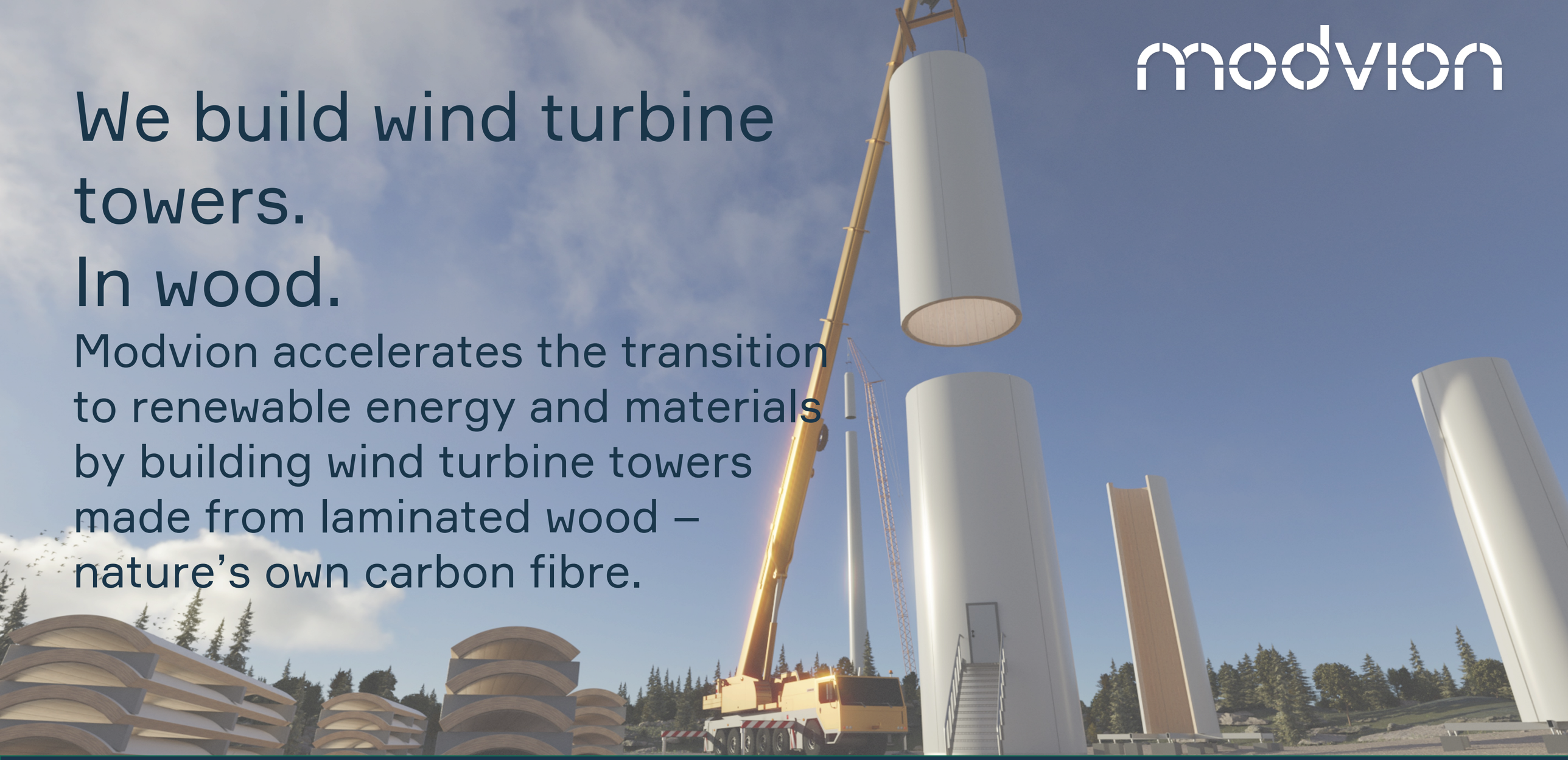


modvion

We build wind turbine towers. In wood.

