

Sonderborg`s Great Energy Transition

as a burning-platform for CITIES



CITIES Consortium meeting, DTU

26. May 2014

Peter Rathje, ProjectZero

“CITIES ACT - while nations talk”

“Mayors are powerful leaders, when they are ambitious and act smart”

Michael Bloomberg,
C40 President



The Great Transition is in process and creates growth

Masdar City (under construction)
estimated cost of 322 billion USD



ProjectZero

Bright Green Business

Is the vision focus on
creating a CO₂-neutral
Sonderborg by 2029,
based on **growth**
and **green jobs**

ProjectZero's approach is
holistic and based on a
public private partnerskab



Transitioning Sønderborg (Denmark)

from farming, industry, knowledge to Bright Green Business

- fresh seawater
- great nature
- tourism
- **experience economy**
- farming
- industry
- knowledge
- **Bright Green Business**
- **Danfoss HQ**

- 76.000 citizens
- 440.000 pigs, 250.000 hens
- 500 km² area
- District heating networks
- Natural Gas pipeline



Copenhagen



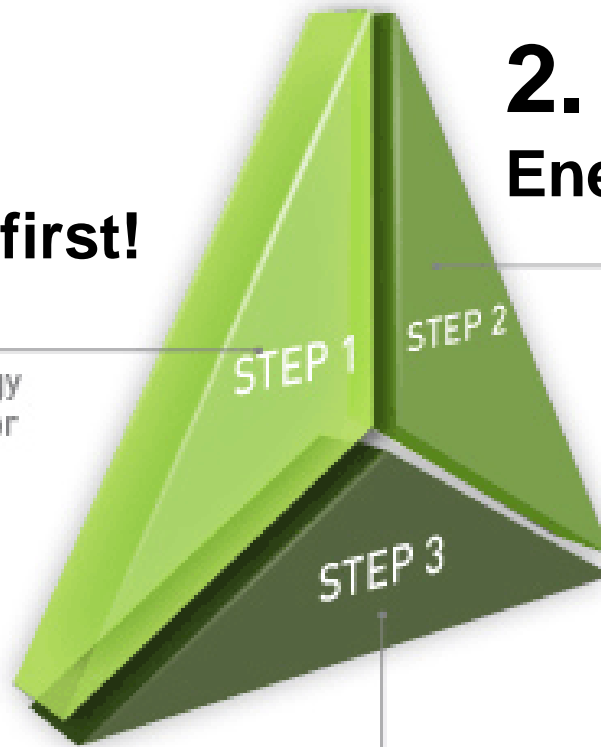
**722.000 ton
of emissions**

TRIAS ENERGETICA

Transitioning the energy system
based on step 1 + 2

1.
Energy efficiency first!

limit demand for energy
through rational use for
energy



2.
Energy from renewables

use renewable energy
to full remaining demand

use fossil fuels, if necessary,
as efficiently and cleanly as possible.

The ProjectZero thinking is based on a green platform, enabling green solutions to be supported by policy and participation

