
Fully Renewable District Energy

Aquifer Thermal Energy Storage in downtown Amsterdam

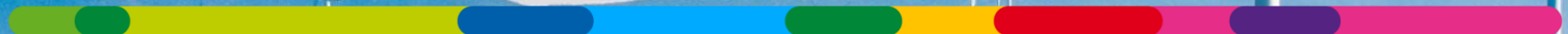
IDEA Conference – June 2016

Jarda van Spengen

Representative

DUTCH ATES Consortium

DUTCH
ates



☐ Confidential

☐ Limited

☐ Free

☐ Internal

DISTRICT HEATING & COOLING

DUTCH
ates



ATES DISTRICT HEATING IN AMSTERDAM

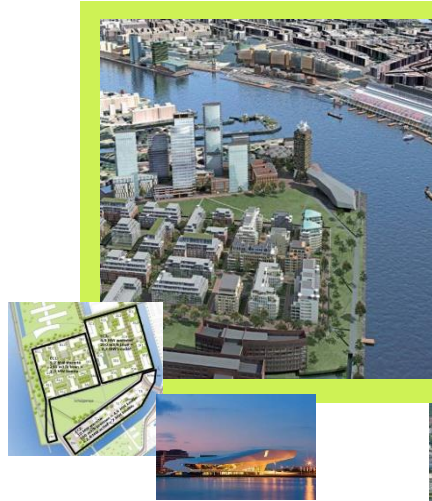
Amsterdam Financial District
Mahler IV, 2,8 M sq ft GFA



Amsterdam Financial District
Akzo Nobel, 0,35 M sq ft GFA



Amsterdam Centre
Overhoeks 3,2 M sq ft



Amsterdam Centre
Oosterdok 2,1 M sq ft



Amsterdam Centre
WesterIJdok 0,7 M sq ft



- 65%
CO₂

AMSTERDAM, OOSTERDOKSEILAND



2,15 Mio Sq.Ft. consisting of 400 apartments, offices, shops, hotels, bars, restaurants, public library, congress center, conservatory and growing

- 100% Cofely owned, 6,6 M\$ invested
- Runs 100% on green electricity last 2 years
- 14 MW Heat and 12 MW Cold (including bio-boiler)
- 24/7 remote supervision
- 65% energy savings
- 65% CO₂-reduction (100% green power)
- 3.360 ton CO₂-reduction
- 3 well pairs, total flow 3.300 GPM

OVERHOEKS – AMSTERDAM



1,6 Mio Sq.Ft. connected today, additional 0,8 – 1,6 Mio SqFt expected by 2019

Total plan consisting of 2.200 apartments, offices, clubs, museum, schools, hotels, bars, restaurants

