

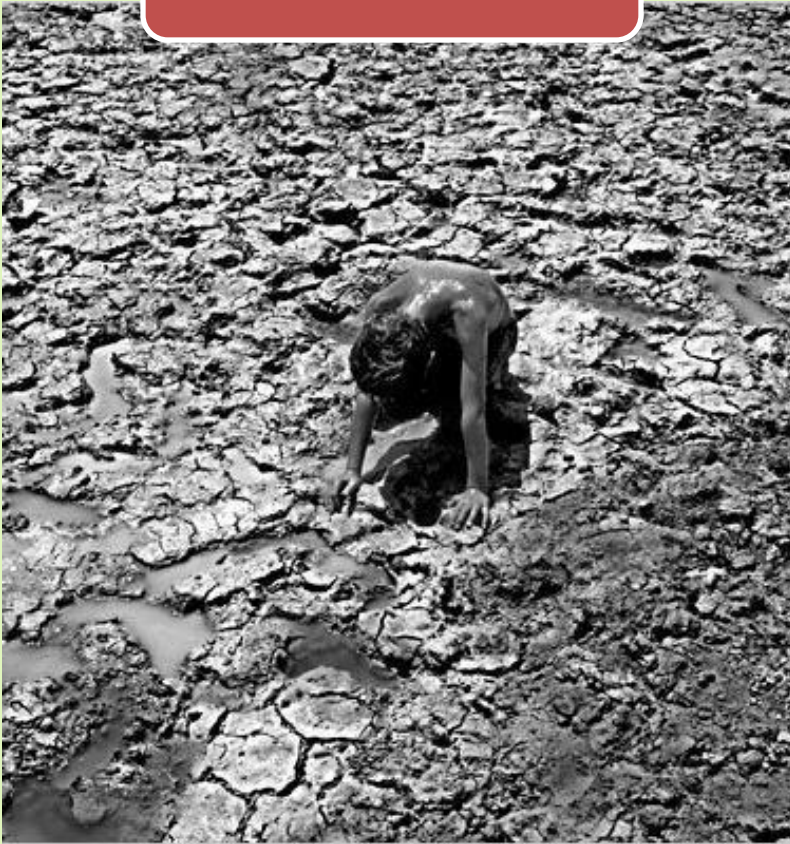
# Boekel Ecovillage

*An inspiring example of sustainable living*  
*Living Lab for sustainable innovations*

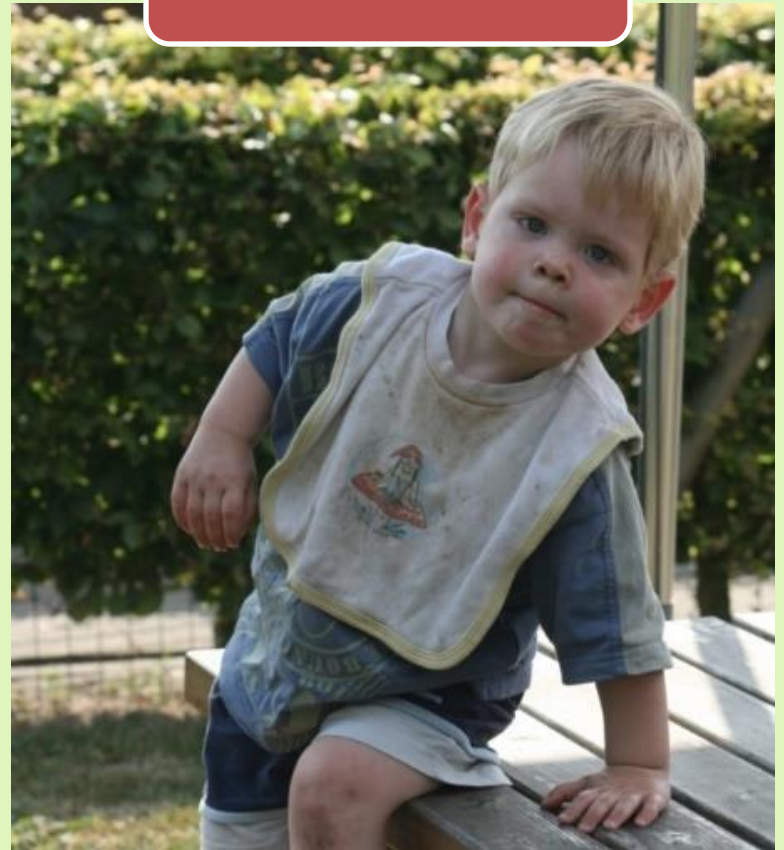


Why did we want this?

