

Green Urban Transition



ProjectZero as a transition-catalyst

**Peter Rathje, Managing Director,
ProjectZero Company**

Peter Rathje - background

- Created the ProjectZero Company in 2007
- Managed the Sonderborg Frank Gehry Harbour Masterplan creation 2007 - 2009
- Company transitions
 - Agramkow Fluid Systems (now part of Dürr), Denmark, 1999 – 2006
 - RTI Technologies (now part of Mahle), USA, 2003 – 2005
 - Arcodan broadband technologies (now part of Cisco), Denmark, 1991 – 1999
 - Keld Ellentoft (now part of KE Eagle), Denmark, 1980 – 1991
- Industry associations, Industry clusters
 - Chairman and board-memberships
- University and University Colleges
 - Board-memberships

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



**722.000 ton
of emissions**

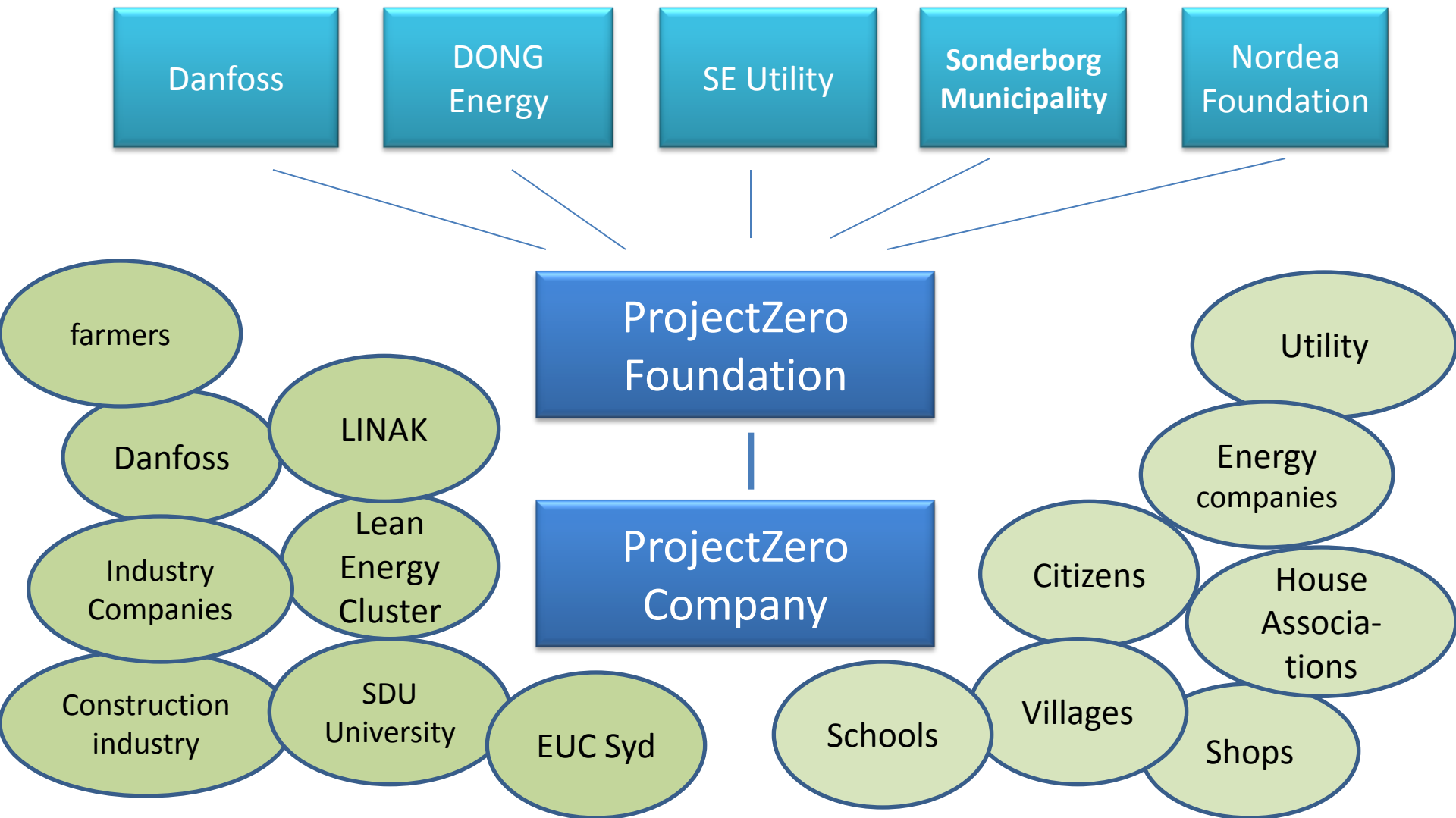
ProjectZero is an enabler
for Sonderborg to become a
ZEROcarbon community by 2029,
based on sustainable growth
and creating new **Green jobs**