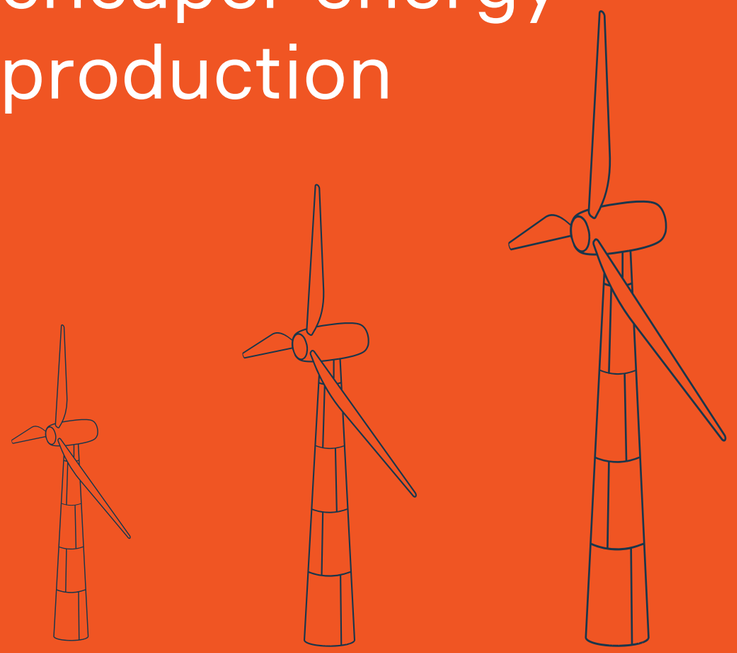
Modvion accelerates the transition to renewable energy and materials by building wind turbine towers made from laminated wood – nature's own carbon fibre.

This project has received funding from the European Union's Horizon 2020 research and innovation program.

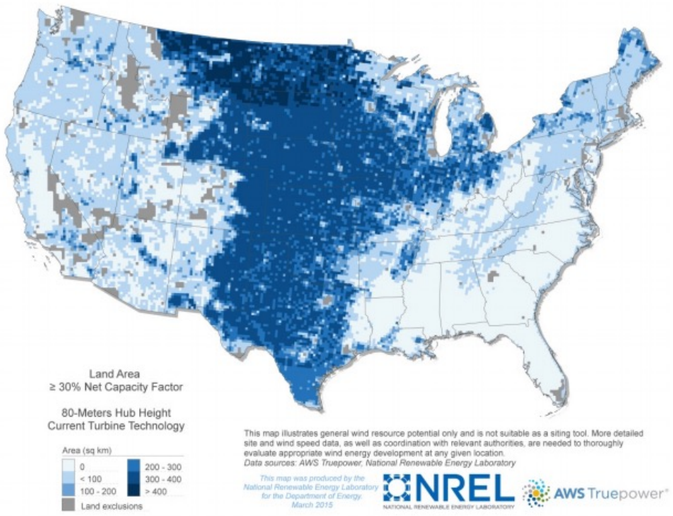
Vestas · Swedish Energy Agency · enel · VATTENFALL · RI.SE · CHALMERS VENTURES what if

Wind 35% of global electricity 2050

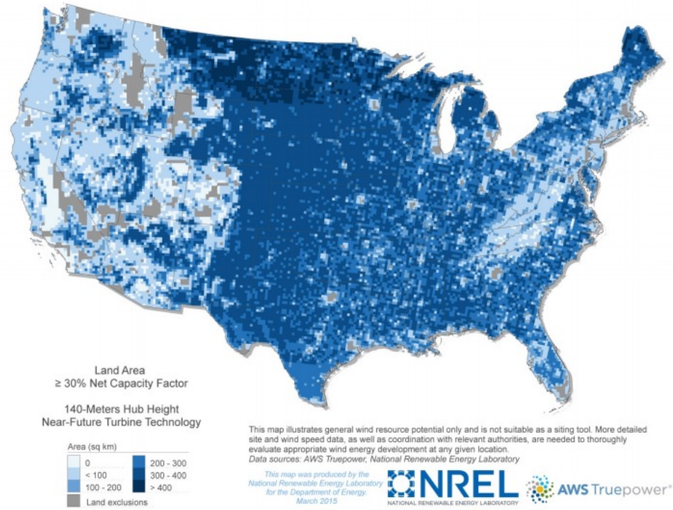
Taller towers = stronger winds and cheaper energy production



80m hub height



140m hub height



The maps show the increase in promising wind power sites when you increase the height of the turbine.