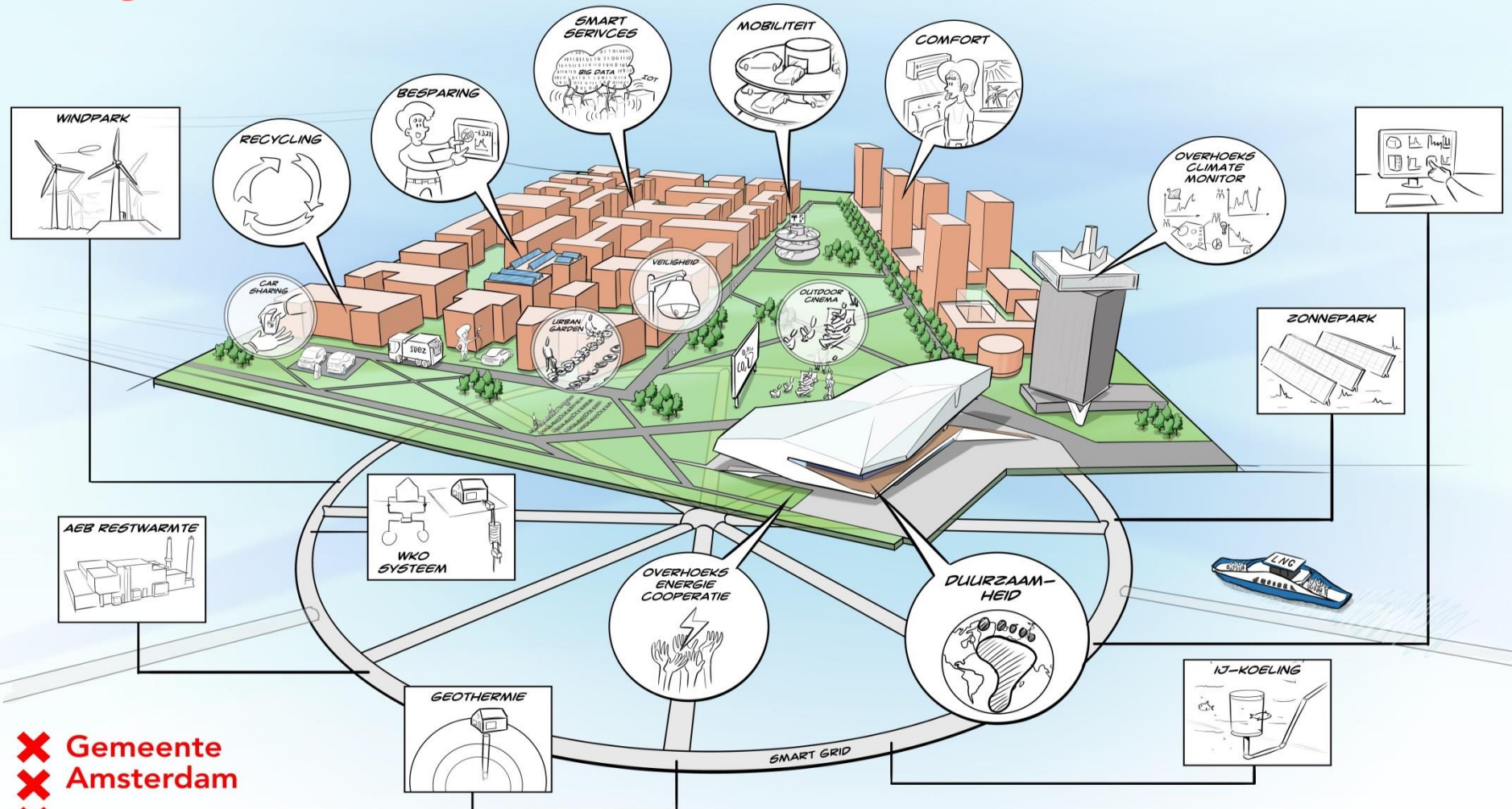
- 100% Cofely owned, 8 Mio \$ investment
- 1 Central Energy Plant in Parking Garage
- 24/7 remote supervision
- 40% energy savings, improving to 65%
- 65% CO₂-reduction (100% green electricity)
- 3.360 ton CO₂-reduction
- 2 well pairs (2-4 in next phase), current 2.000 GPM



