

Energietransitie



prof.dr.ir. **Andy van den Dobbelsteen** – TU Delft, AMS Instituut, NL Greenlabel, DGBC

sLIM Masterclass - online, 14 oktober 2020

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"Energieslaven"

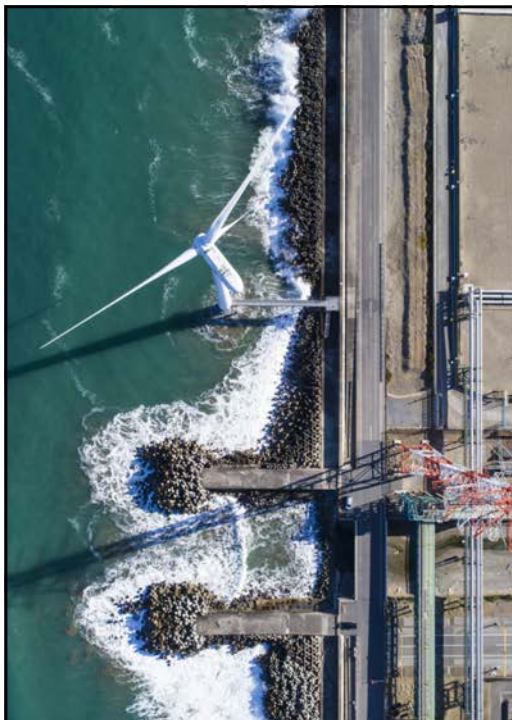
<https://www.youtube.com/watch?v=iuOsXyzUJ-ks>

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Energietransitie, ja maar...

- Hoge investeringen
- Onzekere terugverdientijd
- Lastig: vereist aanpassingen
- Gedoe: verbouwing in en aan huis
- Techniek vertrouw ik niet
- Aannemer/installateur wil niet
- Gemeente moet nog kiezen: all-electric, warmtenet of gas
- Van hogerhand opgelegd; ik bepaal het zelf wel
- Überhaupt nodig?

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TU Delft position on Climate Action

The Climate Action mission of TU Delft

There is no doubt that the anthropogenic emissions of greenhouse gases are changing our living environment through their impact on the global climate system. TU Delft will harness its innovative powers to support the world-wide transition to non-fossil energy, and adaptation of the living environment to the consequences of global warming.

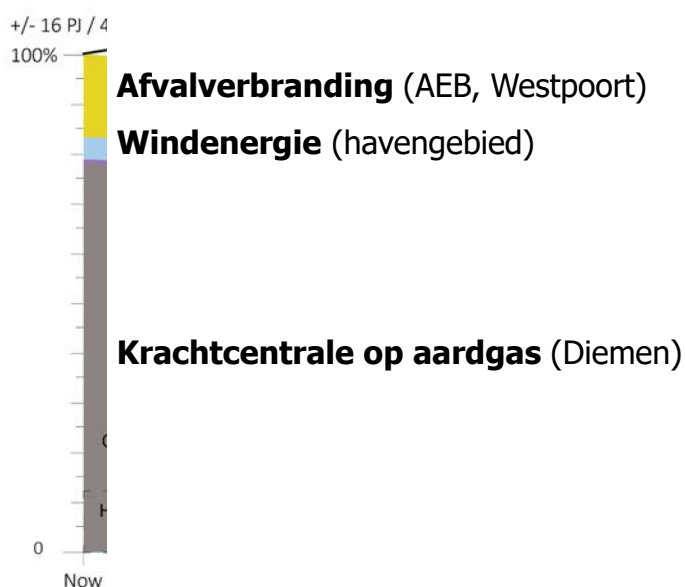
<https://www.tudelft.nl/en/tu-delft-climate-institute/tu-delft-position-on-climate-action/>

