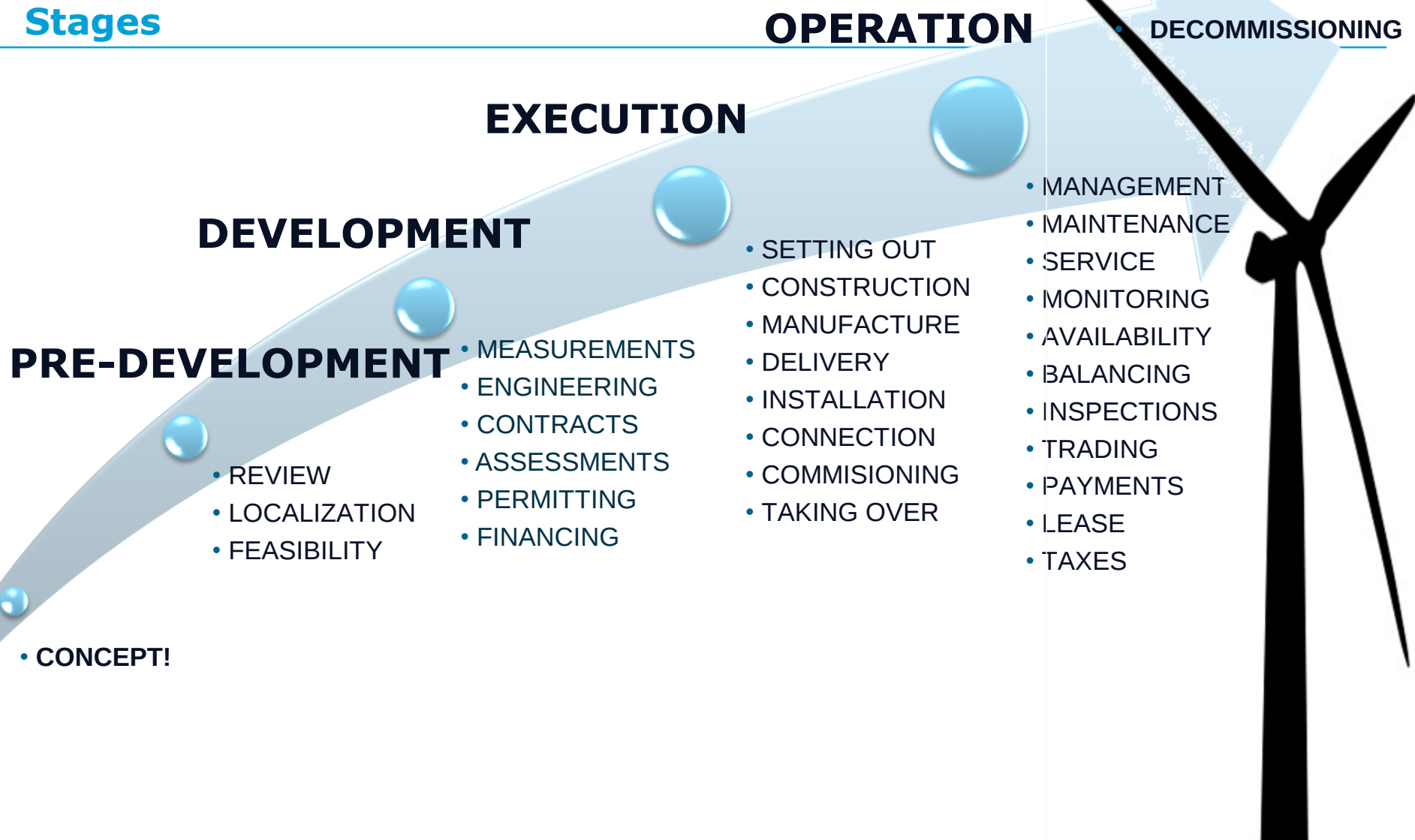
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