



Sustainable Batteries For Grid Integration





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No Energy Transition
without Energy Storage



Grid investment
2040: 200bn €

Renewables
2040: 120 GW

Installed Storage Capacity
2040: 80-280 GWh



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2040: 80-280 GWh



Raw materials & recycling

Refining of materials

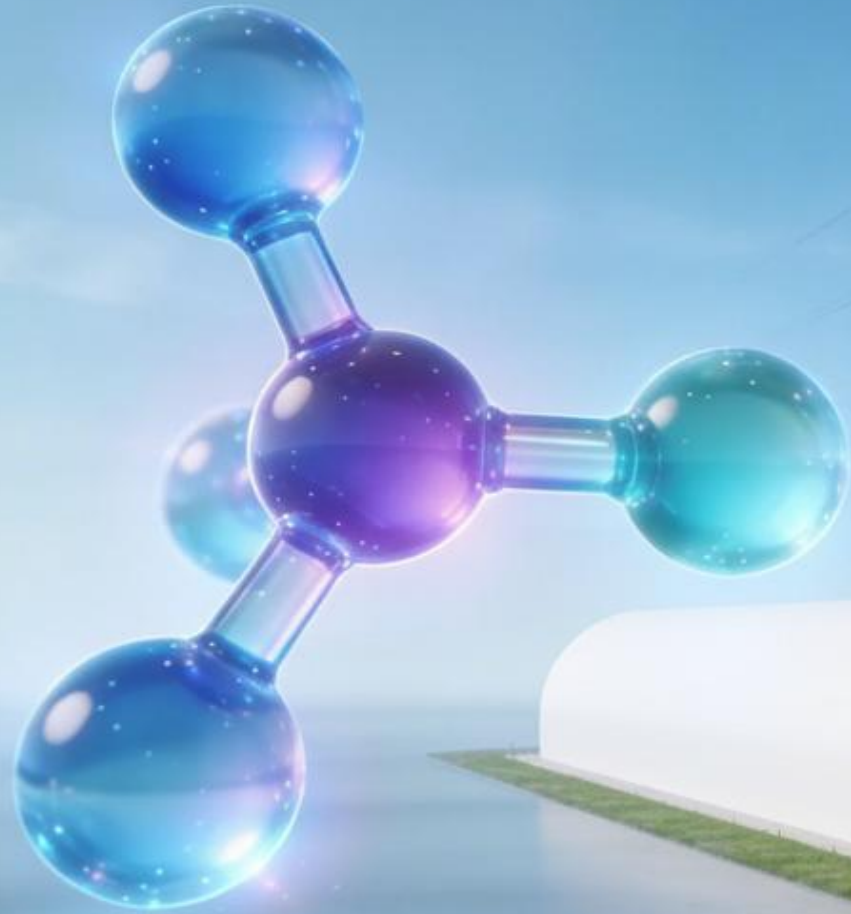
Materials & components

Cell production processes

Module, pack systems