2003 Chili



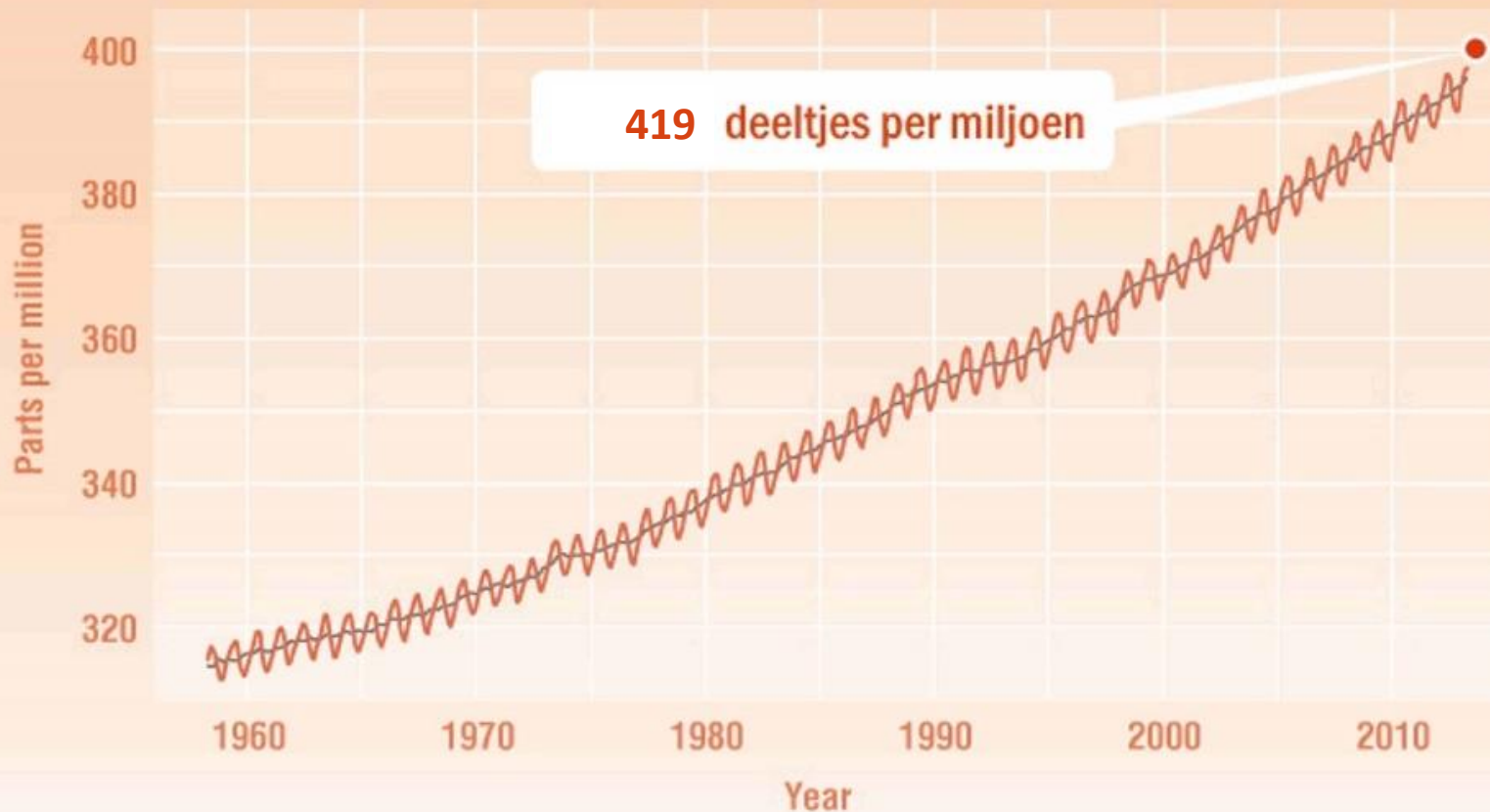
2008 Luuk



# CO<sub>2</sub> negative, why?

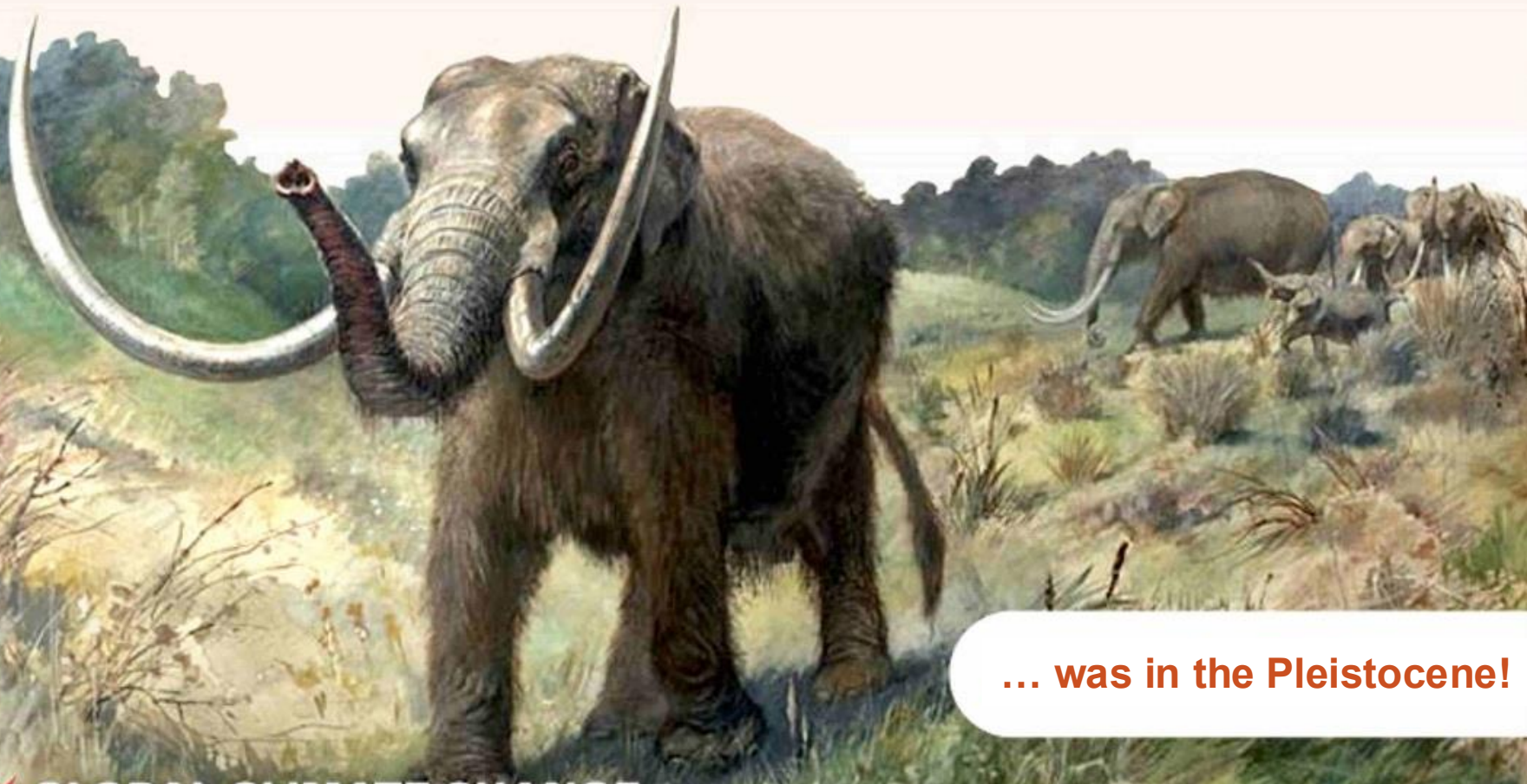
Last time so much CO<sub>2</sub> was in the atmosphere...