Policy

Solutions

Participation

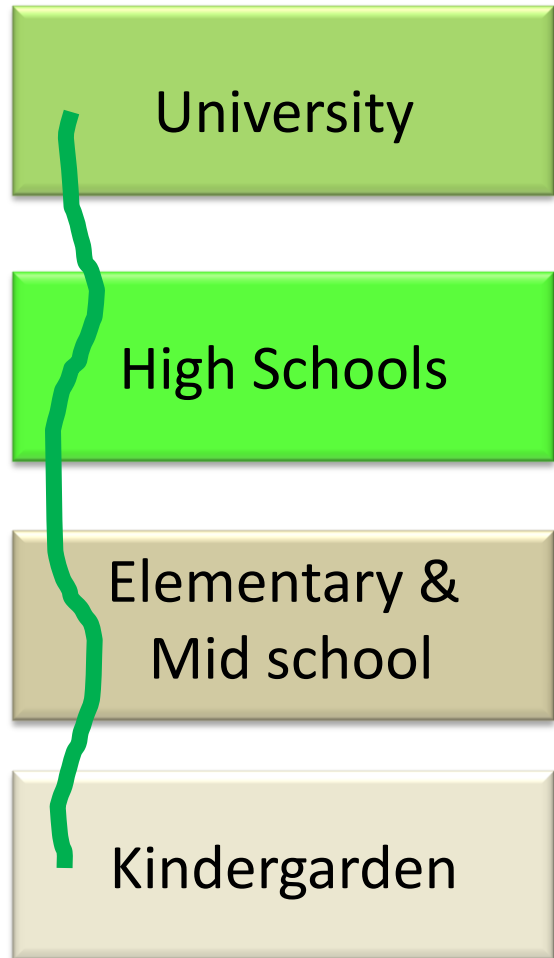


**Energy-
efficiency**
—
requires
participation
from all
stakeholders



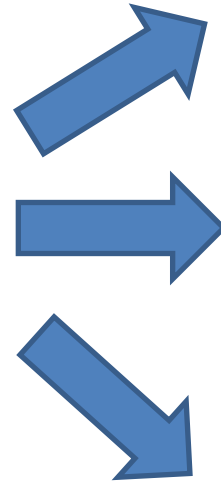
Changing the mindset

creating 15.000 young climate ambassadors



Lead by examples

from ZERO+ house to ZERO+ urban development



- new residentials
- new municipal buildings
- new schools
- companies goes ZERO+
- shops goes ZERO+
- schools goes ZERO+
- families goes ZERO+
- urban planning goes ZERO+

