



Innovatieve technologieën voor Groene Waterschappen

Blue Battery – opslag in zoet & zout water

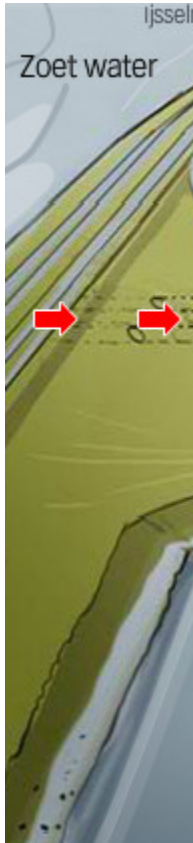


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*Storing electricity in only
water and table salt*



Company background



David Vermaas
Chief Technology Officer



Jan Post
Managing Director



Jiajun Cen
Chief Financial Officer



Jan Willem van Egmond
Research & Development



Emil Goosen
Product Developer



Edoardo Cometti
Business Developer



Technische Universiteit Delft



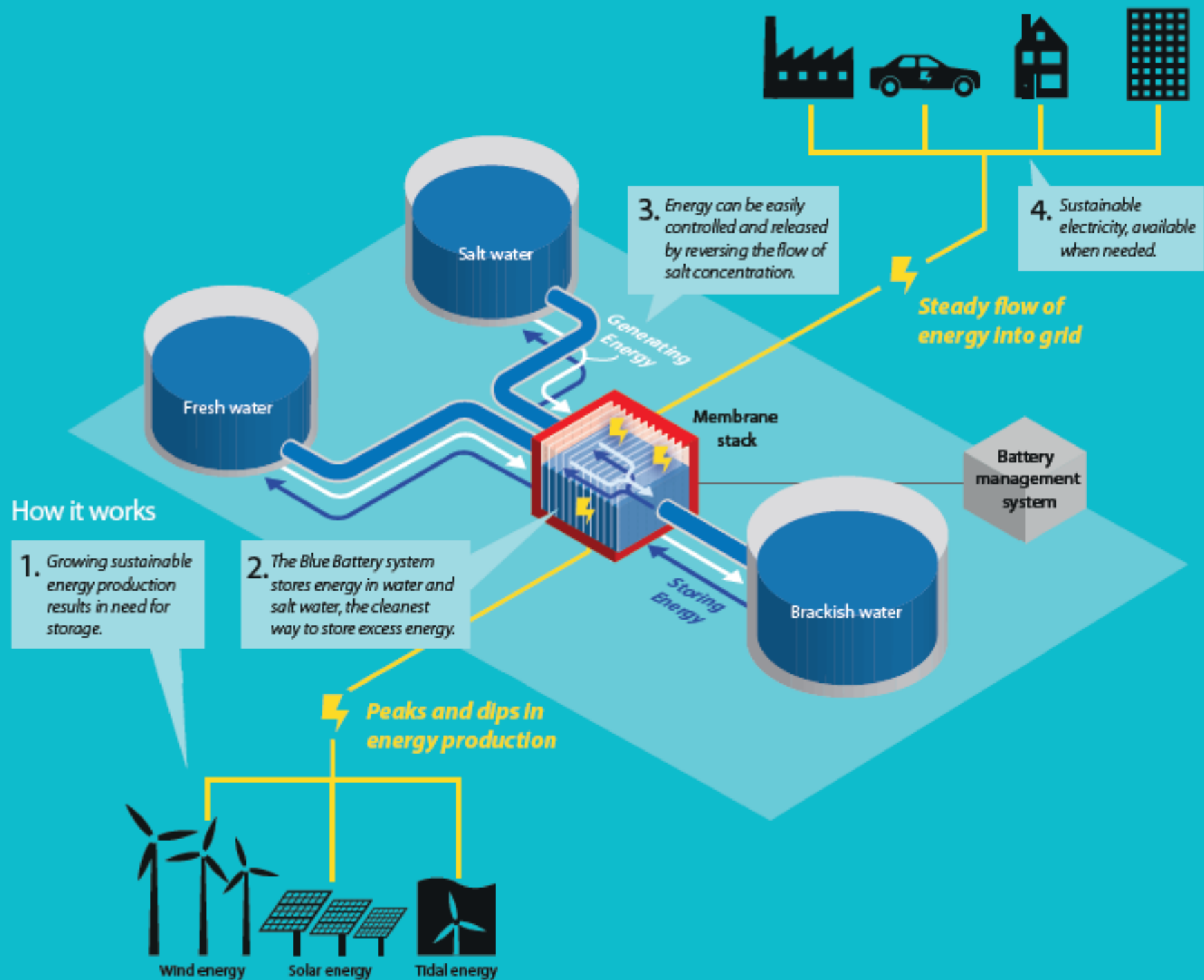
Opslag van elektrische energie

- Opwekking uit **duurzame bronnen** fluctuerend en onregelbaar
- Energieprobleem van de toekomst: **elektriciteitsopslag**