Application, syst. integration

Reuse & second life



Redox BLEND

Flow battery components



Raw materials & recycling

Refining of materials

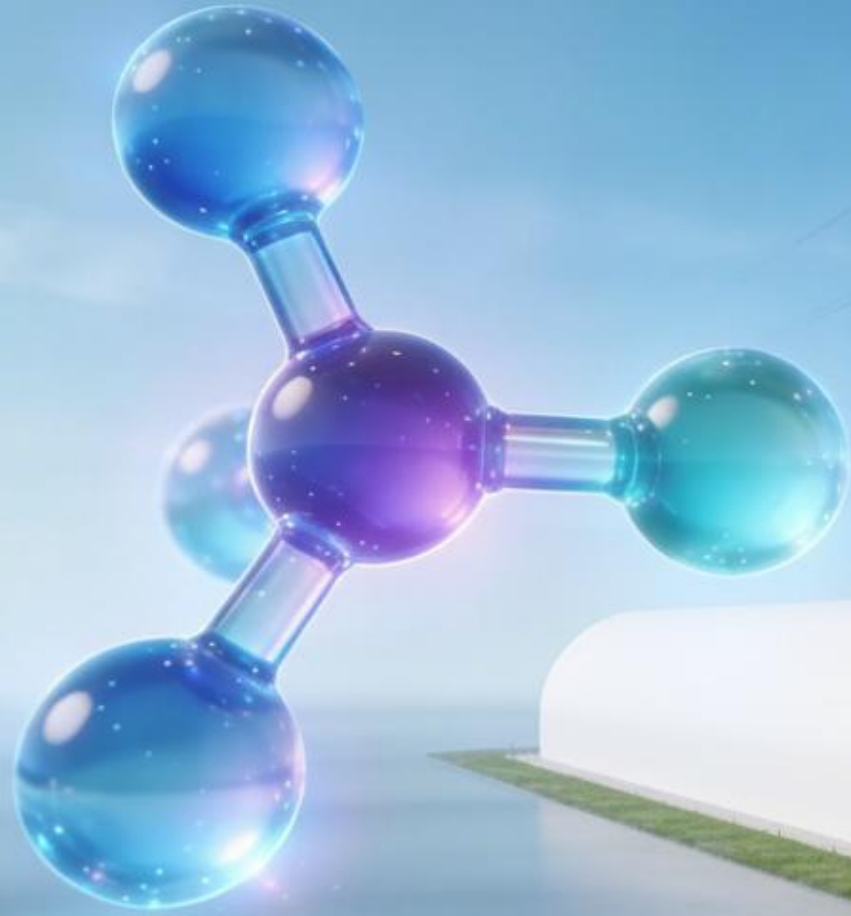
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5 pilots for SLD
Centre of Expertise

Raw materials & recycling

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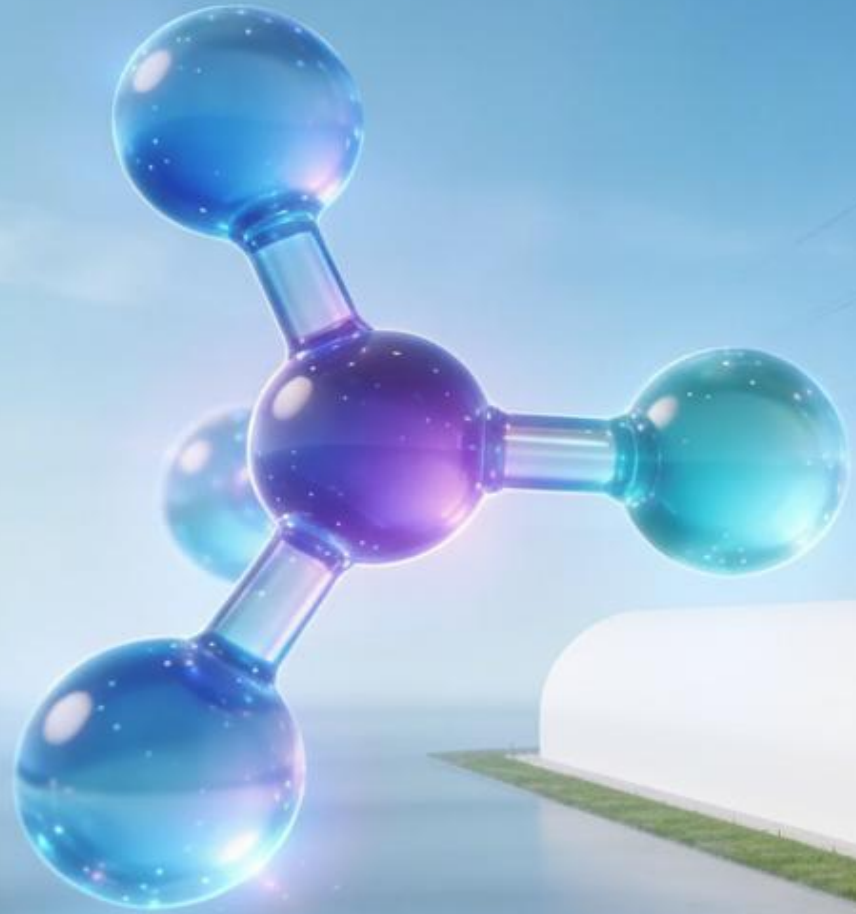
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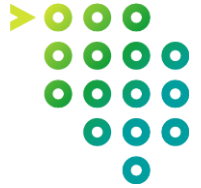
Application, syst. integration