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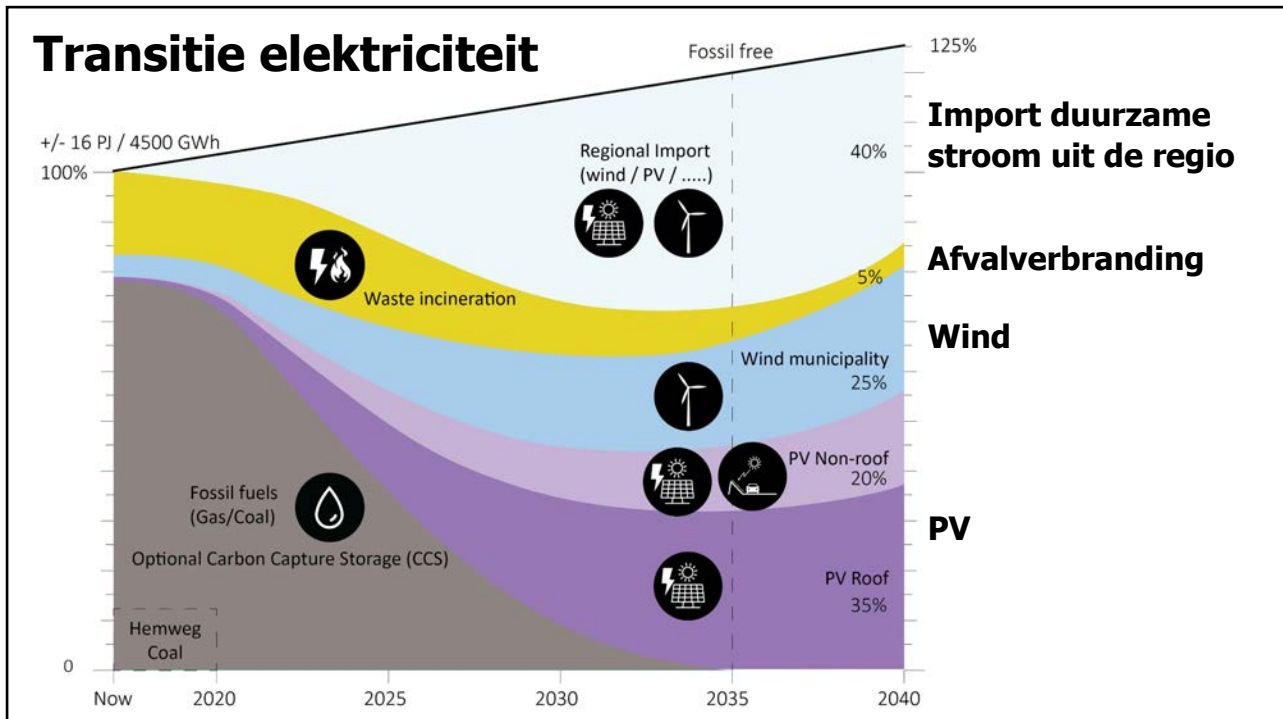


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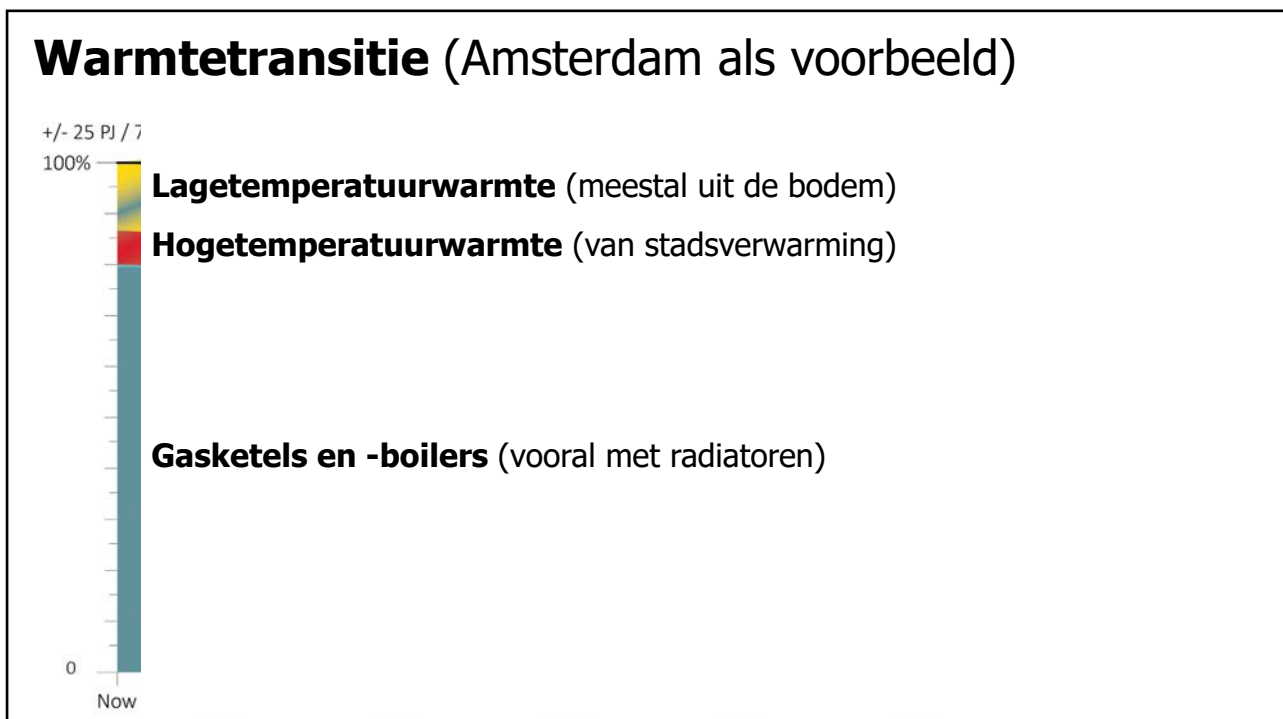
Transitie elektriciteit (Amsterdam als voorbeeld)