Frank Gehry

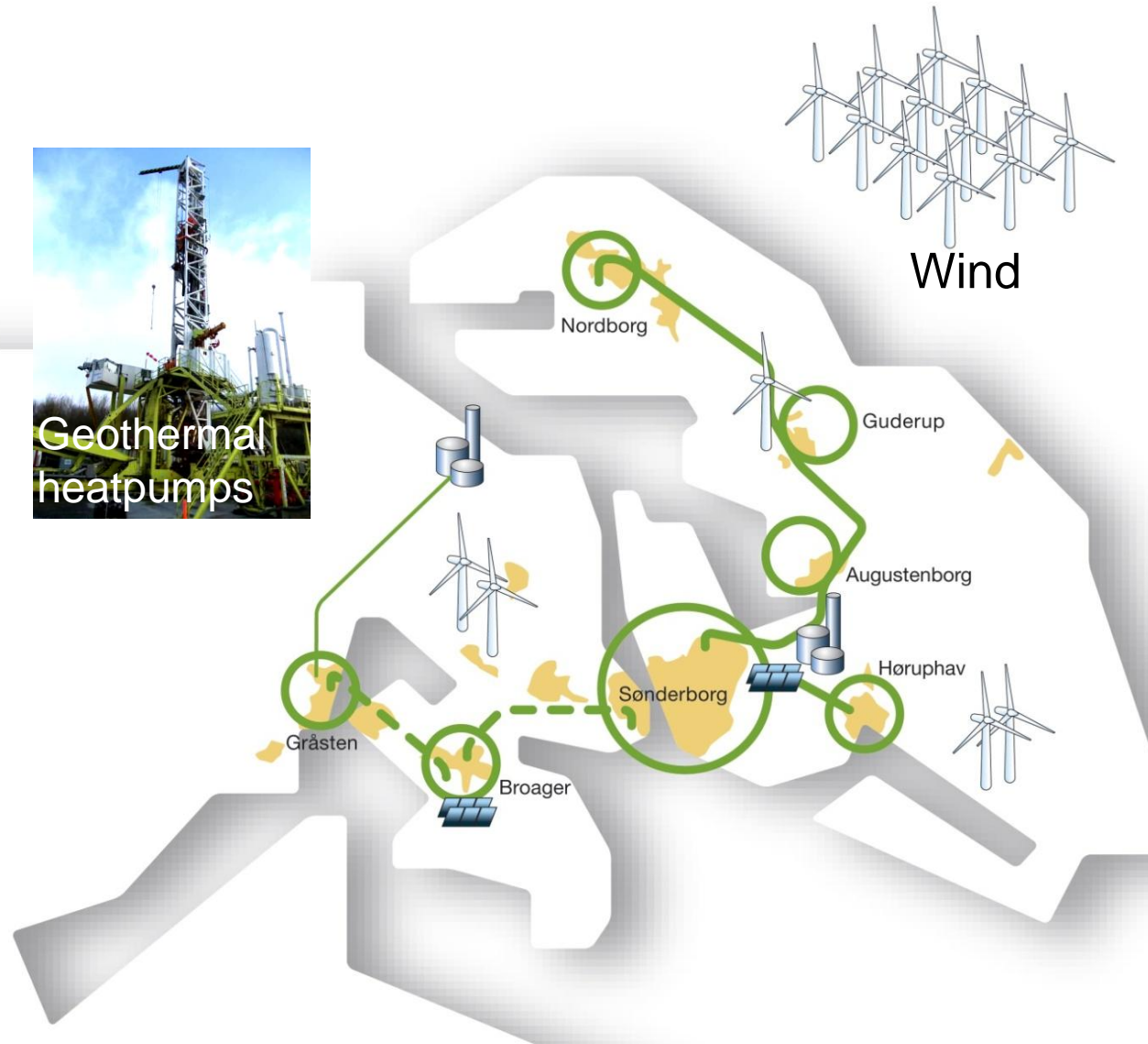


Sonderborg Tower Hotel & Waterpark

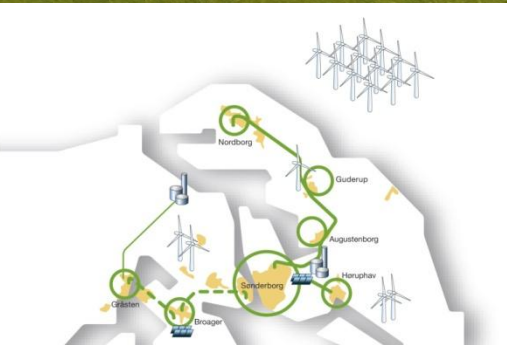
- 4-star Hotel with 210 rooms
 - 7.000 m² Waterpark
 - 1.500 m² conference area
 - Service Apartments and Offices
- All together 26.000 m² and 21 floors



Green district heating as heating solution in urban areas



Local turbines fuel the electricity Grid



ProjectZero impact

- 22% CO2-reduktion during 2007–2012 – verified by NIRAS
- Strong local recognition (>89%) and will to participate
- Green jobcreation equal to 800 green jobs
- Green innovation & entrepreneurship
- Global branding and recognition
 - EU rolemodel
 - Clinton CPDP & C40
 - Green Energy Ministerials
 - Working direct with Chinese cities & WWF

Roadmap2020

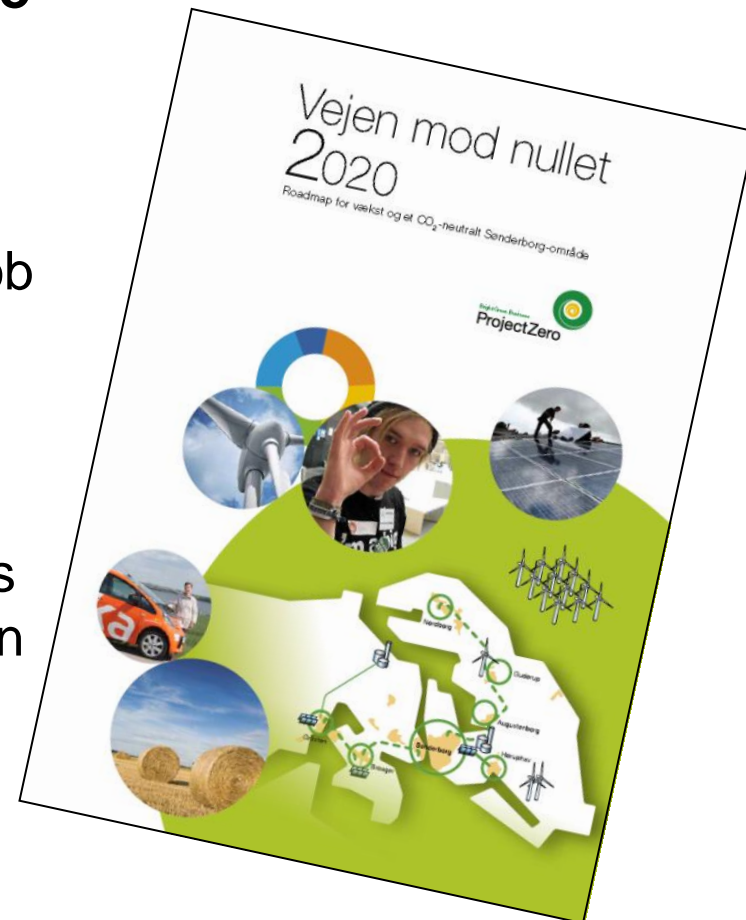
– a 50% CO₂-reduction by 2020

The Goal

- **A 50% CO₂-reduction by 2020, equal to 160,000 ton CO₂**
- Develop new business driven solutions focused on climate, green growth and job creation

The Challenge

- Integrate new important application areas (Intelligent Energy, Bioeconomy og Green Transportation)
- Low hanging fruits has been picked
- Maintain the strong society support



Sonderborg as a ZEROcity

CITIES issues

- **Develop likely sceneries'**
- **Modeling the energy system based on**
 - future green energy sources
 - Electricity
 - District heating
 - Green Gas
 - Load-shifting
- **Monitoring actual performance**
- **High time resolution (15 minutes, 1 hour)**
- **Improve use of BIG-data**