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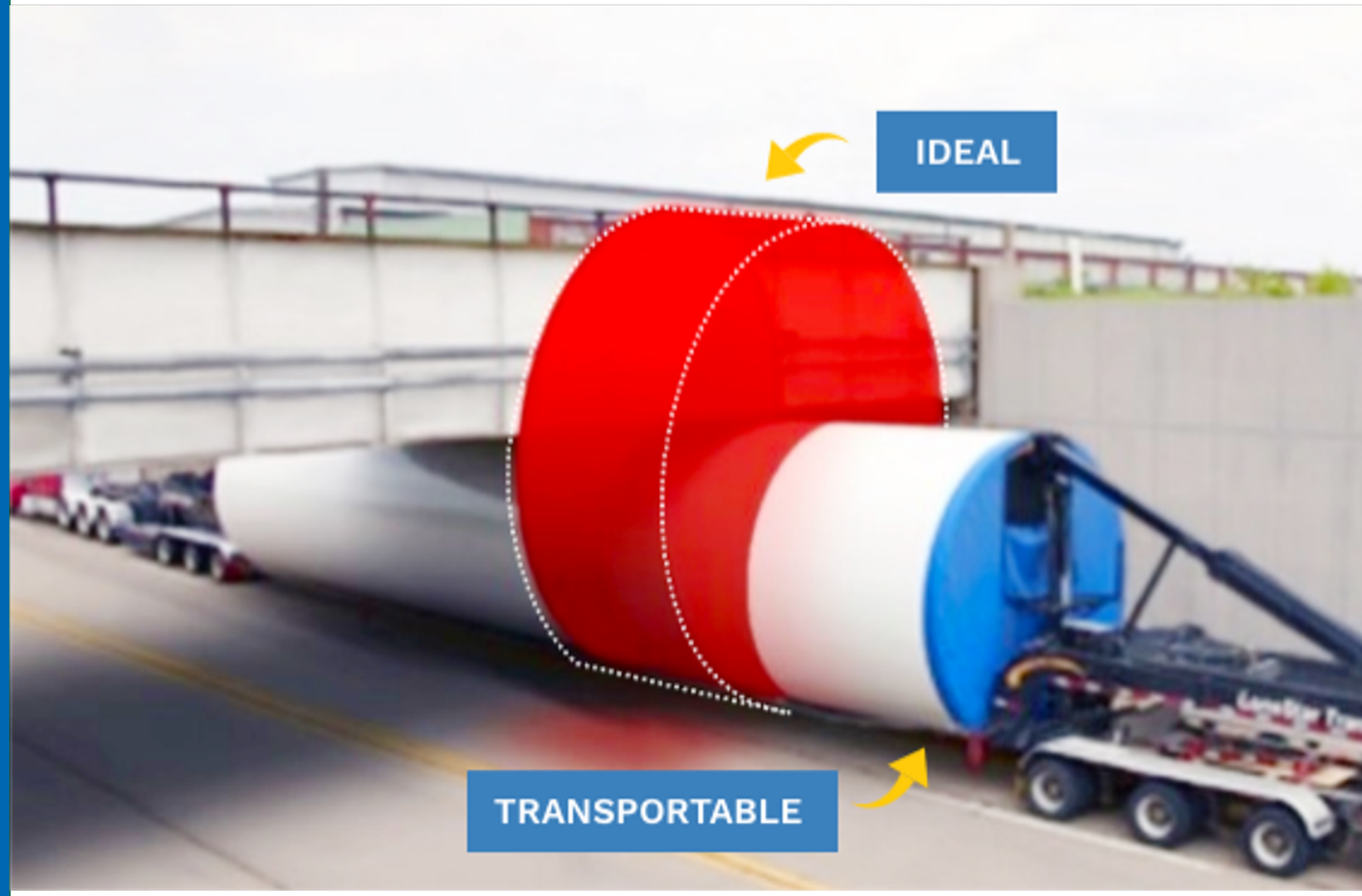
Conventional towers limit growth

Wind turbines are growing but the roads don’t.