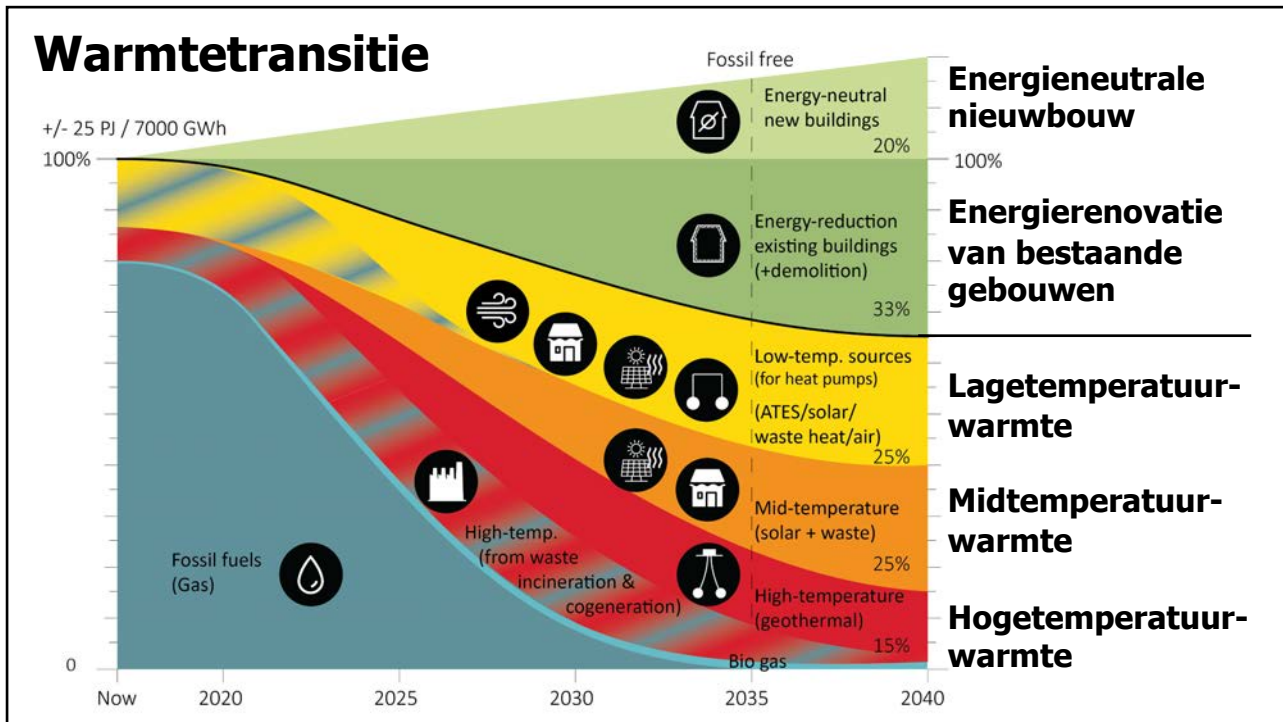
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Stroomversnelling



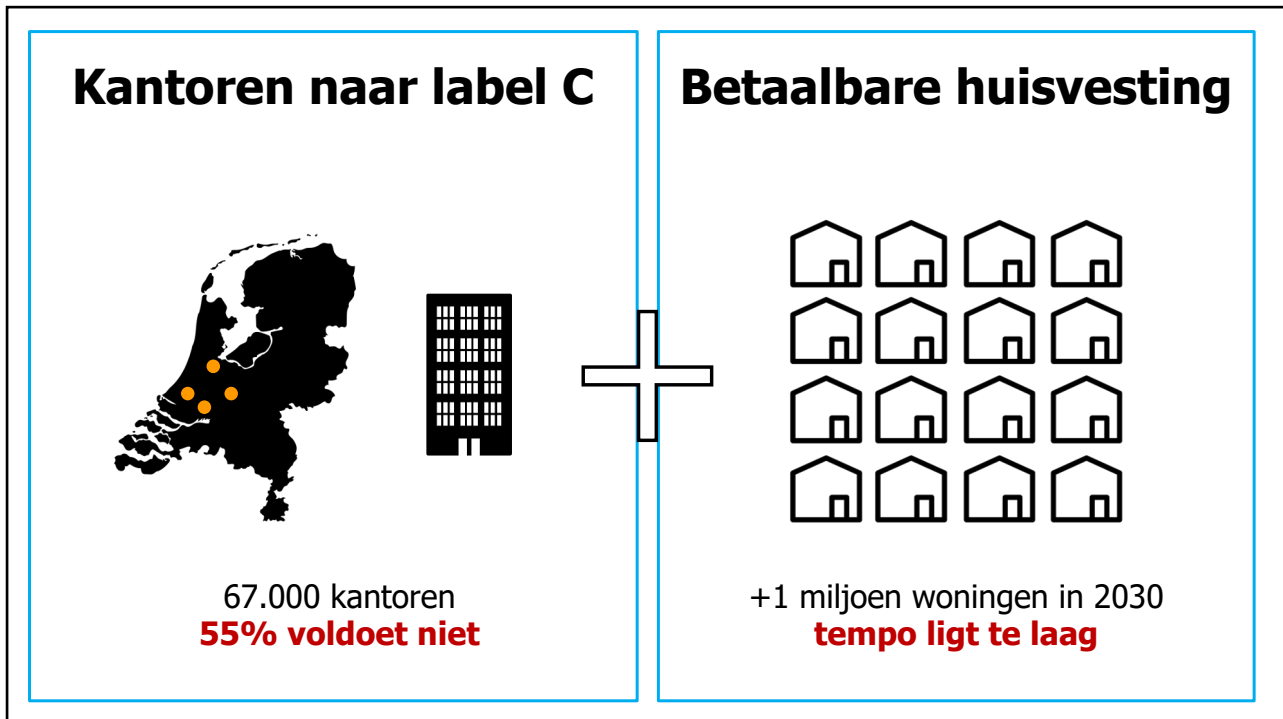
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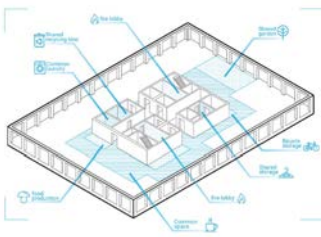
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Gedeelde faciliteiten