Tijdschalen

- Kortdurig
- Dag
- Week
- Seizoen



Blue Battery



DUURZAAM



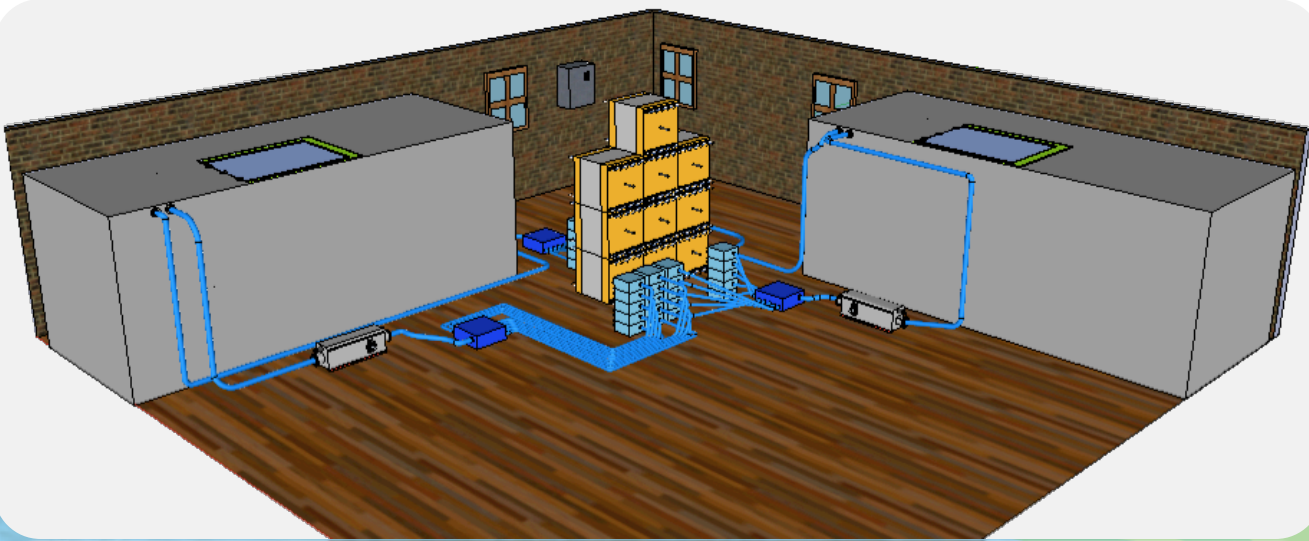
SCHAALBAAR



VEILIG

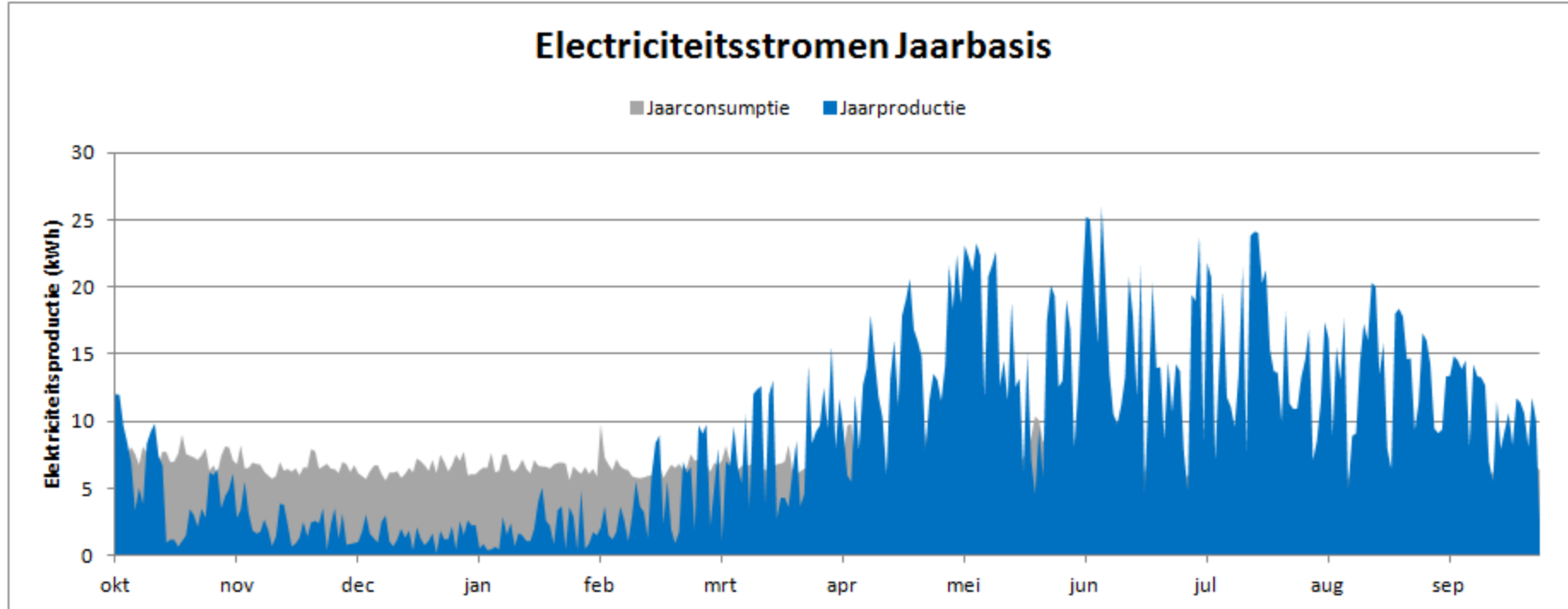
Toepassing

- Toekomstgericht