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The solution is modular

Transportable on standard trucks, on normal roads without expansive and lengthy permit procedures.

The next generation of wind power towers

The problem

Low towers → low revenues
Taller power plants access better winds and can use larger turbines.

Challenging transportation
Towers over 100m are difficult, if not impossible, to transport and the market wants at least 150m.

Heavy constructions
Steel is strong but heavy, tall steel towers are over-dimensioned to carry their own weight.

Cost limits height
Towers are not built at optimal height as the additional height is expensive.

CO2 intensive materials
Steel and concrete causes 15% of all global CO2 emissions.

Steel price exposure
Steel is more than 80% of turbine.

Our solution

Tall towers → high revenues
Stronger winds and larger turbines gives more energy at lower cost.

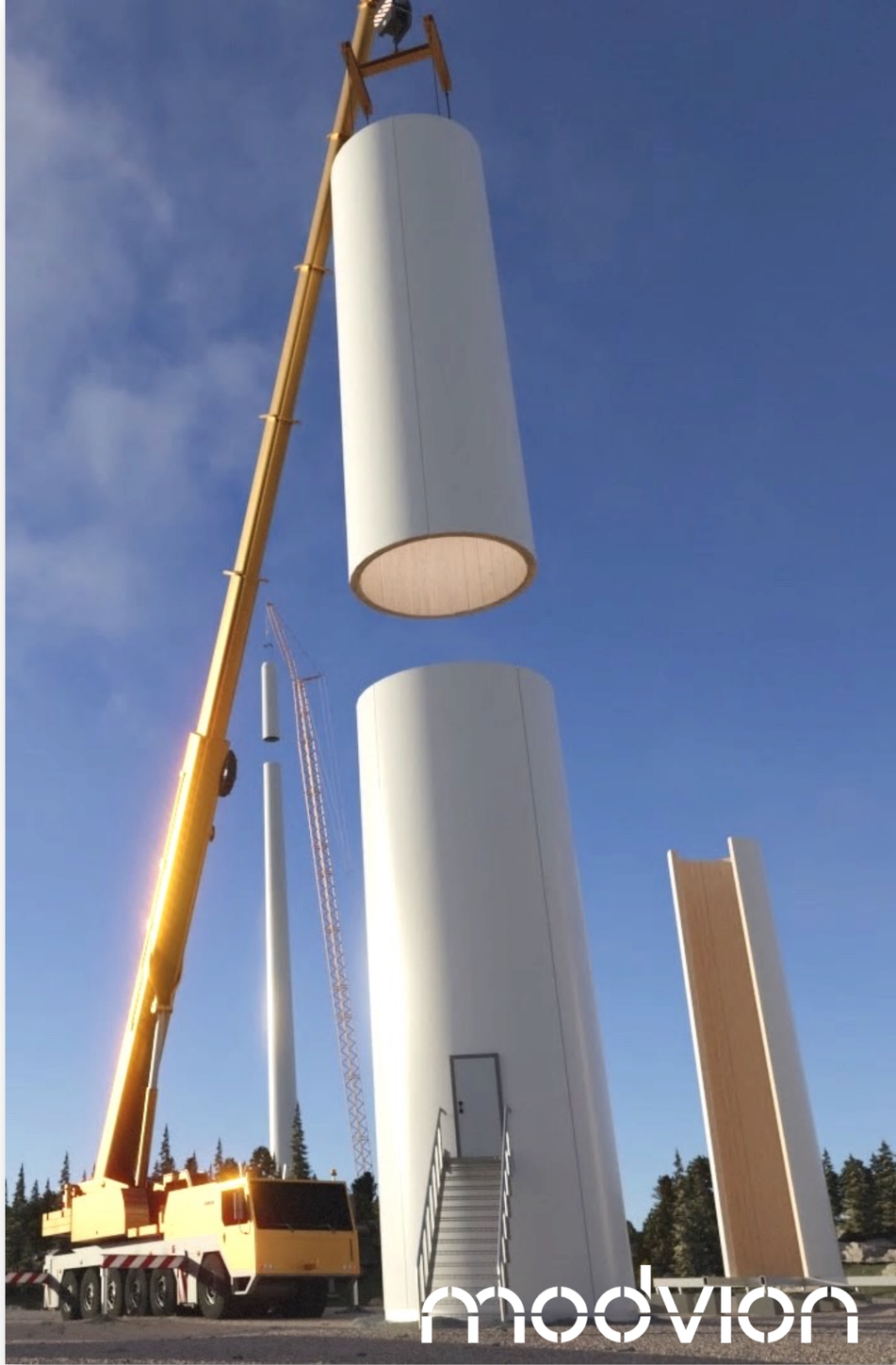
Simple logistics
Use standard road transports and enable construction even at sites with limited access.