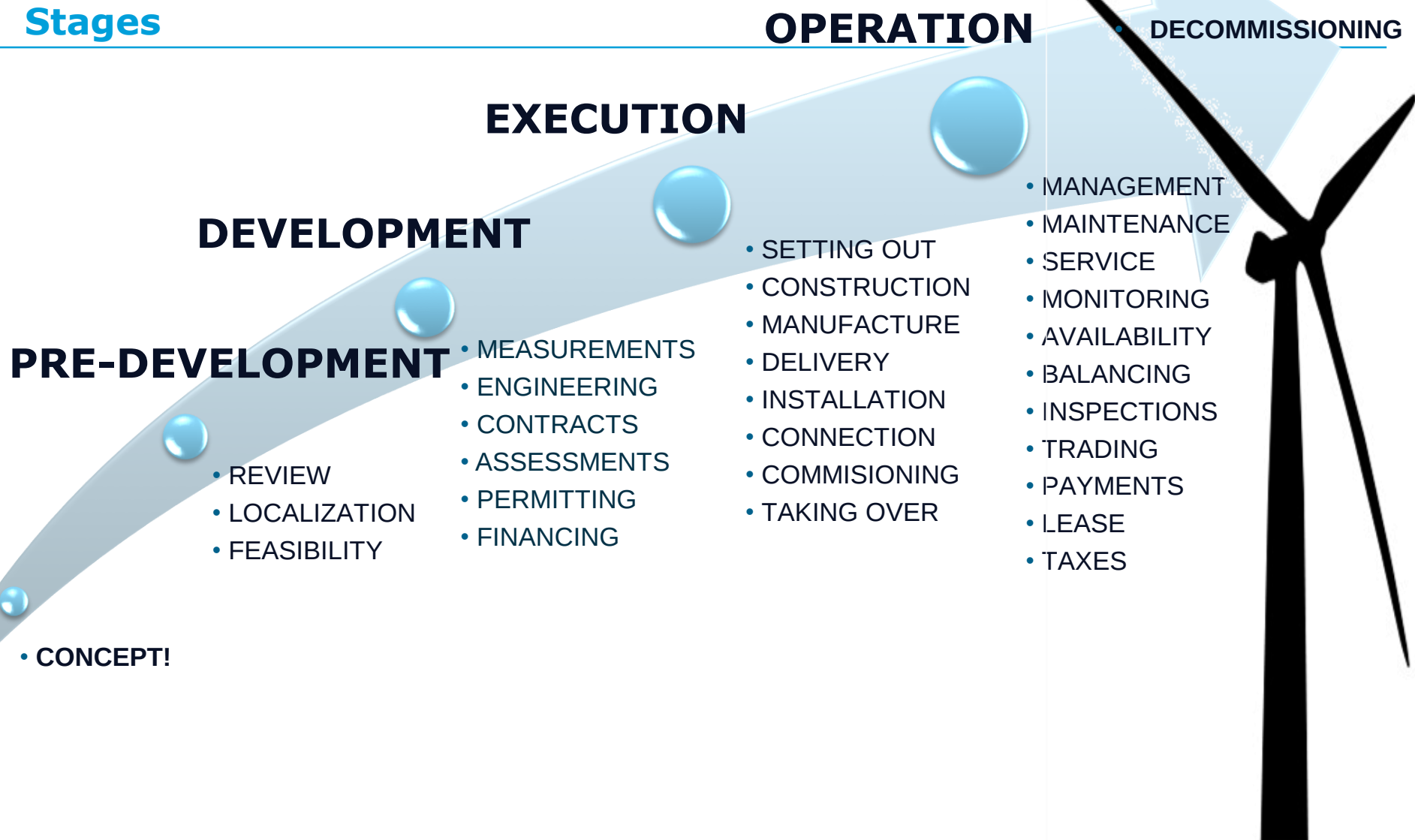
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