Reuse & second life



IMKE

*Production lines for
batteries*



➤ NGF3 Stationary Battery Programs

Novel organic electrolyte chemistry

Redox BLEND



TRL 1-3

Next gen RedOx flow battery components

- non-flammable
- non-toxic
- free from critical raw materials

Market validation and scaling



TRL 4-6

3 LDES technologies across 5 pilot sites

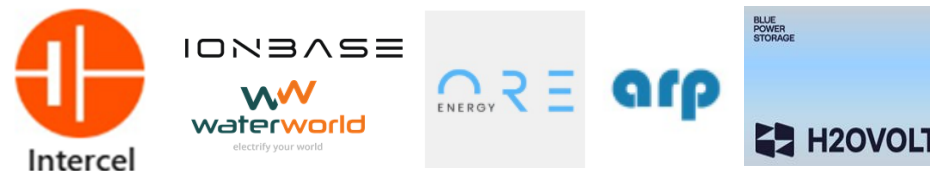
- saltwater acid–base flow battery
 - hydrogen–iron flow battery
 - sodium-salt battery
 - lithium-ion benchmarking (0-8h storage)
- Scale: from 10 kWh modules to multi-MWh systems (8-100h duration)

Centre of Expertise

Independent knowledge hub for long-duration battery deployment

Production line demonstration

IMKE



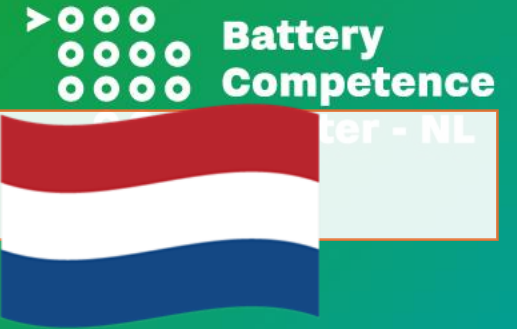
TRL 7-9

Production infrastructure and commercialisation of individual companies

The Netherlands' Energy Transition

5 Key Takeaways

• *Source: Industry research*



Energy storage growth is explosive—essential for stable, profitable renewables and grid resilience.

Clear national storage targets and fast permitting are urgent to unlock investment and accelerate deployment.

European balancing markets offer scale, but Dutch success depends on tech innovation and flexible risk management.

Long duration and digital storage solutions (LDES, EMS) create new business models; agility is key as technology evolves.

The Netherlands must build its own value chain and secure partnerships to stay competitive in the global battery race.

Europe's Energy Transition



5 Key Takeaways Energy Storage 2026

• Source: Energy Storage Summit in London



- Market dynamics favouring BESS investments**
Falling battery costs and improving revenue opportunities make energy storage an attractive investment, driving rapid deployment
- Grid connection challenges & regulatory uncertainty**
Grid connection bottlenecks and congestion remain challenges. Rapid policy changes add complexity, making it hard for stakeholders to keep up and impacting investor confidence
- The rise of large-scale battery projects**
Larger (>300MW) battery projects are becoming more common due to economies of scale, thermal plant closures and grid stability needs
- The evolution of the offtake landscape**
More small, independent optimizers are entering the market, particularly in Europe. Offtake agreements are shifting, with an increase in the number of tolling structures, providing firm revenues for asset owners
- Emerging European markets gaining traction**
While the UK and Germany remain key, Spain, Poland, and the Nordics are emerging markets due to favorable regulations and growing renewable energy deployment

“With our National Battery Strategy, we ensure that the increasing use of batteries in society proceeds safely, responsibly, and sustainably, and we aim to make smart use of the opportunities it offers.” - State Secretary for Infrastructure and Water Management

The Netherlands- key player in sustainable, long-duration battery technologies by building an **integrated, circular** and **application- driven value chain**- leveraging Dutch strengths and supporting the energy transition, in close collaboration with European and International partners.