Reduced weight
LVL 55% stronger than steel per kg, reducing tower weight by up to 30%.

Profitable to build high
The taller the tower the more cost-efficient to build with wood.

Enhanced sustainability
Modvion avoids 2,000 tCO2 per 150m tower, a 90% reduction in emissions.

Material diversification
Reduces the industries exposure to the highly volatile and expensive steel prices.



Unmatched competitive solution

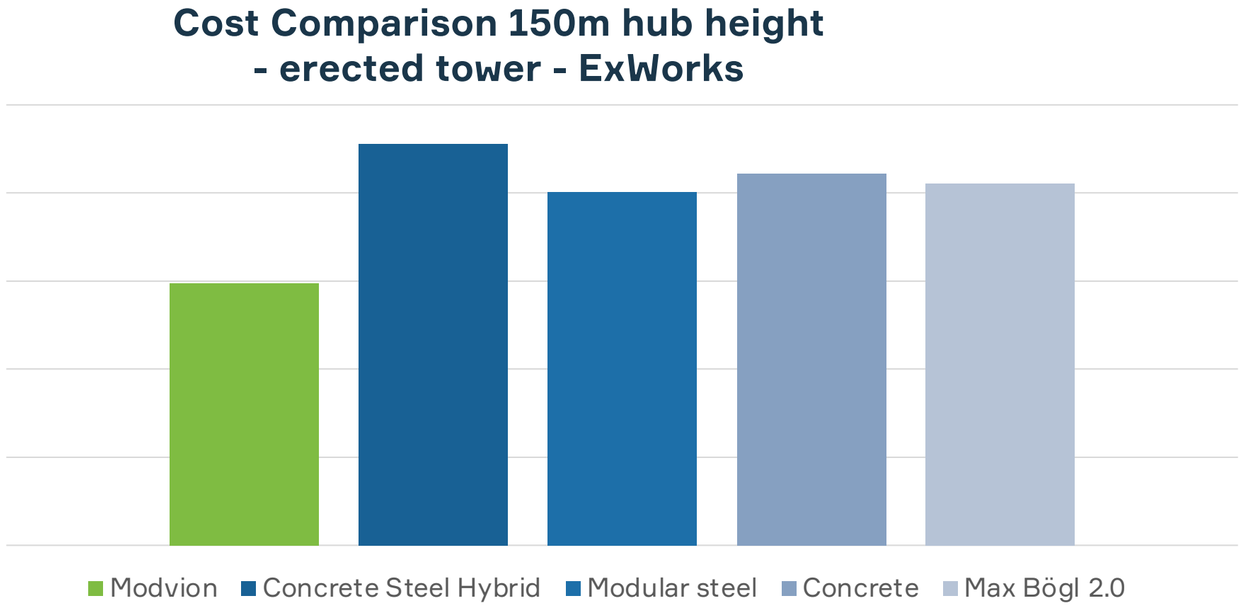
modvion

Turbines expected to double in size by 2030

Modvion is the cost-efficient solution for tall towers

To compare the different technological solutions Modvion looked at the **total cost of installation.**