 - Energie efficiëntie
 - Energieneutraliteit
 - CO₂-voetafdruk verlaging

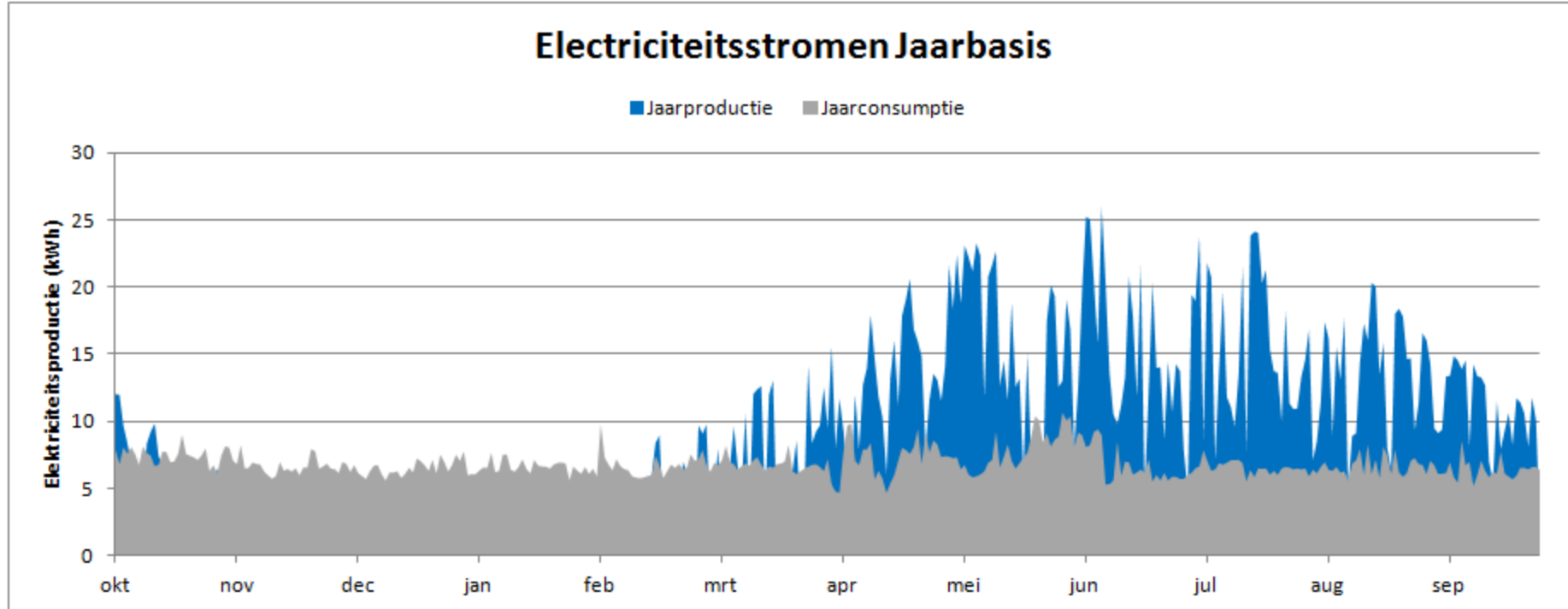


- Verlaging grid connectie
- Hogere capaciteit mogelijk
- Verhoging zelfconsumptie