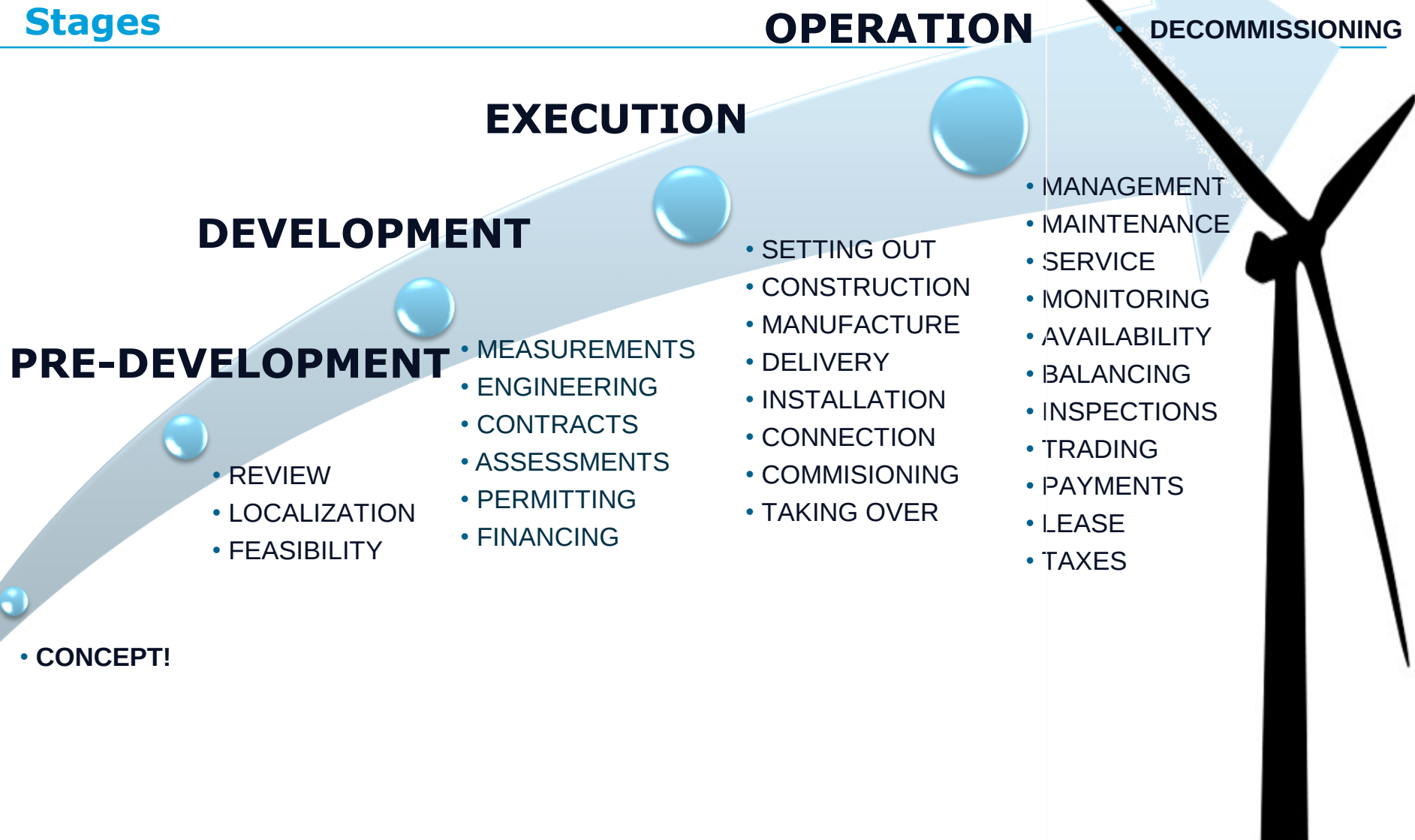
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Stages



