

Stakeholder dialogue as a vehicle to challenge dominant frames on climate neutral buildings: Diamond4Ever and other cases.

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Can we speed up the process of making neighborhoods sustainable (= 100% self sufficient in terms of heating, cooling and electricity use)?

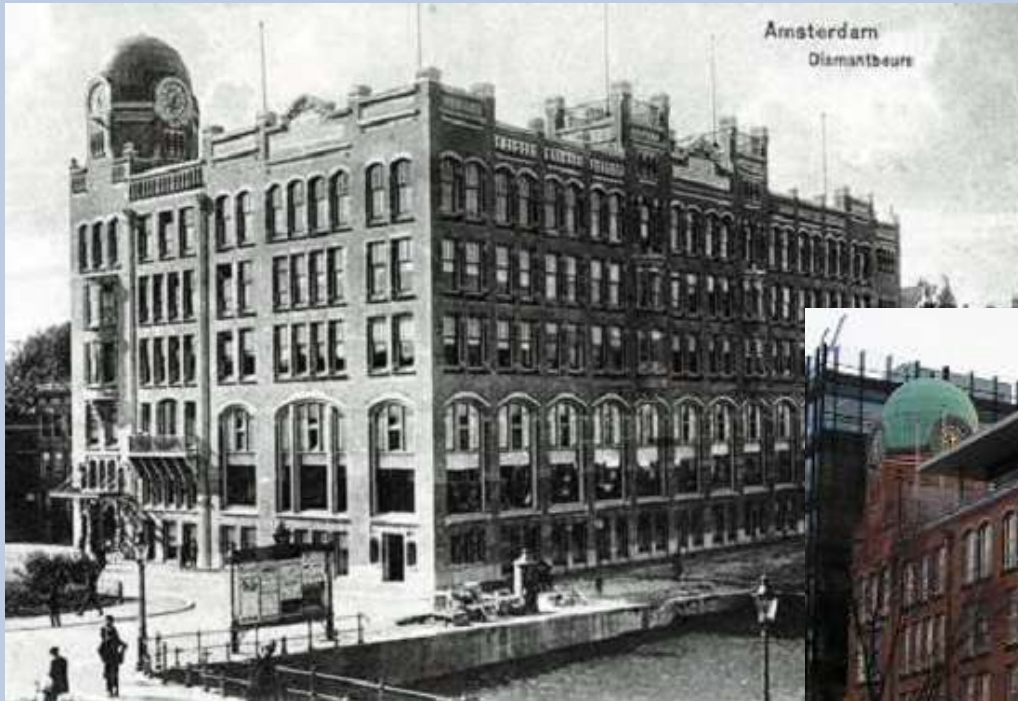
If so, why is it not happening?

Cases:

- the Amsterdam Environment and Building Department, DMB, has initiated the project 'Diamond4Ever'.
- Groningen
- Curacao

A monumental building in the heart of Amsterdam

The Diamond Exchange around 1918



3 The Diamond Exchange in 2008

Recent studies initiated by the municipality showed that reducing the use of energy in the former Diamond Exchange, would be very difficult.

One study (DWA, 2007) indicated that at best, a 30% energy reduction would be possible against high costs (pay-out 20 years). These findings are not at odds with findings related to the existing stock of buildings in the Netherlands.

A dialogue approach

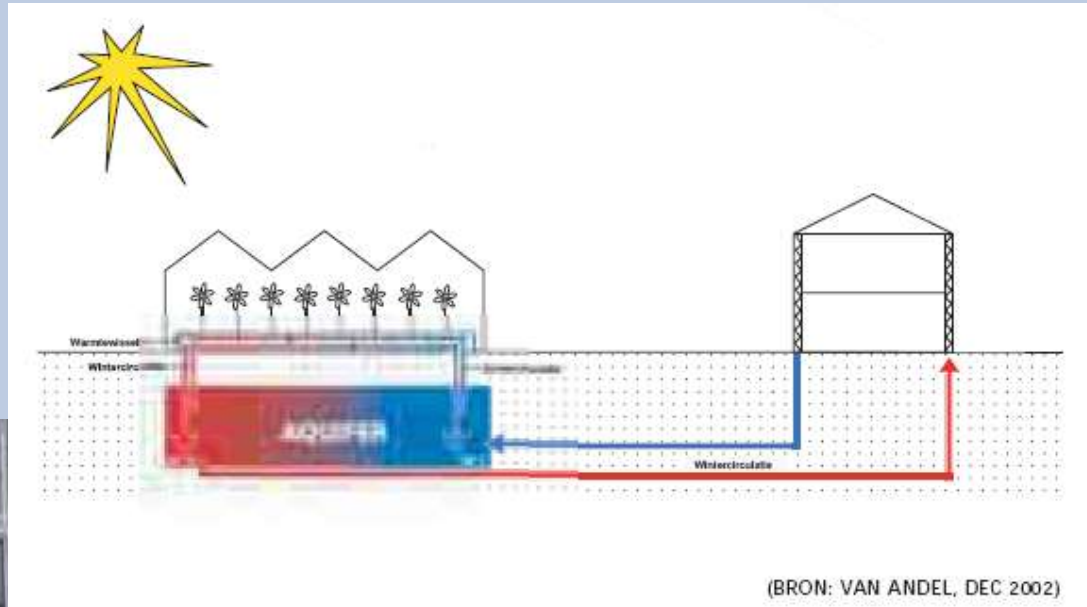
In the dialogue, experts and stakeholders with different disciplines and backgrounds are invited to jointly work out options and scenarios for drastically reducing fossil energy use.