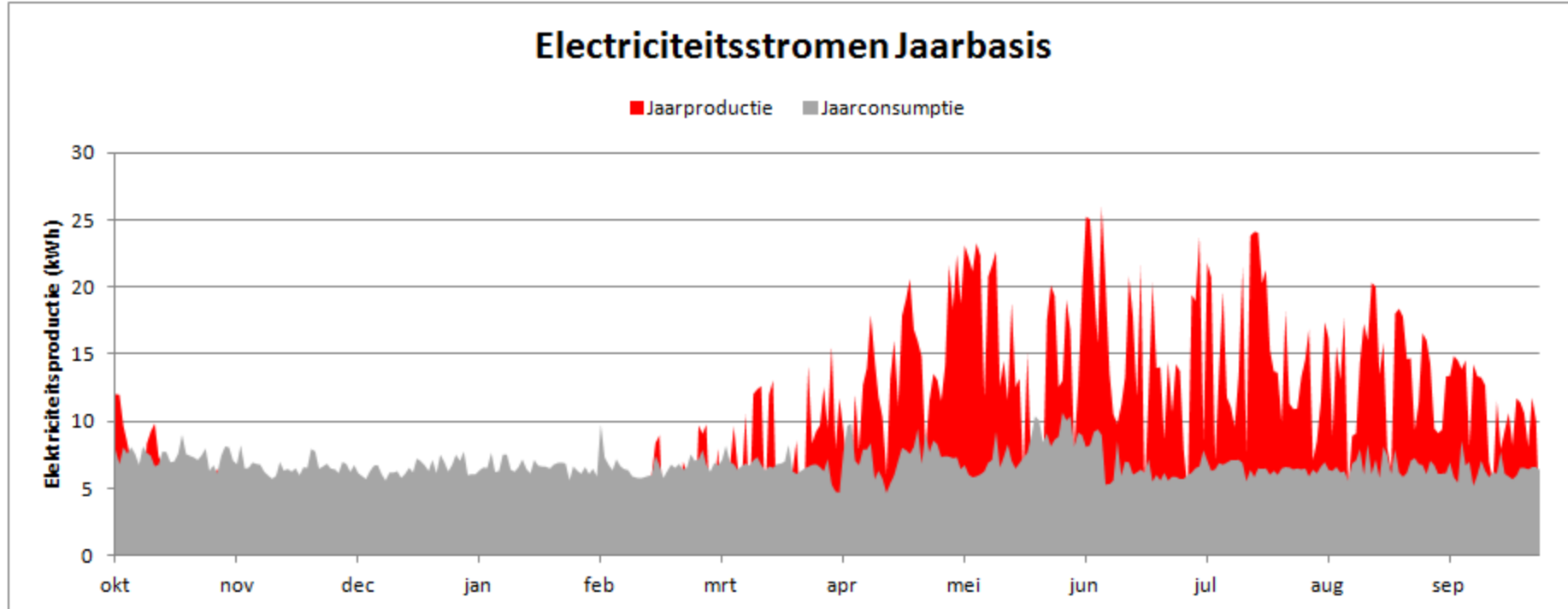
Verhoging zelfconsumptie



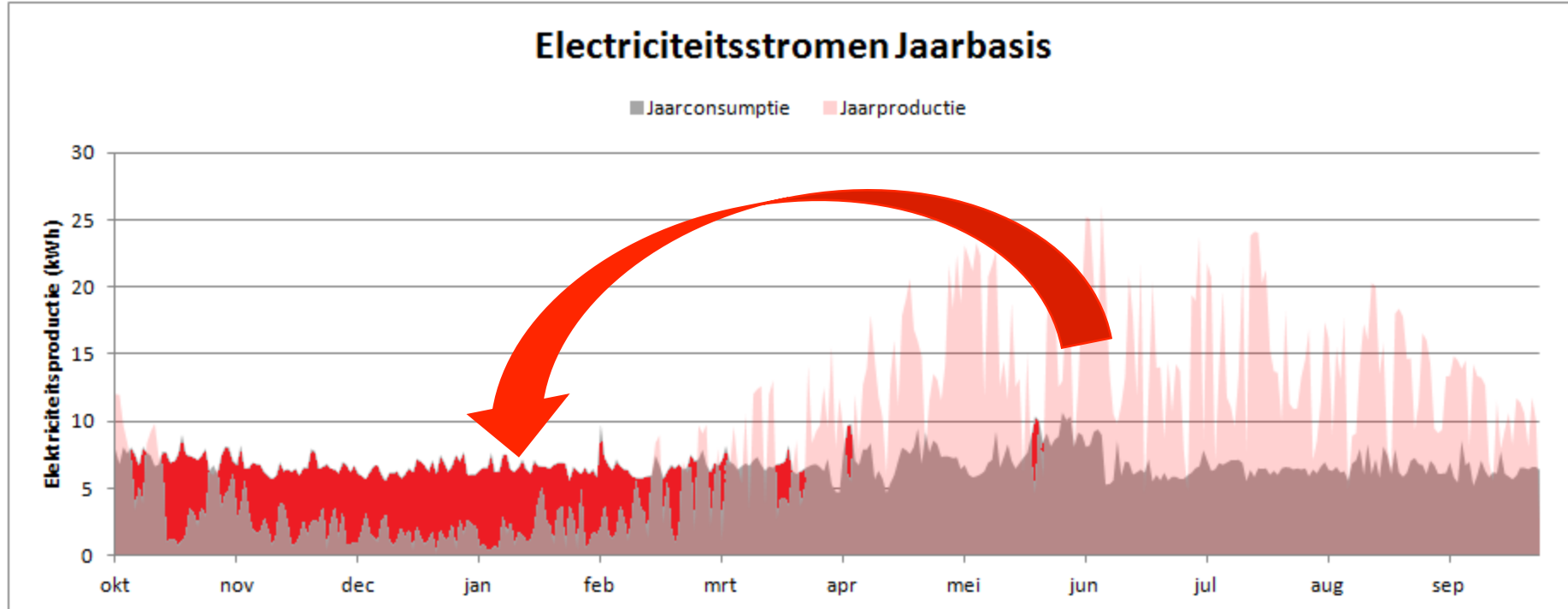
Verhoging zelfconsumptie



Verhoging zelfconsumptie

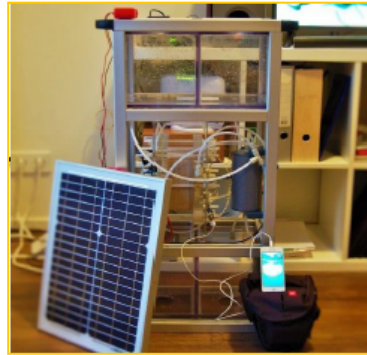


Verhoging zelfconsumptie



Ontwikkeling

- Drie PhD's
- Twee MSc-theses
- Meerdere patenten



2014 - 2015

TRL 3

TRL 4

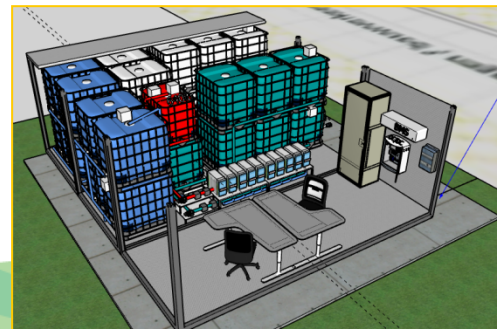
- Automatisch systeem
- Pilot test op The Green Village