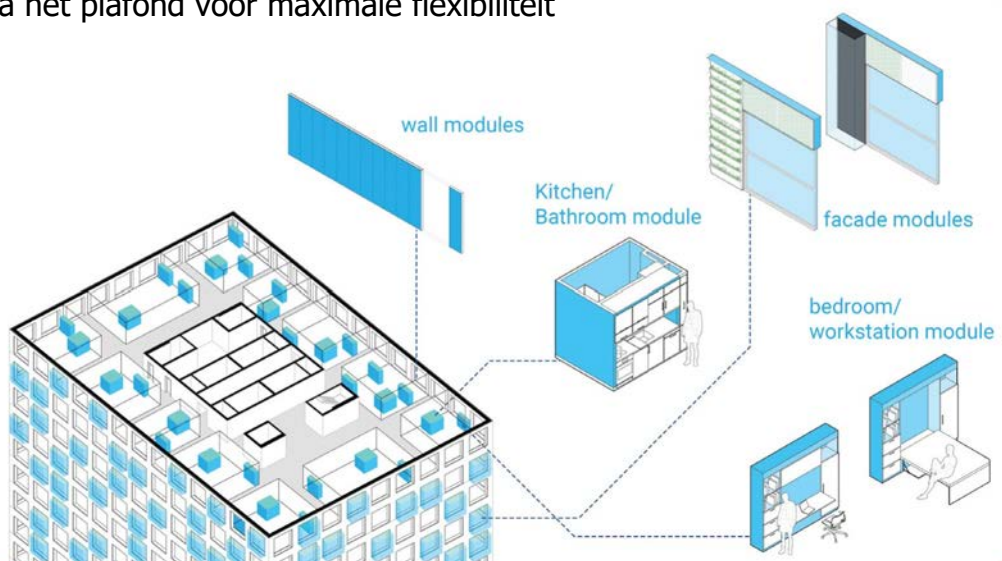
Wasmachines,
gereedschap,
fietsen, auto's,
feestruimten



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Future proof: modulaire ontwerp