## CO<sub>2</sub>-concentratie



Credit: NOAA/Scriptps Institution of Oceanography

That's why!



... was in the Pleistocene!



**GLOBAL CLIMATE CHANGE**

[climate.nasa.gov](https://climate.nasa.gov)

image: wikipedia.org

Who: That's why you should care too!



1.000.000 houses  
Biobased:  
35 megaton CO<sub>2</sub>  
storage

1.000.000 houses  
Regular:  
26 megaton CO<sub>2</sub>  
output

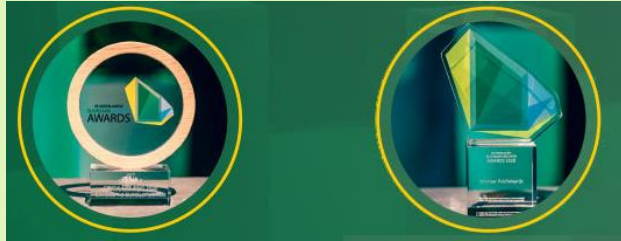


# Boekel Ecovillage

*designed to be resilient to weather extremes  
(almost all)*



# Building sector



exceptional  
integral  
design



# One element for more functions *integral design*



**Just one aspect of Ecovillage Boekel Green roofs**



**3** filter fine particles  
carbon storage  
oxygen plant  
cooling house

**4** workshop how to make your own green roof

**6** purify rain water

**7** 15% more efficiency on solar panels

**10** affordable green roofs

**11** green roofs last twice longer

**13** climate resilient against extreme hail storms  
extreme heat  
extreme rain fall

**15** good for bees, insects and birds

**17** partners with all

# Project Ecovillage Resilience >2,5°C



## Community Resilience Tracker

The community resilience tracker is a tool to explore and nurture resilience by revealing areas of strength and places that need more attention – whether you live in an ecovillage, town, city neighborhood, village or transition initiative. It is based on six attributes of resilience and 32 questions where you can rate your community using a sliding scale of 1 – 5. When you finish, you get an immediate visual snapshot of strengths as well as opportunities for areas to grow, learn and improve to be even more resilient in a rapidly changing world.

[LEARN MORE](#)



# DIVERSITY

**Diversity provides the ability to respond in diverse ways to systemic changes and shocks, and provides sources of innovation for novel conditions**

(Rockström et al. 2023)

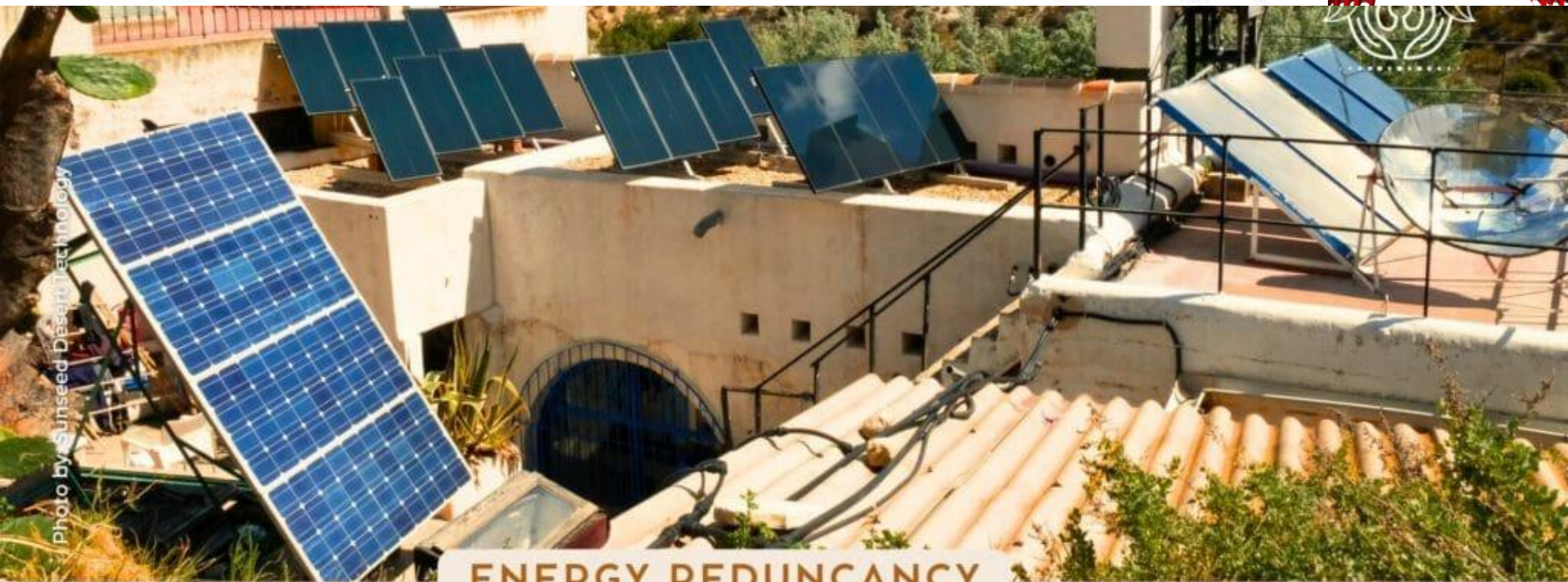


# REDUNDANCY

Redundancy ensures that there are multiple ways to secure critical functions in a system, such as provision of food or income, thereby providing 'insurance' and reducing single point failure.