TRL 5

TRL 6

2016 - 2017

- Prototypes
- Ontwikkeling automatisering
- Subsidies



2018

TRL 7

TRL 8

2020

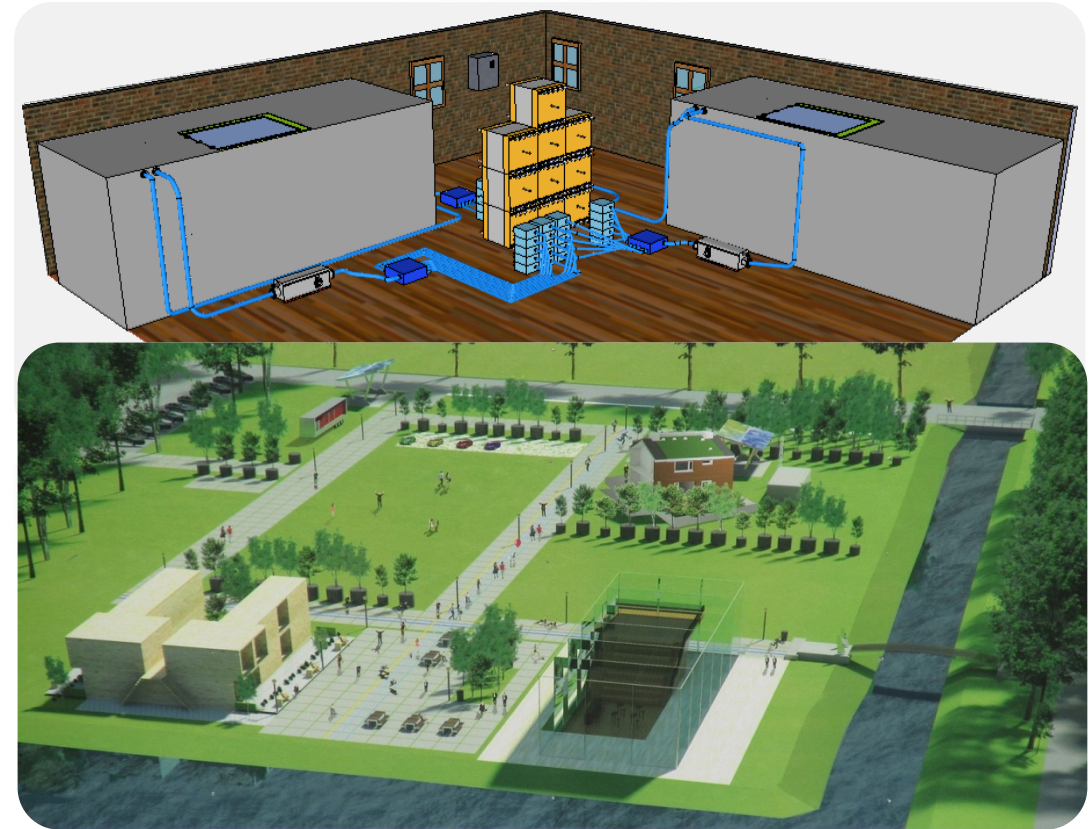
TRL 9

- Productontwikkeling
- Certificering
- Opschaling en verkoop

Eerste pilot

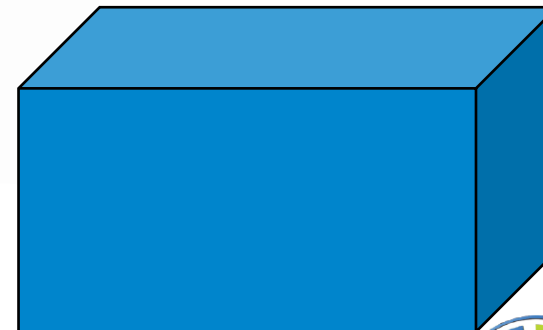
