Amsterdam energy storage investment trends

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A decarbonization journey will require careful trade-offs to address the balancing act of decarbonization and issues of affordability, security of supply, and competitiveness. The past two years have shown how high energy prices can jeopardize the viability of energy-intensive industry (which accounts for about 18 percent of the Dutch economy and 1.6 million jobs) and affordability for Dutch households. High energy prices have been a factor in (temporary) shutdowns of multiple industrial plants.

A sustainable-fuels hub to help decarbonize commercial transport. The Netherlands" density of existing infrastructure and industrial players, including the Port of Rotterdam and Schiphol Airport, could allow it to become a sustainable-fuels hub while solidifying its role as a leading logistics gateway to Europe. By producing and distributing bio-based and synthetic fuels, the country could potentially abate three to four MtCO2e per annum and create EUR1.5 billion to EUR2.8 billion of (export) market value annually by 2035.

Clean-hydrogen infrastructure powered by an additional ten gigawatts (GW) of offshore wind energy. To unlock the next wave of decarbonization in energy-intensive industries (such as iron, steel, fertilizer, and refining), the Netherlands would have to competitively produce ten GW of clean hydrogen by 2035. Key investments in clean hydrogen could reduce emissions by ten to 20 MtCO2e per annum. To produce affordable, clean hydrogen, significant cost-competitive renewable power is required. This forward-leaning move is therefore a difficult one.

Initial green hydrogen projects show that the cost of green hydrogen is three to four times higher than gray hydrogen (hydrogen produced from gas). Most users of hydrogen (that is, industrial companies) are competing on a global scale, often with low margins on their products. As a result, higher costs would affect their profitability. A careful trade-off between competitiveness and decarbonization is needed.

In parallel, the Netherlands could consider introducing more-granular bidding zones and co-locating supply and demand to avoid network constraints in the short term. Adding renewables combined with more-flexible power solutions would allow the Netherlands to cut emissions by as much as ten to 20 MtCO2e per annum by 2035. This forward-leaning move is different in that it enables the others; green power is a prerequisite to making other sectors greener.

Identifying what needs to happen is only the first step. To move from ambition to action requires a step change in existing public and private frameworks. Six unlocks can support this shift (Exhibit 3):

Shift from planning to problem solving. The pace and scale of the transition needed to decarbonize should not be underestimated. Tight coordination across value chains, clear signaling of policy intentions, and agility in decision making will be critical success factors in achieving targets. Doing so will provide the right incentives

for innovative players. There is no one plan that will work, and any plan will need to be updated continuously as circumstances change. It is most important to start solving the problems that are currently impeding progress.

Radically solve for economy-wide bottlenecks. The Netherlands, known for innovation, faces significant challenges in its journey toward decarbonization. These challenges, including permitting rules, labor market shortages, access to critical components, and balancing the nitrogen budget, are limiting its efforts to decarbonize the economy. Resolving these challenges requires proactive and determined decision making across the public and private sectors.

Signal and derisk through infrastructure development. Currently, many emitters face difficulties with their energy transition plans due to uncertainty about, for example, the timely availability and usage costs of infrastructure. Governments could create clarity throughout the value chain with targeted interventions, such as by taking the lead on or investing in critical infrastructure, as it has done successfully in the past (for example, the gas network, power grid, and water system), and creating regulation to encourage the development of new value chains.

Rethink the approach to risk. Governments and companies may want to rethink their definition and perception of risk. Leaders may want to not only evaluate the inherent risk around green investments but also explicitly weigh the risk of not investing.

Develop innovative transition finance opportunities. Financial institutions have an important role to play in helping structure the required funding and accelerating access to capital, when needed. There is a significant opportunity for financial institutions that get it right. By strategically allocating capital, these institutions could clarify which developments they want to support, while also offering support mechanisms. Moreover, developing innovative transition finance opportunities will help financial institutions meet their commitments.

Secure a support base among stakeholders. Developing support for the decarbonization agenda across stakeholders might be the most vital action--and the most complex. This requires clearly communicating about the consequences of inaction, increasing affordability (including through innovation support as highlighted above), clarifying the contributions expected from various stakeholders, and finding the line between preserving the interests of stakeholders directly affected and achieving decarbonization in the Netherlands.