(Rockström et al. 2023)





## ENERGY REDUNCANCY

### Produce and use diverse sources of renewable energy

Community members' main energy systems use renewable energy and have back-up systems in place that can effectively stand in for main systems indefinitely if necessary





# BALANCING CONNECTIVITY

Connectivity can enhance resilience through links to resources when they are locally scarce, and facilitate coordinated responses to shocks. However, if connectivity is too high, a localized disturbance can spread throughout the system or knowledge can become overly homogenized

(Rockström et al. 2023)



# SYSTEM FEEDBACKS

Balancing feedbacks can help dampen the effects of change in ways that may prevent a problem from growing



# INCLUSIVITY & EQUITY

Inclusivity and equity are important for building trust and facilitating collective action for responding to volatility and change. More equal societies (in terms of human development, income, access to resources) are less prone to instability and conflict.

(Rockström et al. 2023)



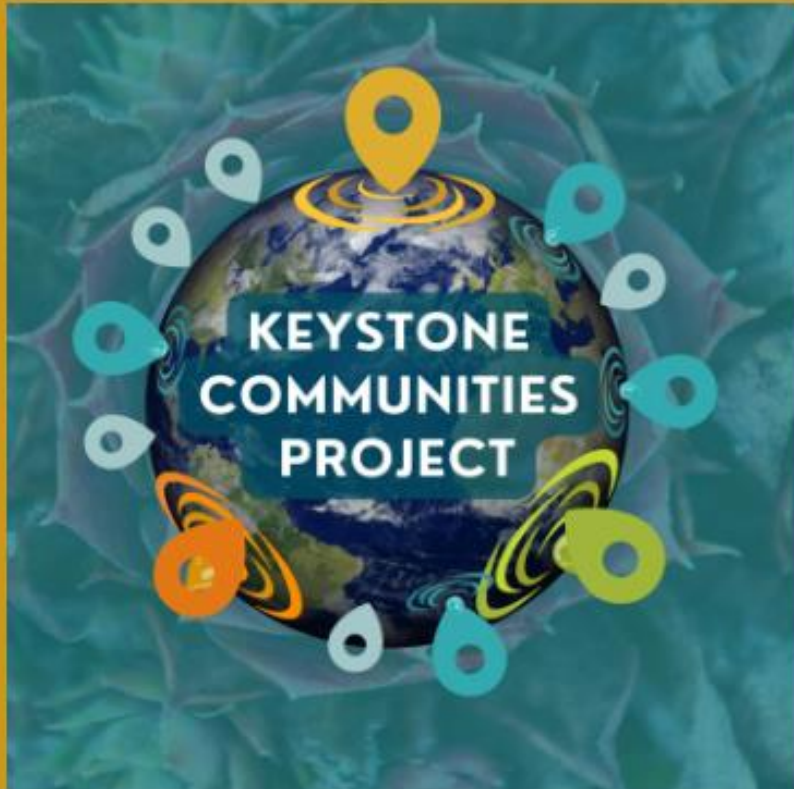


# ADAPTIVE LEARNING

Adaptive learning is the ability to detect changes (especially slowly unfolding changes in system feedbacks and dynamics), learn from them and tailor management strategies accordingly

(Rockström et al. 2023)

# Follow up Project Ecovillage Resilience



## Keystone Communities Project

Building on insights, tools and capacities built through our exploration in the 'Ecovillages 2.5+: Community Resilience in the Face of Catastrophic Climate Change' project, this project will reflect our ongoing commitment to scale and amplify the capacity of local communities to be resilient sources of wider transformation able to function also when larger systems falter or collapse.

[LEARN MORE](#)

# Ecodorp Boekel

Living Lab for multiple levels of government

Ecodorp Boekel wordt mede mogelijk gemaakt door het Europees Fonds voor Regionale Ontwikkeling, het Rijk en de provincie Noord-Brabant in het kader van OPZuid.