Installaties via het plafond voor maximale flexibiliteit



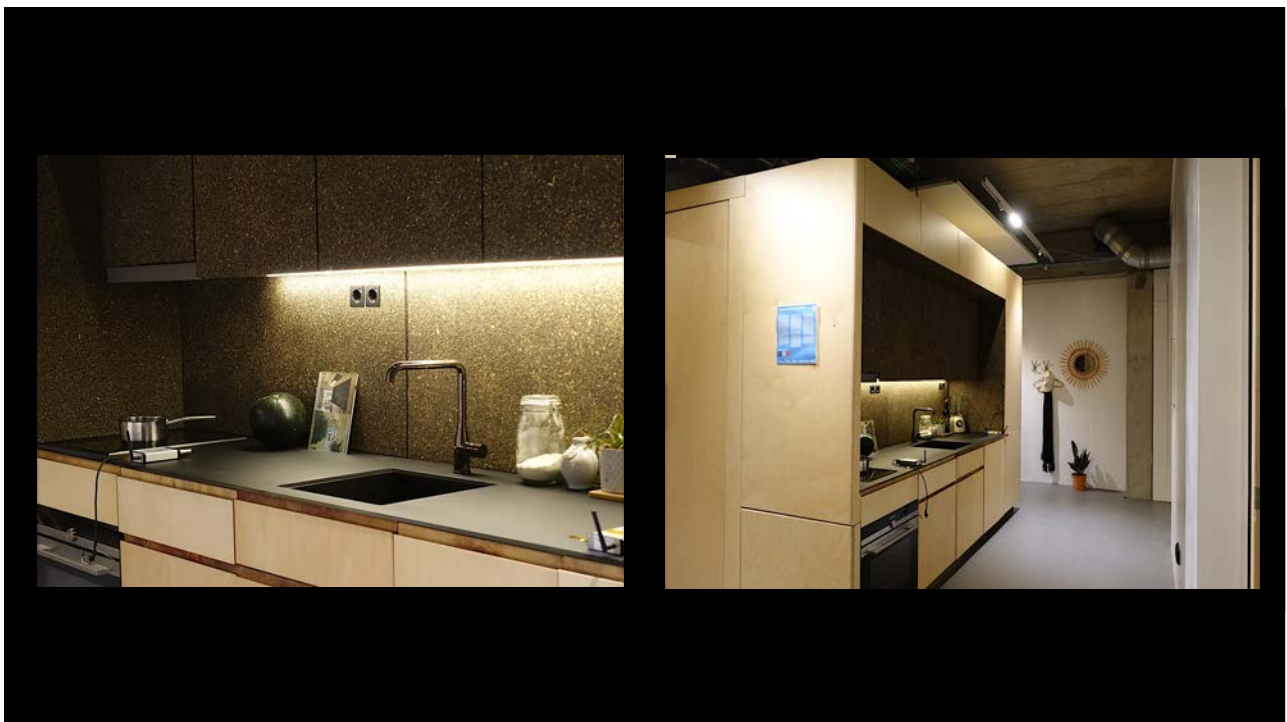
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Biobased circulaire inbouw- modules

Ook met losse
vloerverwarming
en koeling,
aangesloten op
een warmte-
pompsysteem



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Privétuin met groene wand

Planten uitgezocht op luchtzuiverende capaciteiten;

lucht komt voor-gekoeld/verwarmd binnen via PCM's



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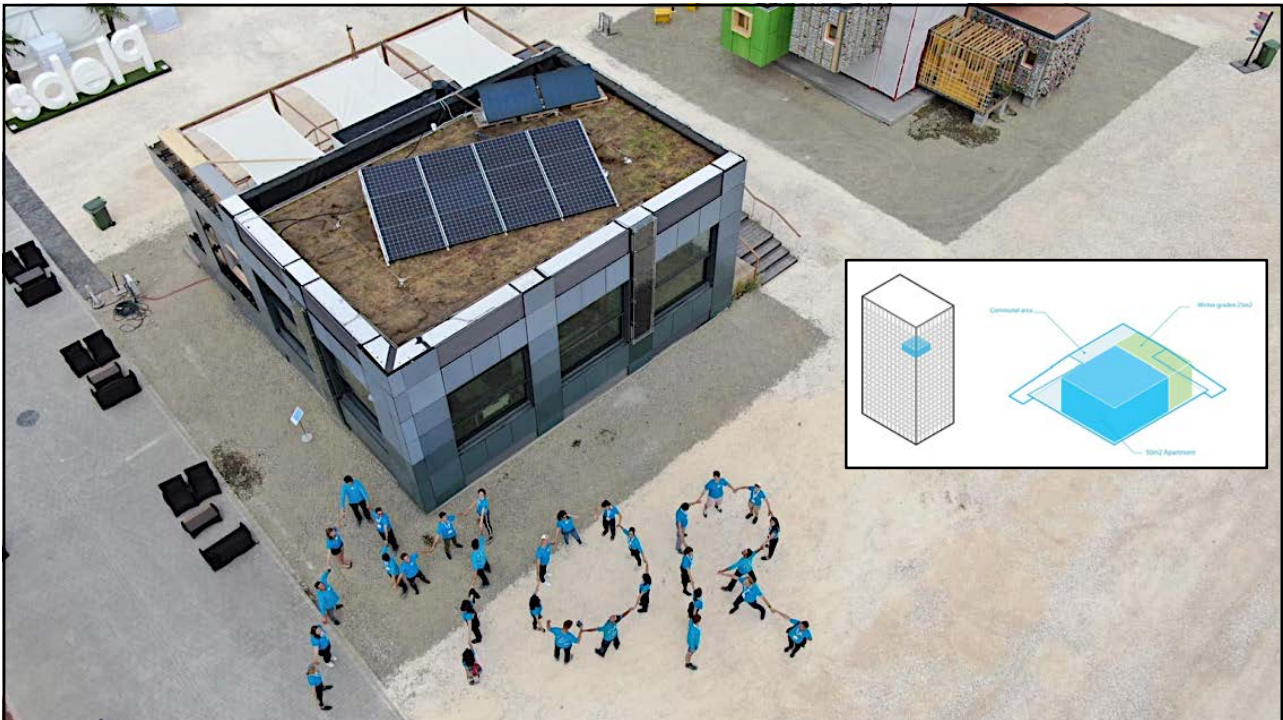
Energieproducerende gevels