DEVELOP TO SMART CITY CONCEPT

Wijoverhoeks

Design by ENGIE



KEY SUCCESS FACTORS: PARTNERSHIP & OWNERSHIP

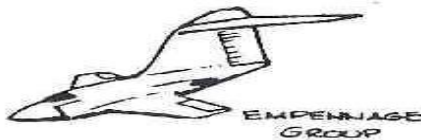
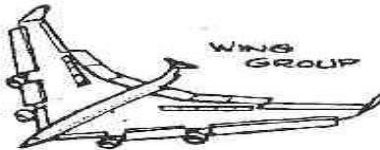
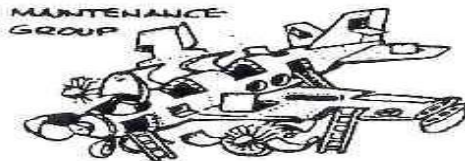
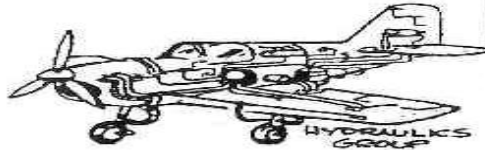
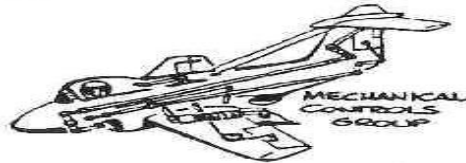
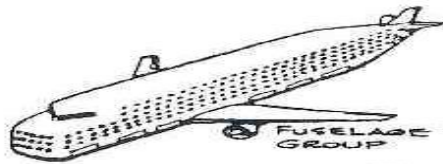


SHORT TERM OUTLOOK

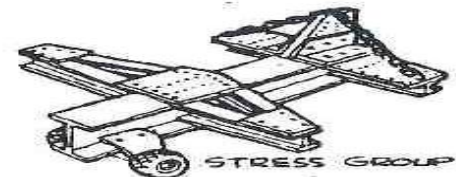
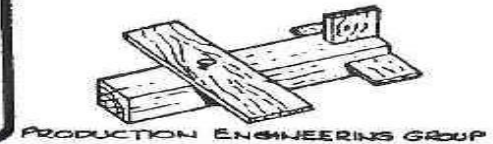
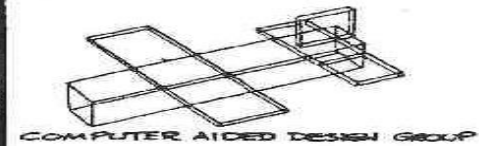
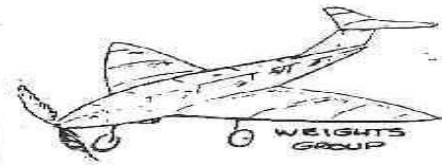
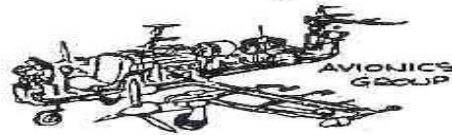
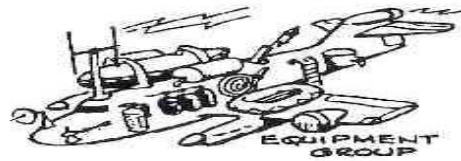
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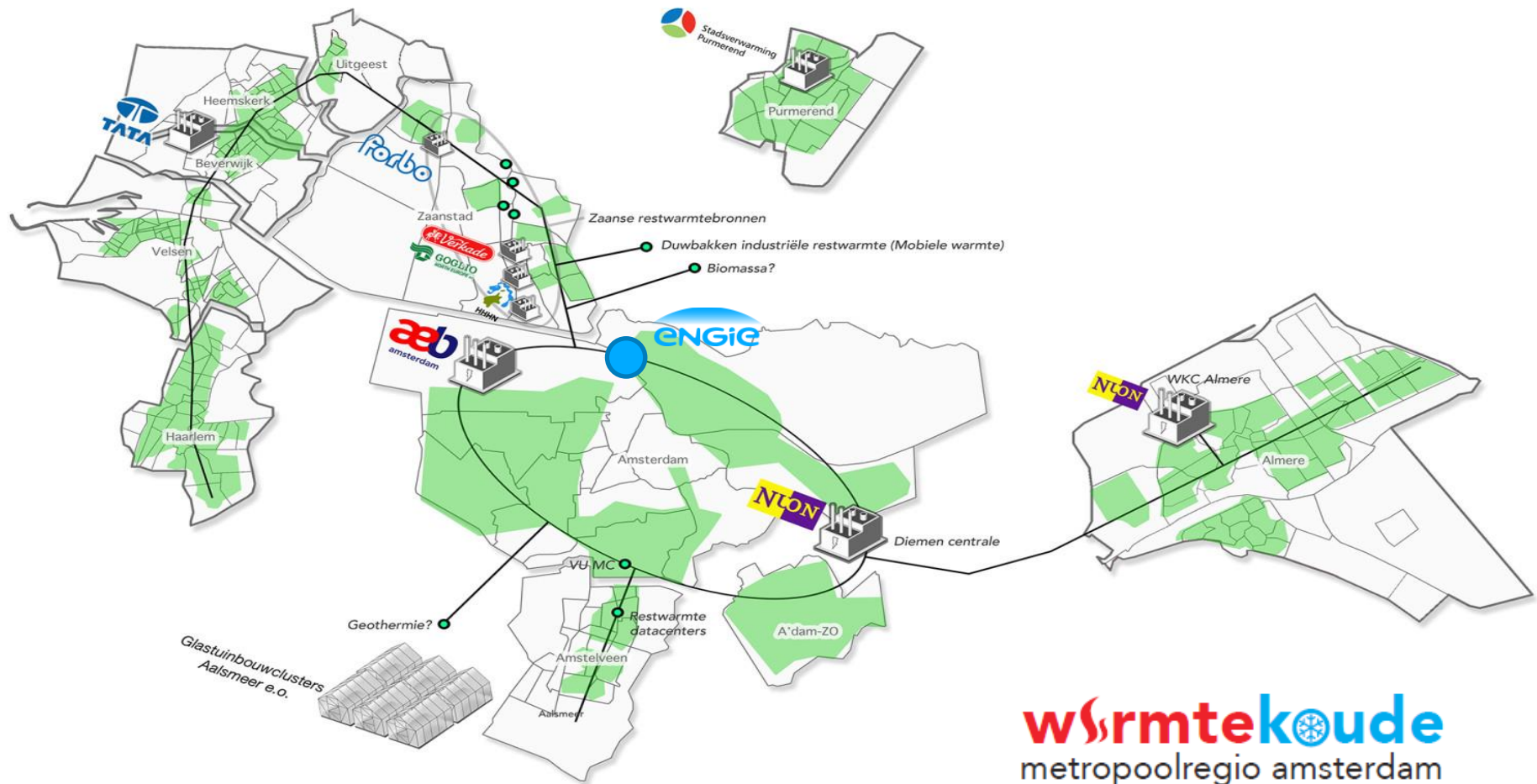
SYSTEM INTEGRATION DEMANDS COOPERATION