Provincie Noord-Brabant



# Nr 1!

Provincie Noord-Brabant

€ 1,2 million

**Investment in the future**

# Climate proof food forest



# Water plan

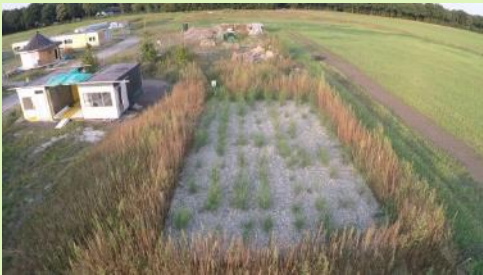
Extreme rain and drought



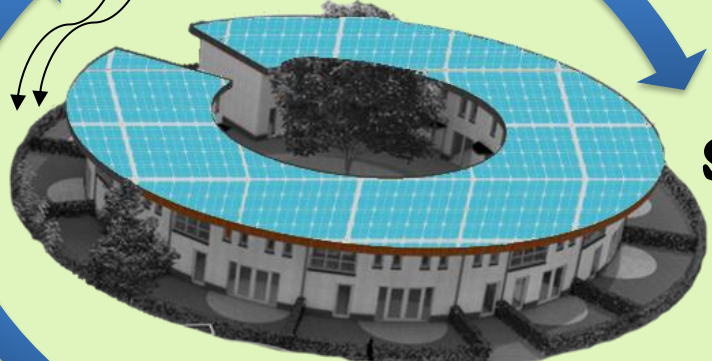
**Infiltrate**



**Rain**



**Helofyte filter**



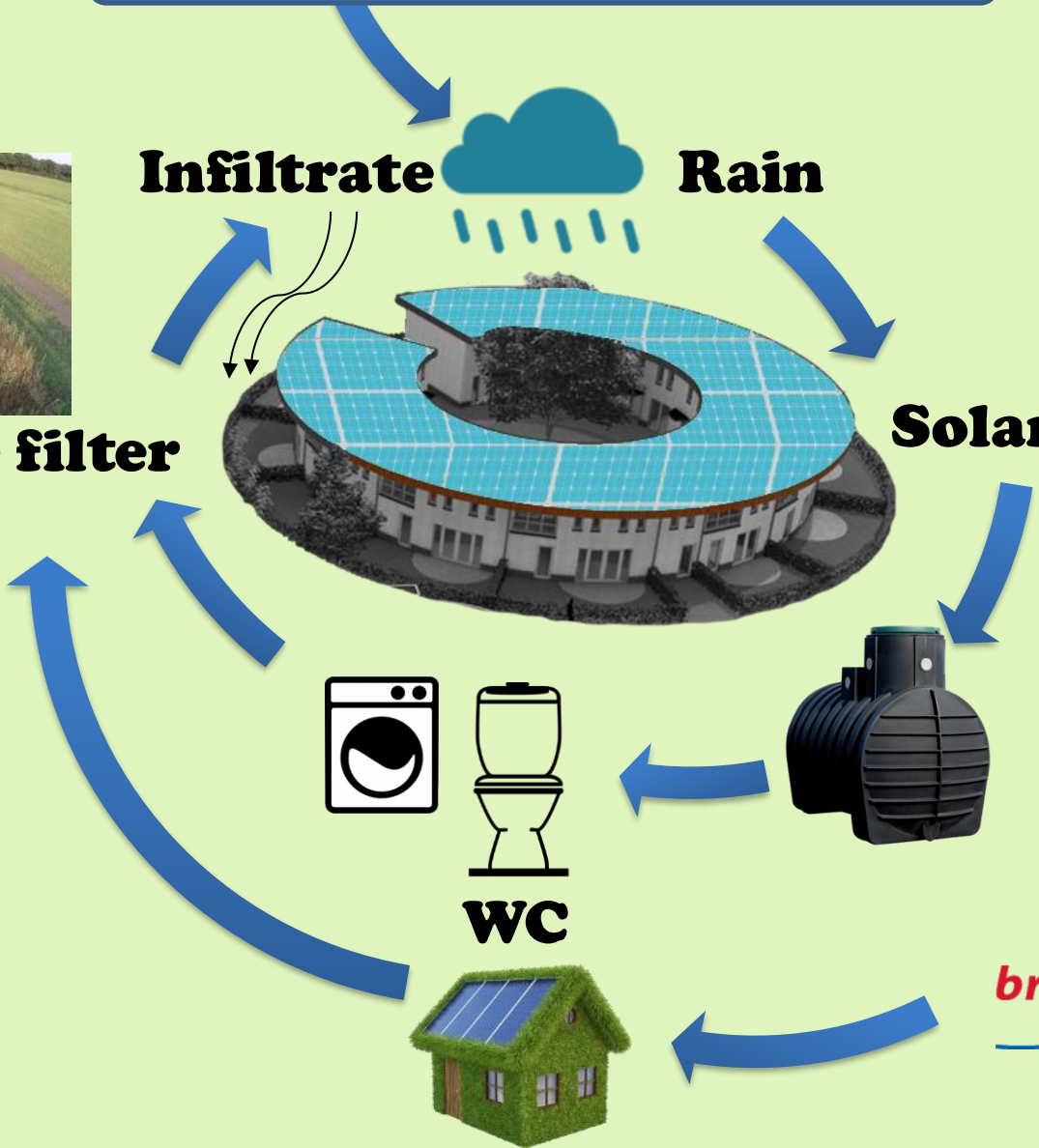
**Solar roof**



**WC**



**brabant Water**



# Heating with CESAR heat storage



400m<sup>3</sup>

steel waste

450°C

600

pv

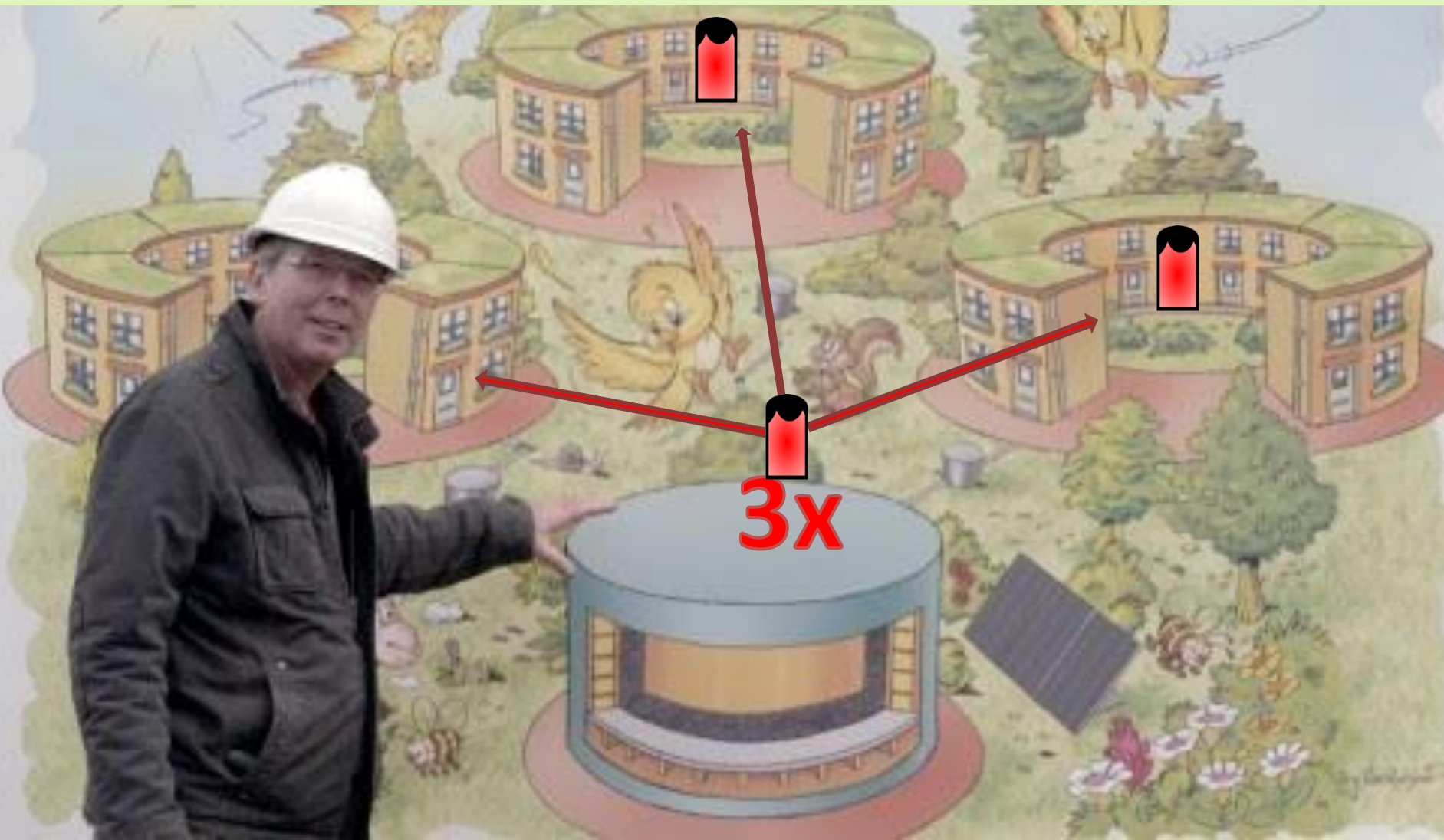
# Heating with CESAR heat storage

**400<sub>m3</sub>**  
**steel waste**  
**450°C**

**6.000lt**  
**boiler**  
**70°C**



# Heating with CESAR heat storage





kalkhennepmuren van Dun Agro

vloerverwarming

Geopolymeerbeton door Jansen Beton en SQAPE

Glasschuim door Geocell

60cm

Leidingwerk door Schlepers met circulaire stroomkabels van Prysmian

Geotextiel

Aarde

# Circular building

## Foundation



# 98% circular Waste=resource



# Biobased building

12 VERANTWOORDE  
CONSUMPTIE  
EN PRODUCTIE



13 KLIMAATACTIE



**808 ton CO2**



HET WOOD



DUNAGRO  
HEMP  
GROUP.