Gekleurde verticale zonnepanelen

Innovatieve PVT-schoorsteen



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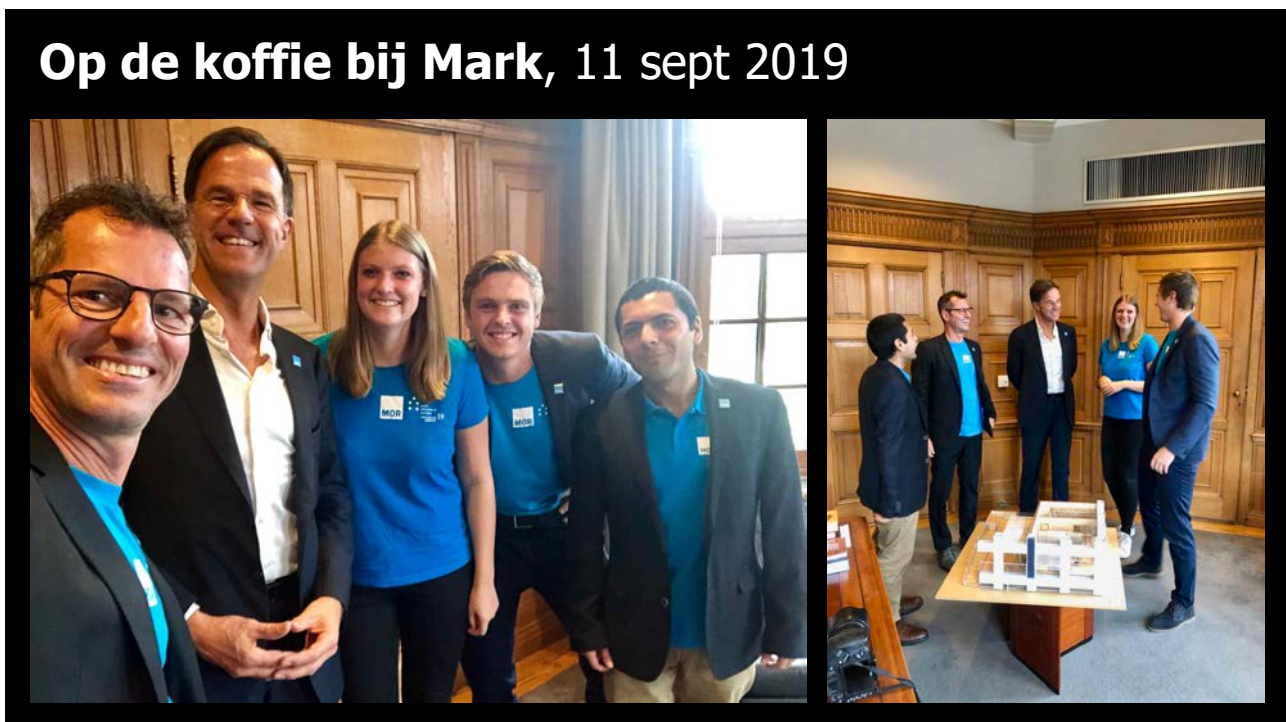
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Op naar de volgende uitdaging: Team SUM

Symbiotic Urban Movement, het nieuwe Solar Decathlon team van de TU Delft



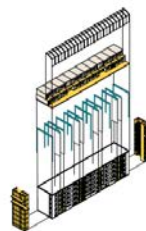
Renovation & Top Up

The existing and the new parts of the building form a symbiotic relationship with each other. In order to reach our sustainability goals everyone has to conserve less individually and share more in the community. Our design focuses on a space that brings community, energy efficiency and social quality together.

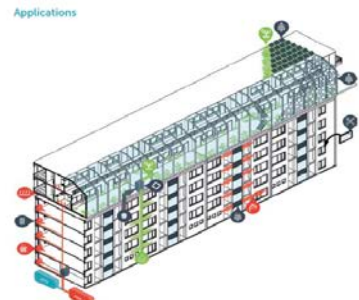
The linking element is the greenhouse gallery. It will be located on the south of the top-up of approximately 3.5 meters wide. It will combine circulation, communal areas and sustainable innovations with a special quality.

In the greenhouse gallery, PV panels will be integrated in the glass. This space also acts as a thermal buffer for the dwellings, but is also used to preheat the ventilation air.

The existing circulation will remain in order to preserve the character of the existing housing typology. The layout of the existing air cores will be optimized to improve the energy efficiency of the building. For accessibility of the top-up apartment and the communal space, we will add two new circulation elements consisting of a staircase and an elevator.