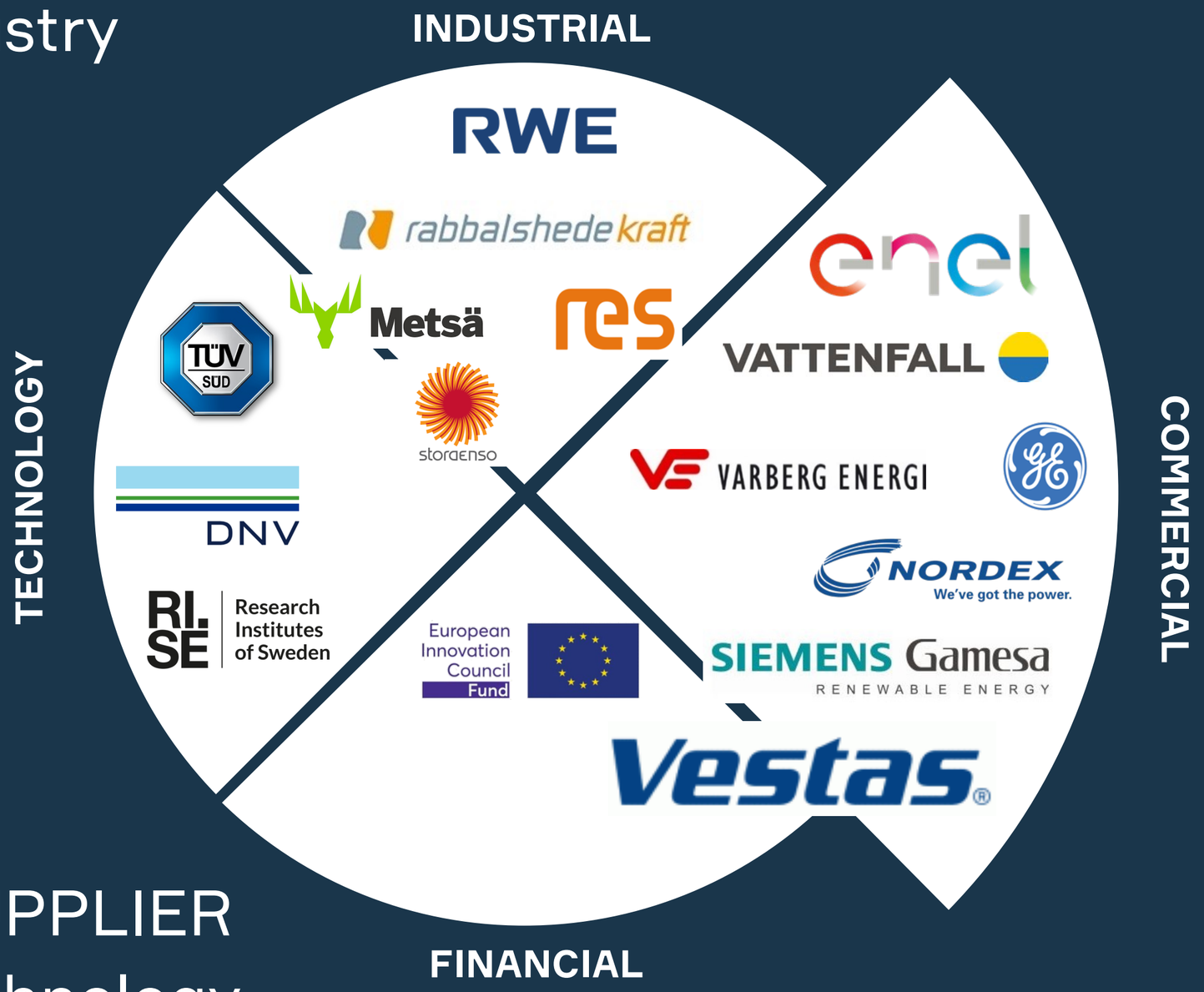
It shows that modular, LVL-based towers are by far the most cost-effective when building at the heights that the industry is looking for.