A key underlying notion in the approach taken is that innovation often emerges within an expert or knowledge network situated *outside* the dominant regime.

This requires the articulation and confrontation of competing options / arguments

1. To identify the stakeholders with relevant expert knowledge within the *different* knowledge systems.
2. To organize and facilitate the dialogue in such a way that insights from the different knowledge systems or networks are treated fairly, e.g. that they have equal opportunity to articulate competing knowledge claims and arguments to warrant their claims.

Zonneterp (greenhouse Village) concept



The scenario claims 100% climate neutrality without outside or inside insulation of the building. The pay-out time is estimated at 14 years.

- harvest heat during summer, storing this in an aquifer underground, and using it during winter to heat the building. Vice versa, harvesting the cold during winter and cool during summer,
- Electricity generation: Helianthos (very thin PV),
- Savings on energy through efficient computers, bigger work spaces and energy efficient lighting.



SmartSkin



Breathing
Window



Helianthos

Claims to realize a climate neutral Diamond Exchange building. The pay-out time in this scenario is estimated within 17 years.

- Energy roof: Heat and electricity production on the (existing or newly built) roof via small windmills and PVTwins (combined solar heat and electricity)
- Similar energy savings as scenario 1

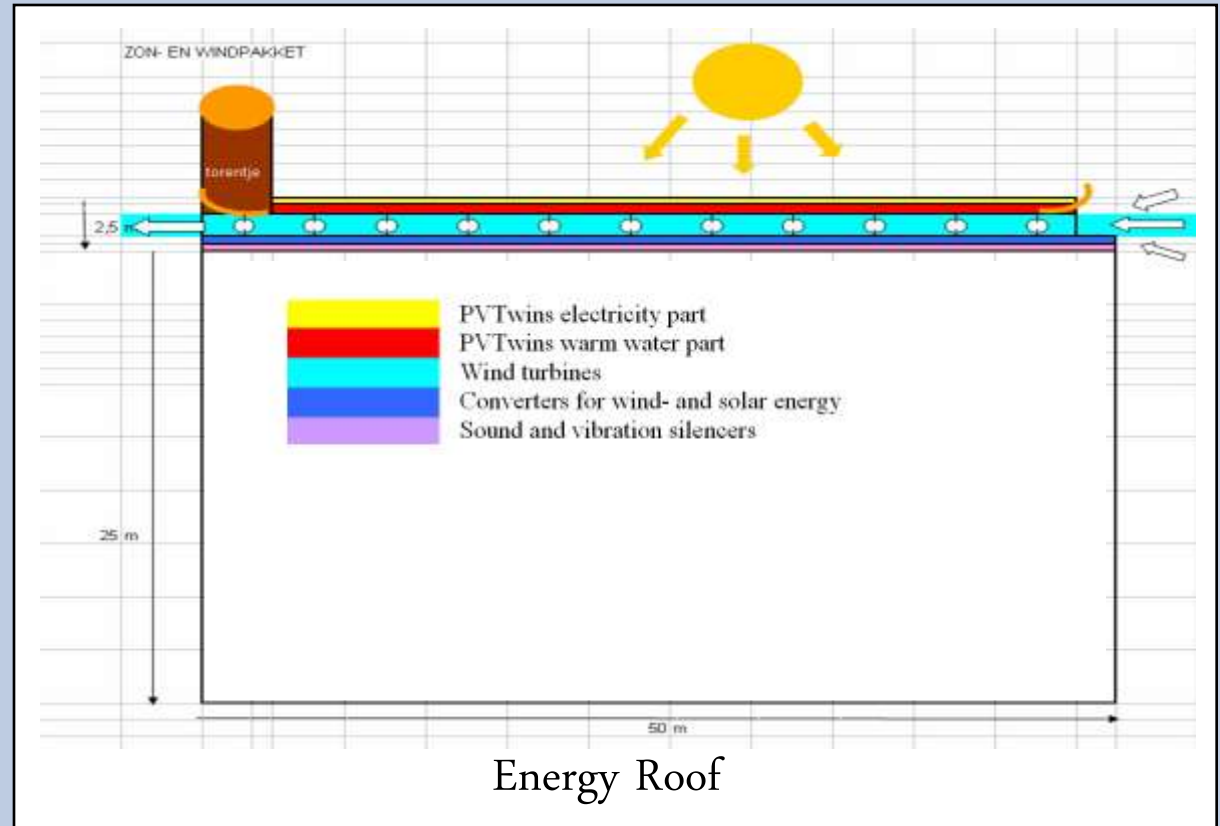
Scenario 2: The Wind Catcher



Energy Ball



PVTwin







Trias energetica:

1: use all options for energy conservation first,

2: use cost-effective renewables

3: use the most efficient fossil based options

- District heating
 - remains fossil based
 - Expensive
 - No participation /co-ownership of users
- Passive house
 - increase of electricity use (heat pumps)
 - In house air quality (closed windows)
- Geothermal
 - very expensive

- Dialogue highlights competitive approaches
- Thereby challenging dominant frames
- Thereby providing cost-effective options for climate policy
- Open exchange of arguments, only *if different sides actually participate*
- Ongoing process of learning

- However, insufficient to get things implemented