mētisse®  
L'isolation durable

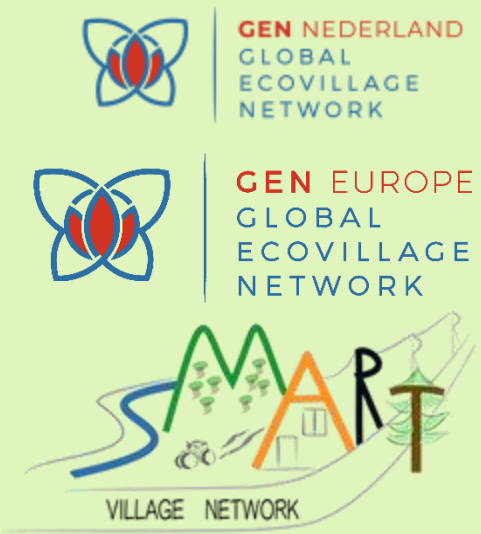


ISO  
VLAS





**Practical  
solutions**



15 How to make a WADI

How to make a NATURAL GREENROOF

13 Floerende ecosystemen

How to make SHADE

How to make HEALTY SOIL

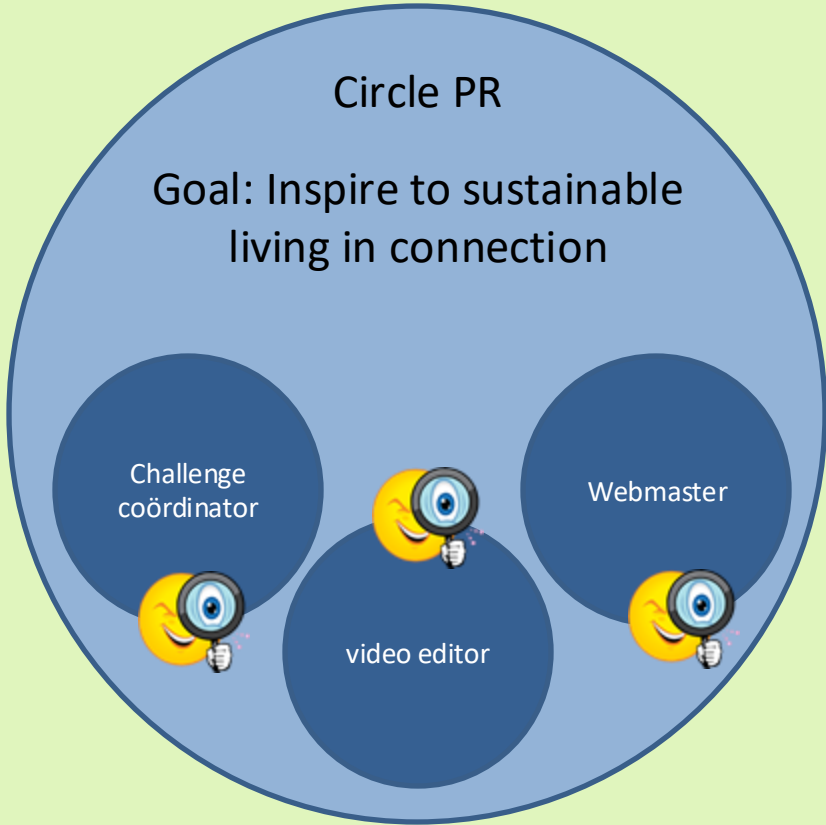
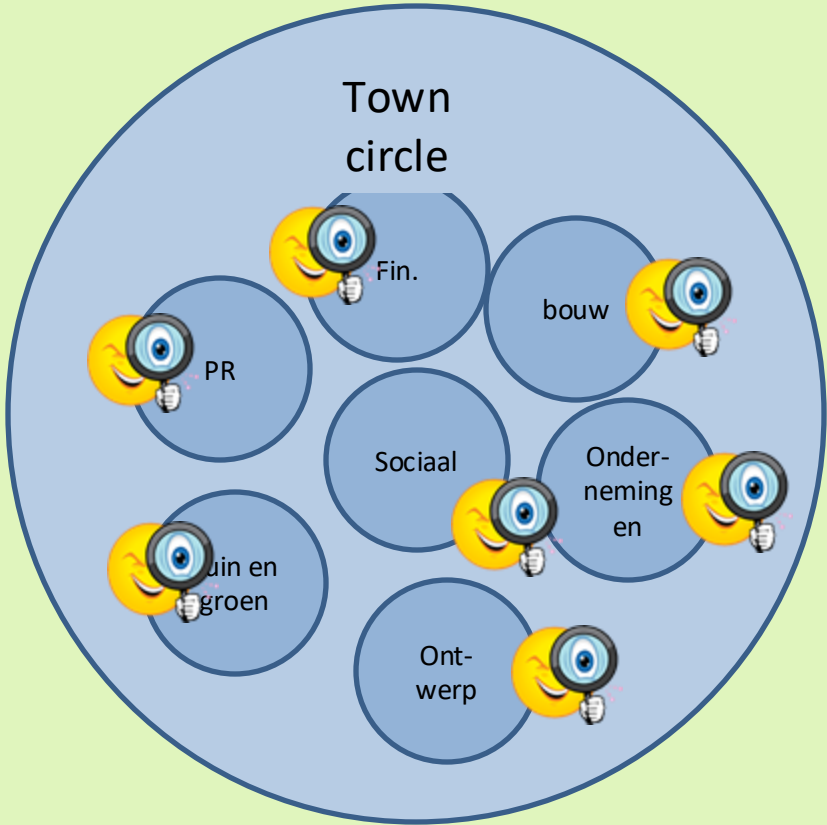
The collage consists of four panels. The top-left panel shows a modern building with a green roof and a path, labeled '15 How to make a WADI'. The top-right panel shows a lush garden with various plants and a log, labeled 'How to make a NATURAL GREENROOF'. The bottom-left panel is a line drawing of a person in a garden, labeled 'How to make SHADE'. The bottom-right panel shows earthworms in soil, labeled 'How to make HEALTY SOIL'. In the center, there is a green rounded square containing a white tree icon and the text '13 Floerende ecosystemen'. A small SDG icon is visible in the bottom right corner of the collage.

[globalgoalscommunity.eu](http://globalgoalscommunity.eu)