NB: Standard tubular steel towers are hardly relevant at this height and therefore not included in the comparison.

Partnerships with industry giants

Market worth €40 BILLION



Modvion - 1st TIER SUPPLIER of Components & Technology

modvion

Industry committed to sustainability

Vestas

news.cision.com / Vestas Wind Systems A/S / Vestas to become carbon-neutral ...

Vestas to become carbon-neutral by 2030

MON, JAN 06, 2020 09:42 CET

News release from Vestas Wind Systems A/S

Aarhus, 6 January 2020

CNBC MARKETS BUSINESS INVESTING TECH POLITICS CNBC TV

The world's biggest offshore wind developer wants a carbon-neutral supply chain

PUBLISHED TUE, FEB 4 2020•9:23 AM EST

Anmar Frangoul

SHARE

RWE

modvion

Enabling climate-neutral wind power

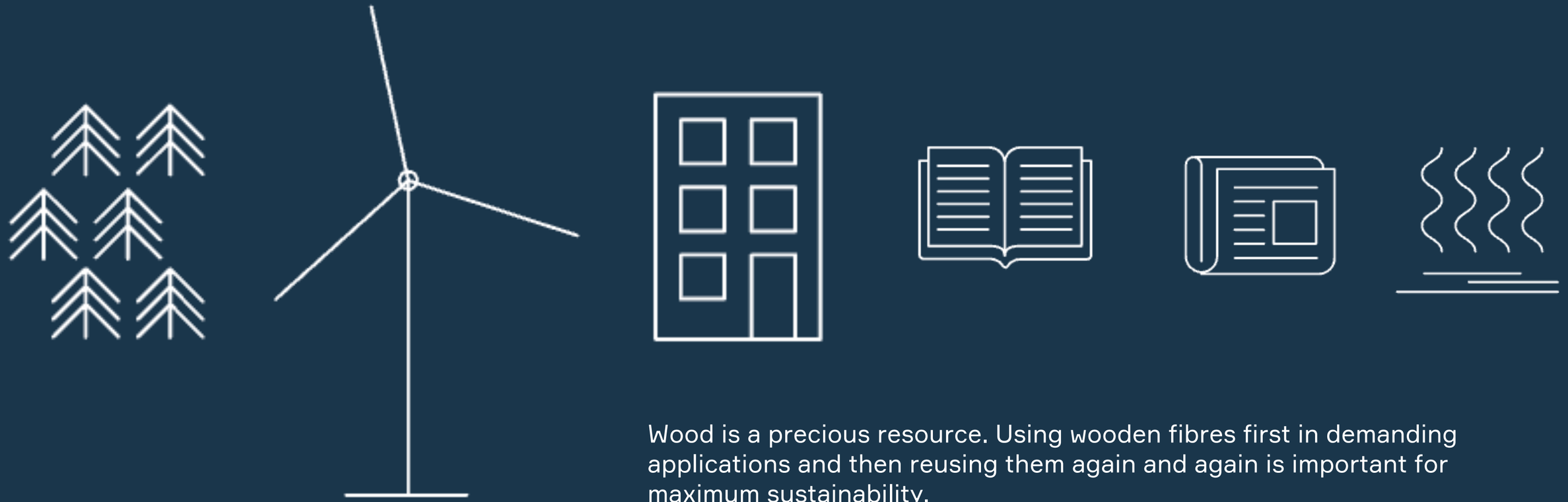
90% less
Emissions for the tower

Carbon sink
Wood stores CO_2

30% total
Reduction for the industry

modvion

Material can be used again and again



Wood is a precious resource. Using wooden fibres first in demanding applications and then reusing them again and again is important for maximum sustainability.

Modvion’s towers can be seen as storage for future building material.

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And it works!

First prototype raised 2020
In the archipelago of Gothenburg

Currently in production for a commercial scale tower, reaching 150m total height. One module is 15m long.

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The process

Renewable energy built with renewable materials.

Join us in building the next generation of tall wind turbine towers.

Modvion is currently raising capital through a convertible note.

Contact: **gustav@modvion.com**

modvion