Applications



- PV-panel
- PVT-panel
- New insulation
- Window replacement
- Organic waste
- CIRC Biogas
- Green gas
- Vegetation
- Existing radiator
- Floor heating
- Domestic hot water

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Volgende ontwikkeling in de stad → uitwisselen



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Energie uitwisselen tussen stedelijke functies



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En aanpak van lastige wijken:



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Nauw betrokken burgers en ondernemers



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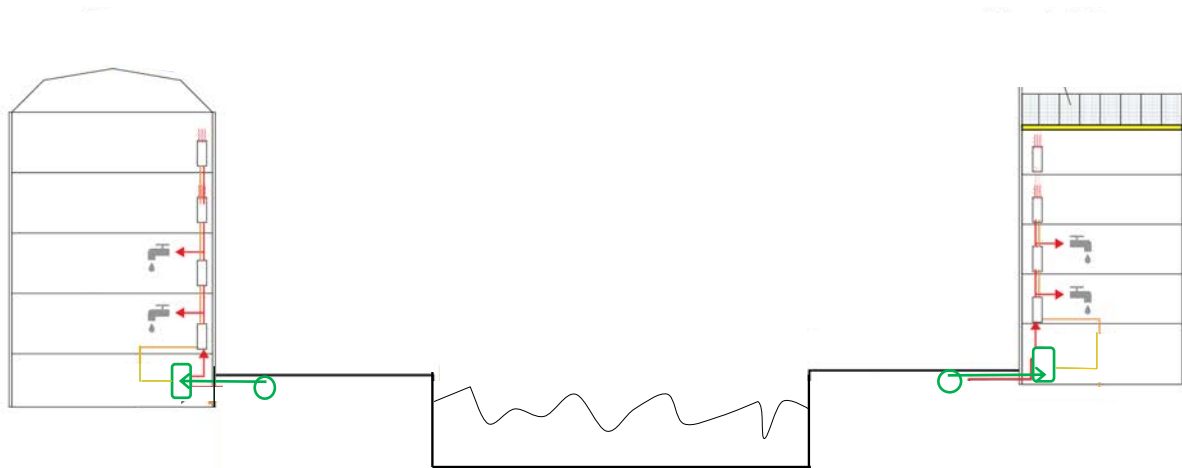
Energietransitie aan historische grachten



Hoofdkeuzes: **1. All-electric met warmtepomp, diepgaande renovatie**
2. HT/MT stadswarmtenet, geen tot beperkte renovatie
3. Groen gas (bio, H₂, CH₄), geen tot beperkte renovatie

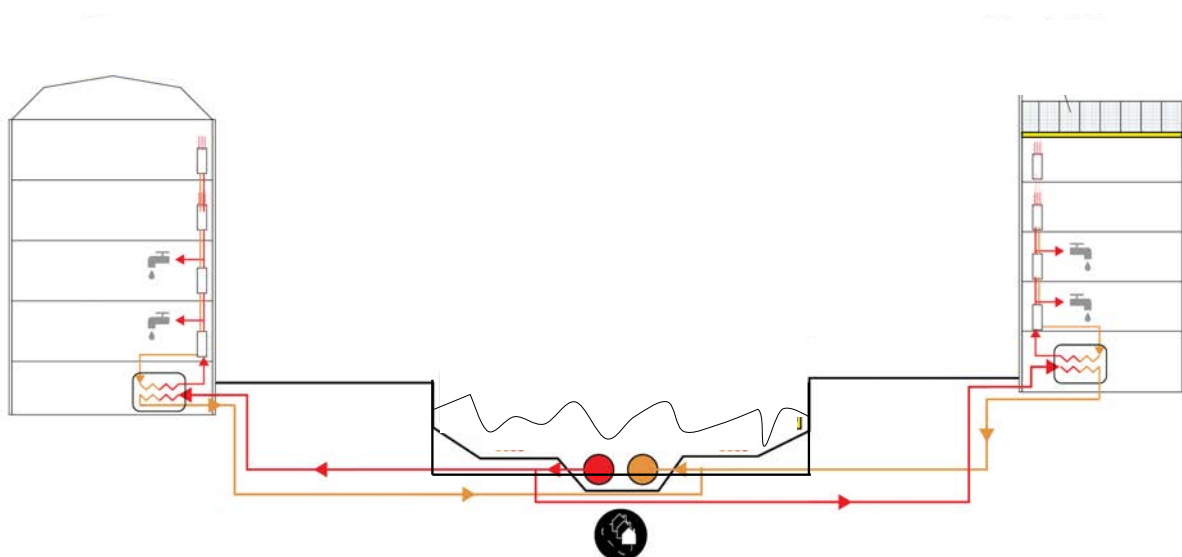
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Groen gas | Warmtenet | Warmtepomp