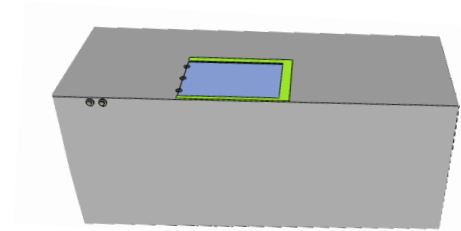
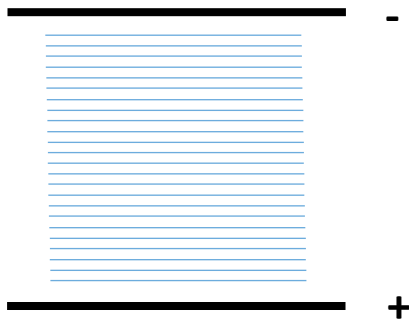
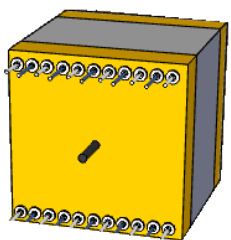
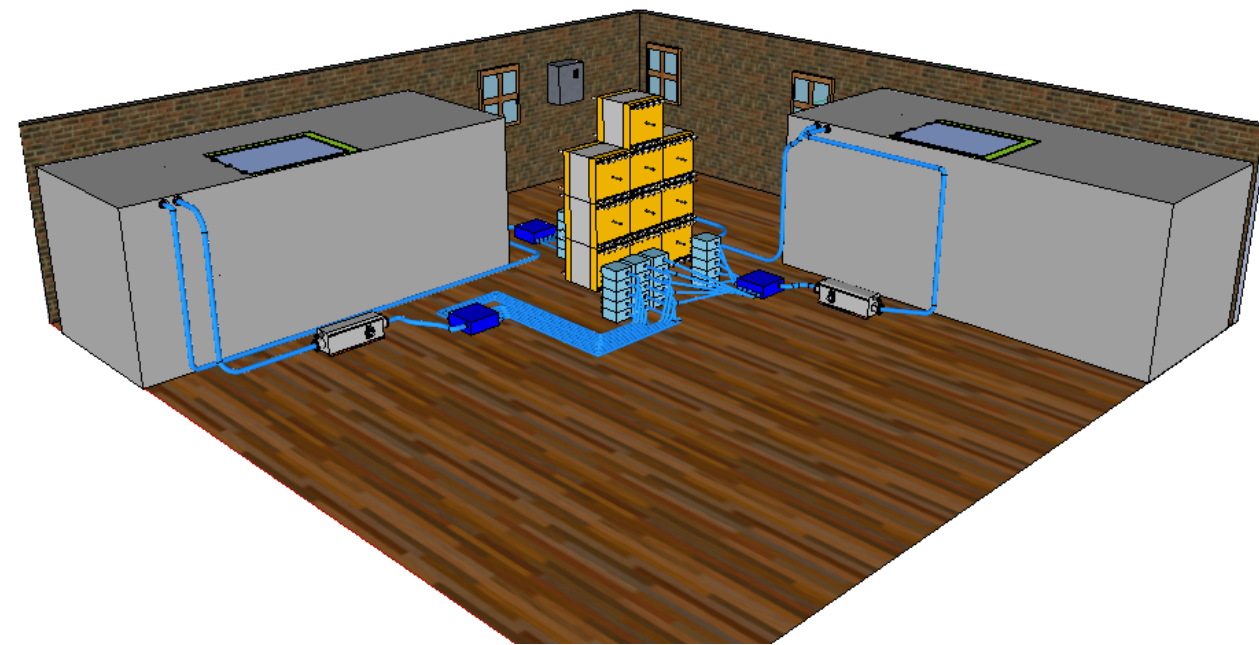
- Pilot fase
 - TRL 4 → TRL 6
 - 1 kW / 10 kWh
 - Twee fasen-project
 - Automatisering operatie

