The Economic Feasibility of UK Onshore Wind Repowering and the Costs Reduction Potential

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CONTINUOUS FINDING

What are the challenges?

- Difficulty in finding new wind farm sites with excellent characteristics
- Less efficiency of the old turbines
- Higher old wind farm Operating and Maintenance costs

What can we do?

- Repowering: the effort to gain the power from existing wind farms that have not been efficiently generating the energy by turbines replacement or upscaling
- INNOVATIONS: knowledge creation involving all respective parties of the projects
  - to have lower costs per energy generated
  - to establish onshore wind technology as the lowest cost of the new energy generation

CONCLUSIONS

REPOWERING vs Continuing existing wind farm project:

- Repowering generates lower LCOE than continuing existing wind farm, about 10%

By doing INNOVATIONS,

- Shorter optimal timing for Repowering, between 15 and 20 years of operations
- LCOE is reduced up to 11%

The MOST influencing INNOVATION activities for the LCOE reduction:

- Larger turbine capacity
- Larger plant capacity
- Lower discount rate

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