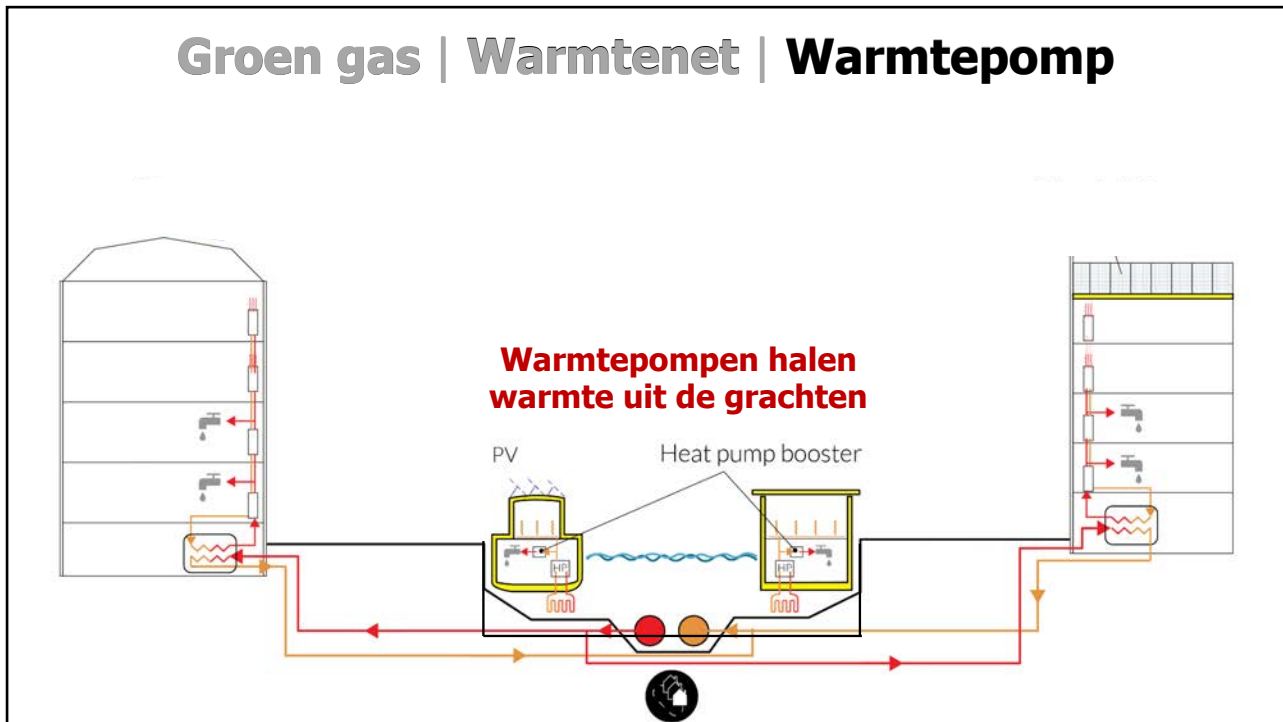
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Groen gas | Warmtenet | Warmtepomp



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Groen gas | Warmtenet | Warmtepomp

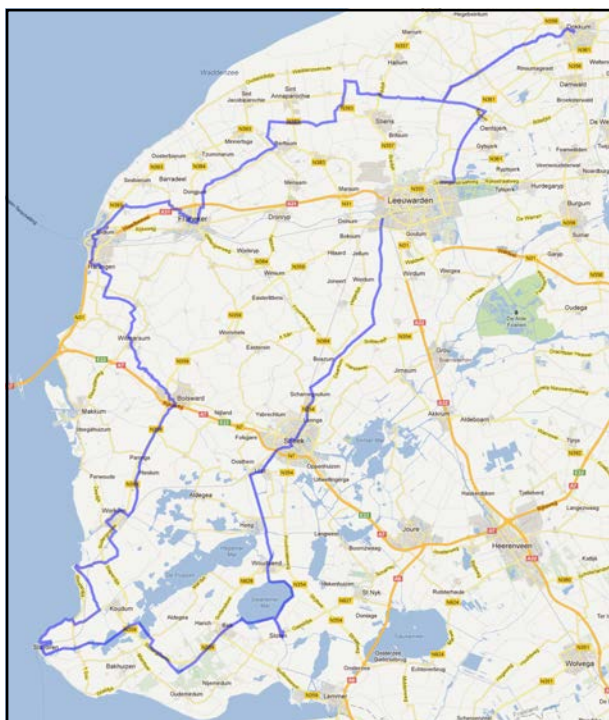


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Dit vaker mogelijk maken



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Elfstedenenergietransitie

Energierenovatie Friese woningen
→ warmtepomp, all-electric of hybride

Aquathermie: Elfstedentraject en
toestroom als warmtebron, jaarrond

10% Friese huishoudens (29.000)

5.000-10.000 warmtepompen (10 kW)

Water (aan oppervlakte) **4°C koeler**

Waterkwaliteit beter (algen, bacteriën)

Verkoeling in de zomer

Kans op ijs neemt toe (bij koude winter)

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Energietransitie, geweldig!

- Groot potentieel aan onbenutte duurzame energie
- Veiligere leefomgeving
- Gezondere leefomgeving
- Leefbaardere leefomgeving
- Rijkere leefomgeving
- Culturele en sportieve evenementen weer mogelijk

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Energietransitie – grijp je kans



a.a.j.f.vandendobbelsteen@tudelft.nl | @dobbelska

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