**THE GREEN
VILLAGE**

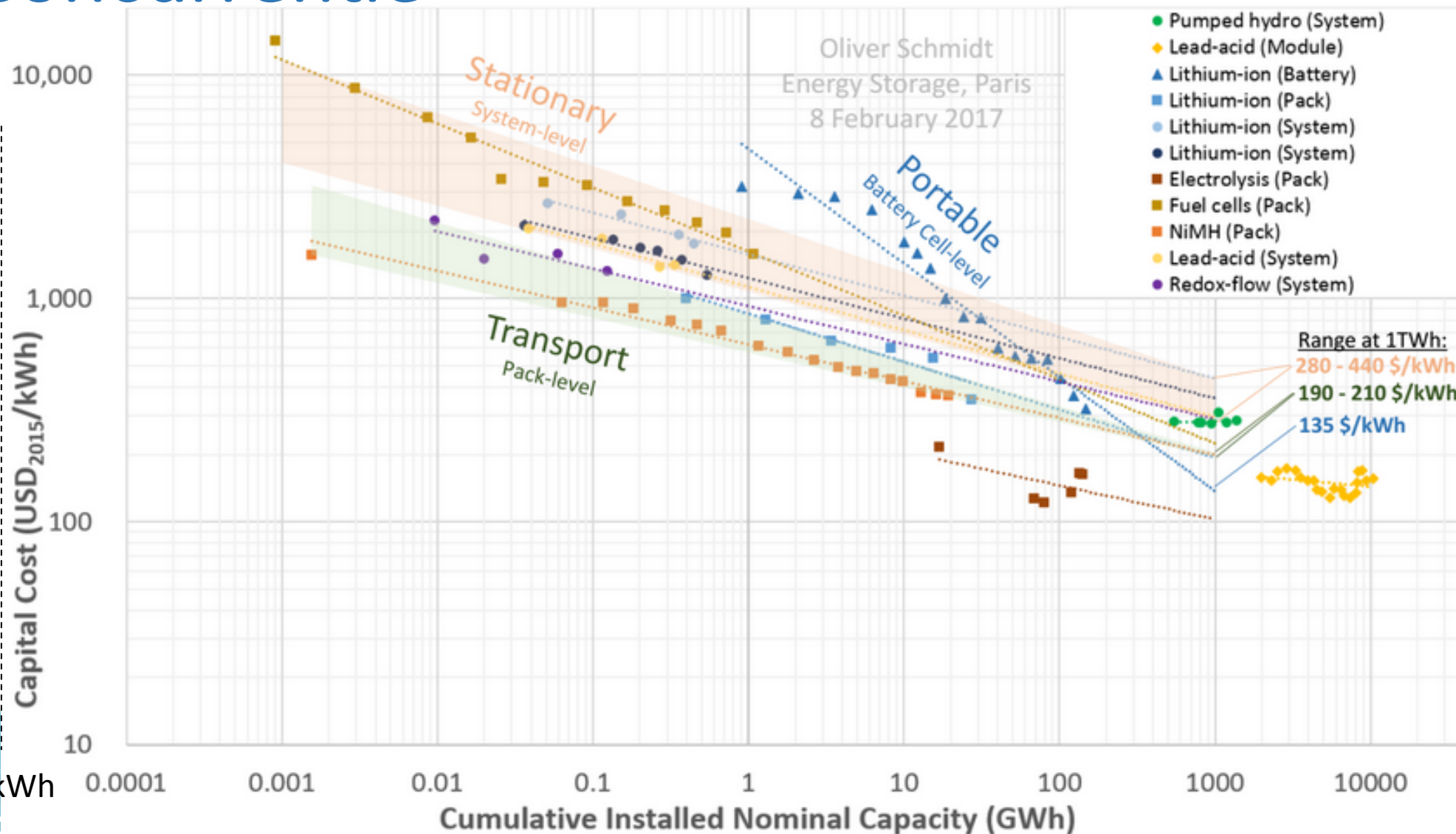


Ontwikkeling

- Aankomende vijf jaar
 - Opschaling
 - € x / kW + € y/kWh
- ➔ Hoe groter de opslagcapaciteit, hoe goedkoper het systeem!