*IDEAL
PLANES
OR WHAT
CAN HAPPEN
IF ONE OF
THE TEAM
GETS ALL
THEIR OWN
WAY!*



MULTI LEVEL PLANNING & OPTIMIZATION

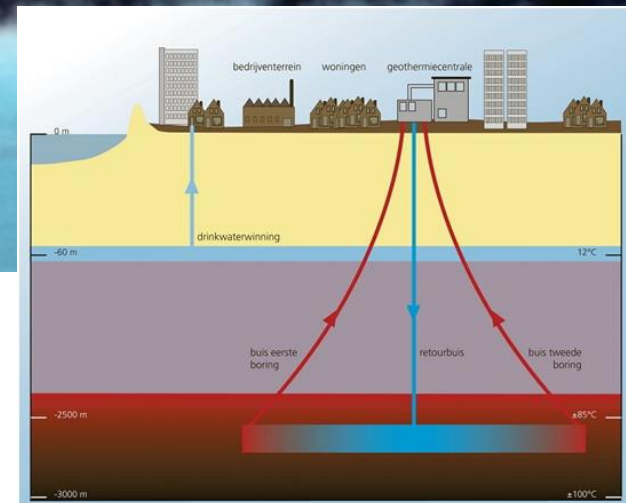




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THE NEXT SOURCE: HEAT WITHOUT GAS



QUESTIONS?



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Courtesy of:

ENGIE Energy Solutions / Metropole Region Amsterdam MRA


warmtekoude
metropoolregio amsterdam