Case studies

- Central Poland
- Tight schedule for installation
- Delay of the turbine producer
- Employing extra resources
- Legislation change



Case studies

- Due Diligence results indicated risk.
- Issue ignored.
- Project is hemorrhaging money.



Case studies

- Central Poland
- Small, 6MW
- Limited capacity
- Not enough priority



Case studies



Case studies



Case studies



Case studies



Case studies

- North of Ireland
- Assymetric forces
- Resonance frequency met



Case studies

- Environmental decision validity to pass, as no building permit application made.
- Grid connection conditions cancelled as appropriate payments not made.
- Construction commencement date given in the building permit to pass soon.
- Environmental decision forbid earthworks in summer season.



Case studies

- Foundation design not adapted for purposes of the particular turbine type.
- Foundation design not confirmed by the turbine supplier.



Case studies



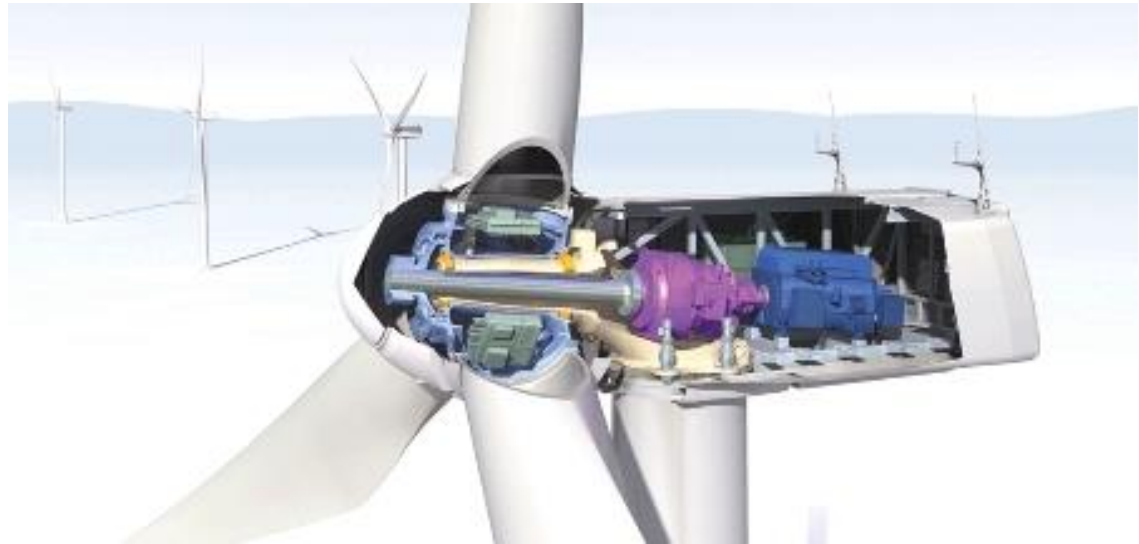
Case studies

- Foundation design not adapted for purposes of the particular turbine type.
- Foundation design not confirmed by the turbine supplier.
- Foundation design based on the limited geotechnical information.

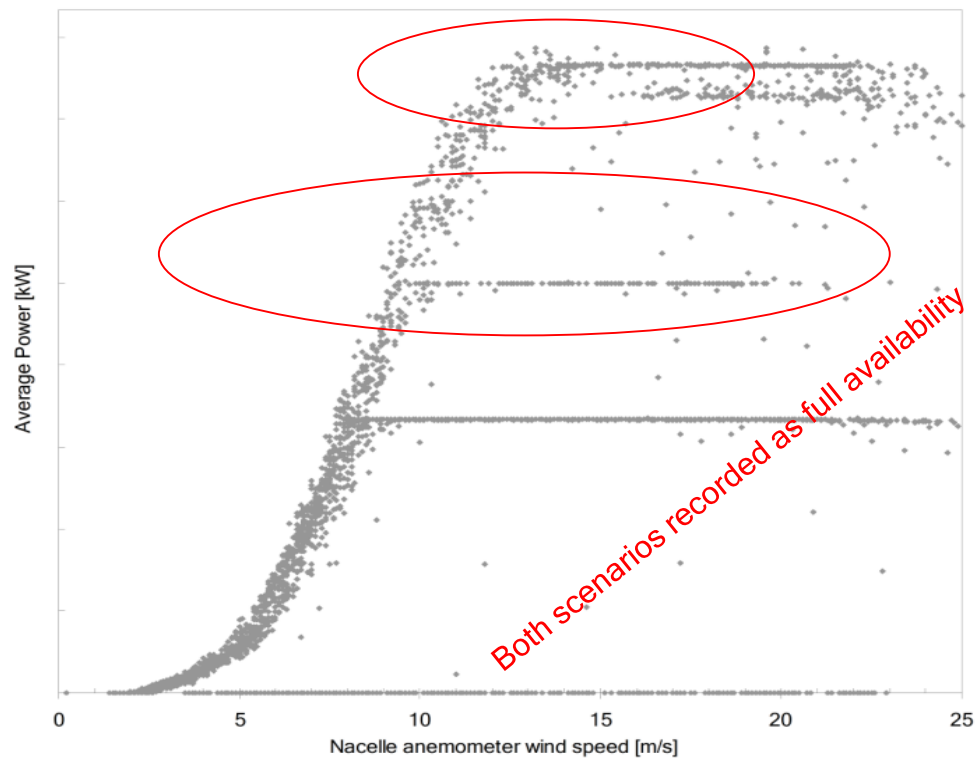


Case studies

- Serial defect of the turbine integral element.
- Warranty provisions fulfillment problems.
- Power curve deficiency.



Case studies



Case studies



Questions?



Thank you for your attention

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