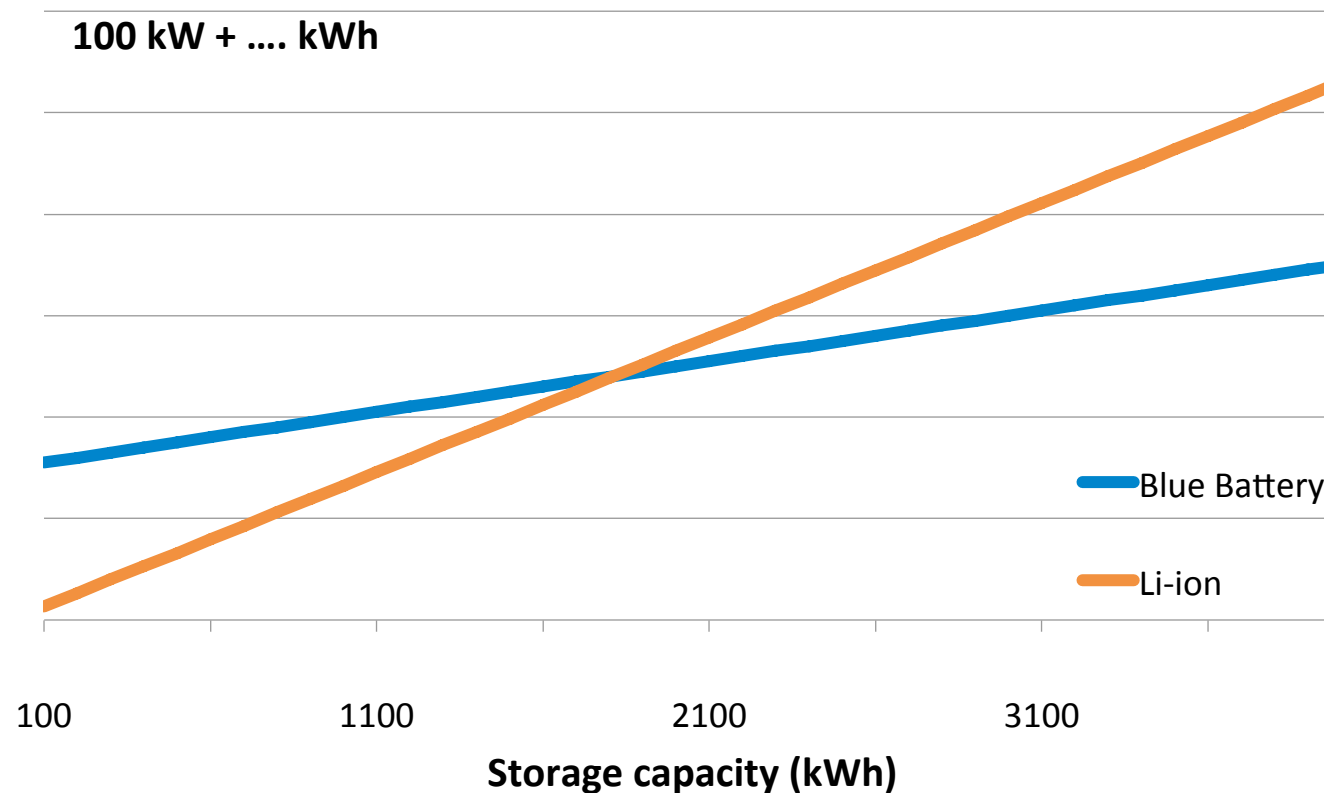
Concurrentie



35 kWh

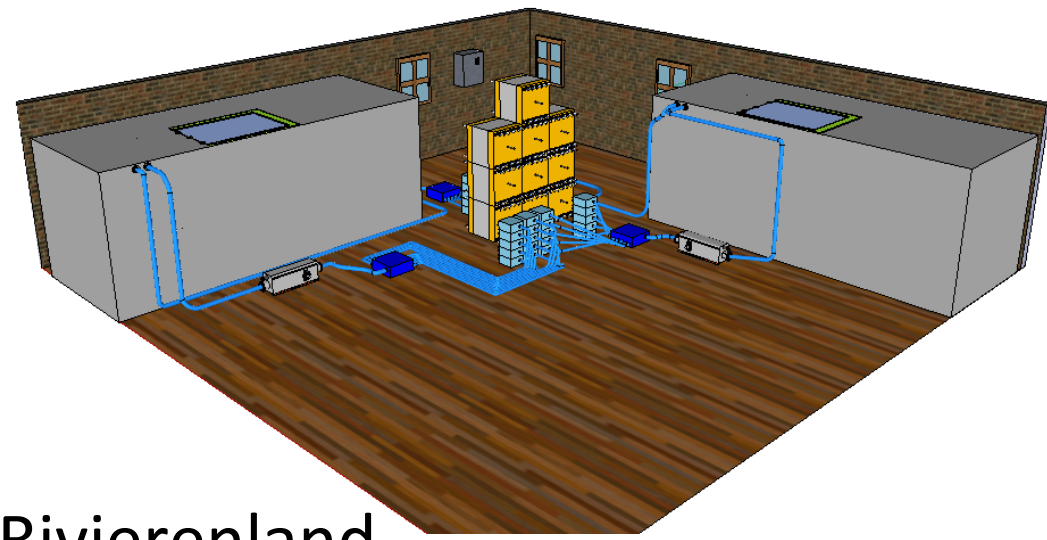
14

Concurrentie



Li-ion: € 265/kWh (2030-prijsverwachting)

Route



- **2017** Pilot Delft (*onder constructie*)
 - **2018** Pilot 2 + Proefopstelling Rivierenland
 - **2019-2022** Opschaling & productontwikkeling
- Marktfocus
 - Bedrijvenparken | Eilanden | Energieparken
- Technologieontwikkeling
 - Membranen | Elektrode | Systeemintegratie

Missie AquaBattery

- Ontwikkeling en verkoop van de Blue Battery
- Goedkopere en schonere energie
- Duurzame en hernieuwbare energie voor iedereen!



Thank you for your attention!



twitter.com/AquaBattery



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