Rewind

Wind power for local energy systems

Refurbishment – relocation – reuse
of pre-owned wind turbines

Vétown™ | Enabling circularity

Wind power for local energy systems

Vétown is integrating wind power in small-scale local energy systems – combining various renewable energy sources (solar, wind, biogas) and energy storage with batteries and district heating/cooling systems.

This can:

- Secure a stable supply of cheap green energy in behind-the-meter micro-grids.
- Create resilience in the macro power transmission grid via net-metering exchange arrangements.

Including wind power in this small-scale energy system is made possible and feasible by using pre-owned 2nd and 3rd generation wind turbines that are taken down at their current location and refurbished to be put back to work for many more years.

With the *Rewind* programme, Vétown provides the full package for this relocation process – from finding suitable pre-owned wind turbines, facilitating the refurbishment, to putting them in operation again at the new location.

Scale up to giant wind power plants

The first generation of wind turbines were small models (up to 200 kW) that were put up singly at farms and industrial facilities.

The second and third generations that spear-headed the breakthrough era of wind power were much bigger (0,5-2 mW) and placed in large groups at windy places, like coastlines, open plains, and high points and ridges in the landscape.

From then on, the development has only gone one way – towards bigger and bigger turbines (6-10MW) placed in bigger and bigger commercial wind power parks on land – until they went offshore to become GW wind power plants with gigantic turbines of now up to 20MW each.

Rewind to local energy systems

To optimize the production at the ideal wind locations onshore, some of the 2nd and 3rd generation wind turbines of these wind power parks are now being replaced by bigger ones.

Others are taken down and not replaced due to their visual dominance in the landscape, disturbance of natural habitats, and/or noise nuisance to people living nearby.

Most of these wind turbines are still in good condition and have many more years of production time left in them, when slightly refurbished and updated.

These renewed wind turbines can be acquired at very competitive prices, making it economically feasible to install them at places with less wind power potential.

As such, they can be placed in smaller groups or as stand-alone close to build-up areas as part of local green energy systems like the ones Vétown is establishing.

This way, the story of wind power is 'rewinded' back to the beginning – from giant commercial wind power plants to independent power production units for local corporations and communities alike.

The *Rewind* process

1. A customer requests pre-used, refurbished wind turbines for a local energy project.

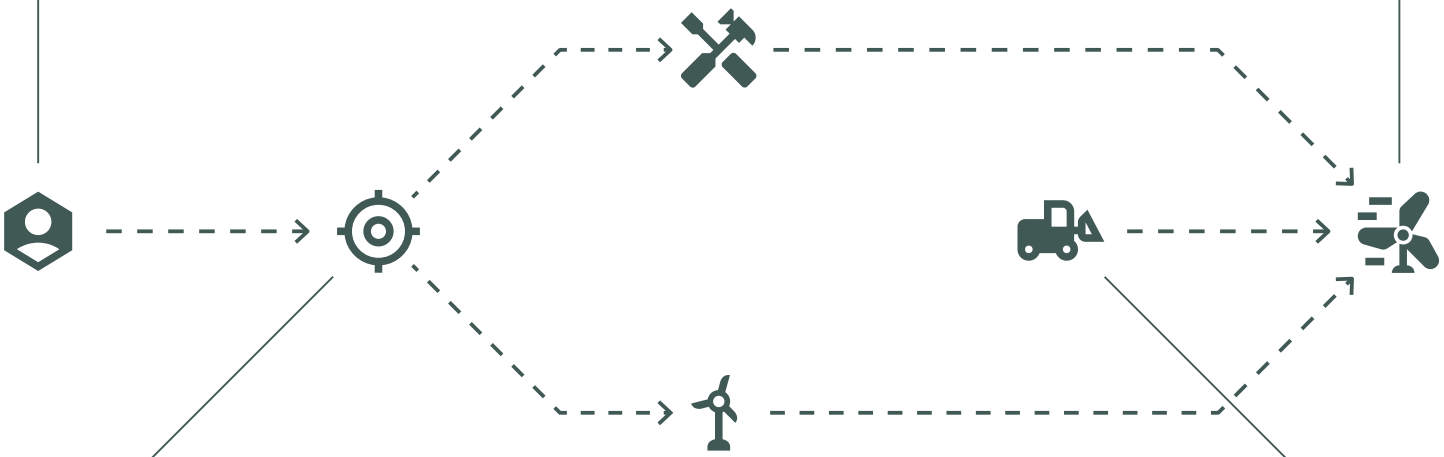
2. Potential wind turbines destined for dismantling are spotted, and the optimal ones are selected and reserved. When a down payment is made, the wind turbines are taken down and disassembled on site.

3. The nacelles are transported to a workshop facility where they are refurbished by specialists Eg. at Vestas facilities in Denmark.

4. The tower and blades are transported directly to the new site, where they are refurbished on-site by local craftsmen, supervised by specialists from Vestas and/or Vétown.

5. In the meantime, local contractors are building the foundations for the wind turbines, under supervision of Vétown specialists.

6. The refurbished nacelles are transported to the new site, and the wind turbines are reassembled, erected and connected to power grid by local contractors under supervision of Vétown specialists.



Vestas wind turbines – the classic models

Vétown prefers Vestas wind turbines due to their high quality and durability and has a collaboration agreement with Vestas on refurbishment and provision of guarantees for performance and durability of the renewed turbines.

The preferred models are their 2nd and 3rd generation of wind turbines, like V52 (850kW) and V80 (2MW), which are two of their classic models that are spinning all over the world.

	Vestas V52	Vestas V80
Capacity	850 kW	2 MW
Rotor diameter	52 meters	80 meters
Tower height	40-80 meters	60-100 meters
Total weight	Ca. 130 tonnes	Ca. 200 tonnes

About Vétown

Vétown is a platform for developing and implementing local green energy and utility systems that are fully green and circular.

Vétown combines green tech with intelligent operation systems and business models for local ownership.

Vétown is part of Green Island Group in Denmark, who with roots in the strong green tech and ICT sector in Denmark, takes the best from both sectors to develop state-of the art green solutions for the world.

Vétown™ | Enabling circularity

more information at **www.vetown.org**

Green Island Group.