# 3 Governance

## Decision making: Hierarchy

Boekel Ecovillage  
Goal: Inspiring example of sustainable living in connection



# 3 Governance

## Meetings with Hierarchy

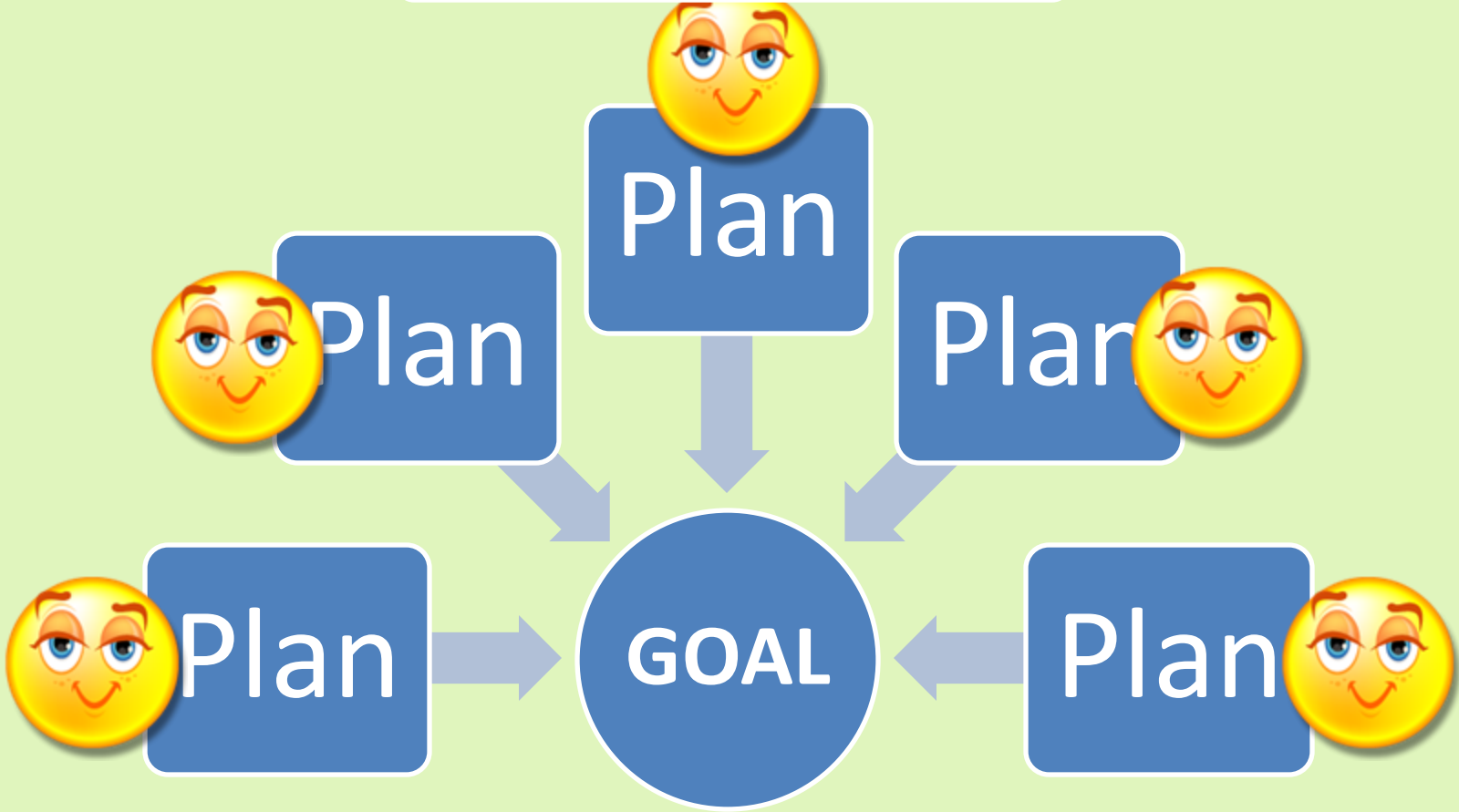


tension



# 3 Governance

Meetings with Hierarchy



# 5 Structure



## VrijCoop social rent



Real Estate  
Association  
Ecodorp Boekel

2 members

**VRU**Coop

Controlling member



Inhabitants  
Association  
Ecodorp Boekel  
(BeVer)

main member



# 5 Structure

## VrijCoop: sister of Mietshäuser Syndikat



Since 1992

200 

€ 300 million 

## VRU Coop

Since 2019

5 

€ 16 million 

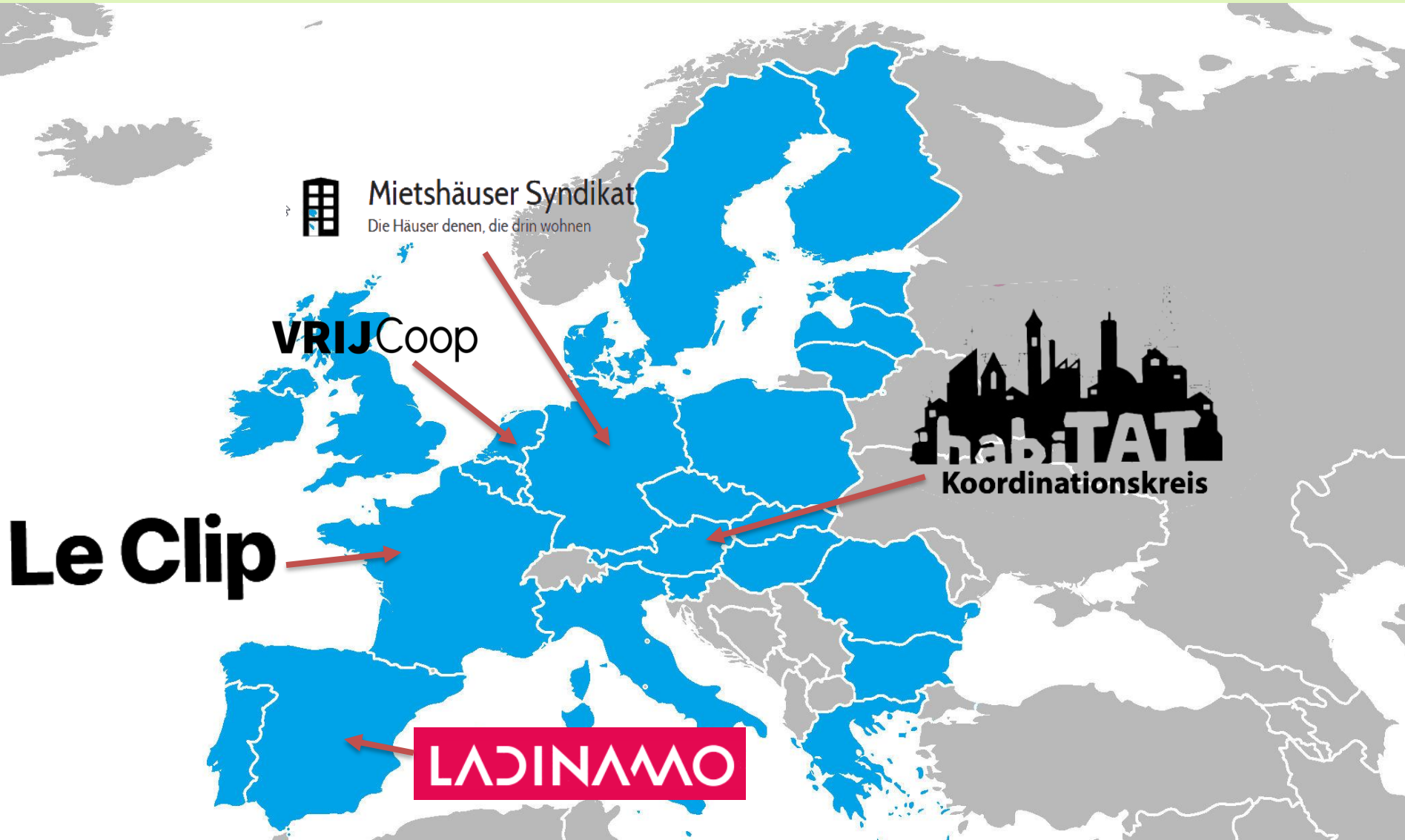
 Ecodorp Boekel  
€ 300.000 per year

# 5 Structure

10 ONGELIJKHEID  
VERMINDEREN



1 GEEN ARMOEDE



# 7 Networks



Questions?