20 years ahead of a fossil free Denmark

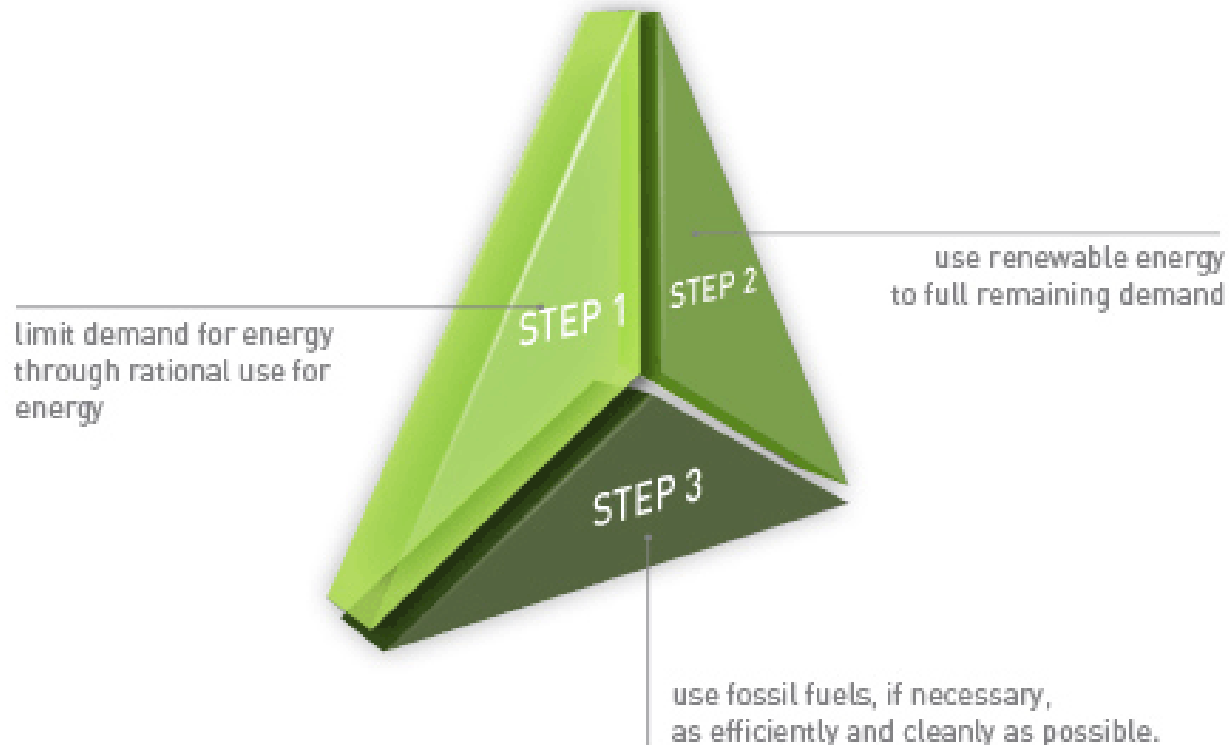
Our approach is holistic
and include Public Private Partnership,
technology, solutions, business, participation ...
and a new thinking!

ProjectZero

a Public Private Partnership



Transitioning the energy-system using step 1 + 2



Our ZEROcarbon masterplan outline directions and how to achieve 50% carbon reduction by 2020

Energy Efficiency Improvement

- **Energy retrofit of houses & buildings** including PV cell-production
- **Intelligent Heat pumps** in rural areas
- **Energy retrofit of companies, shops, offices**
- **Green transportation** including electrical cars

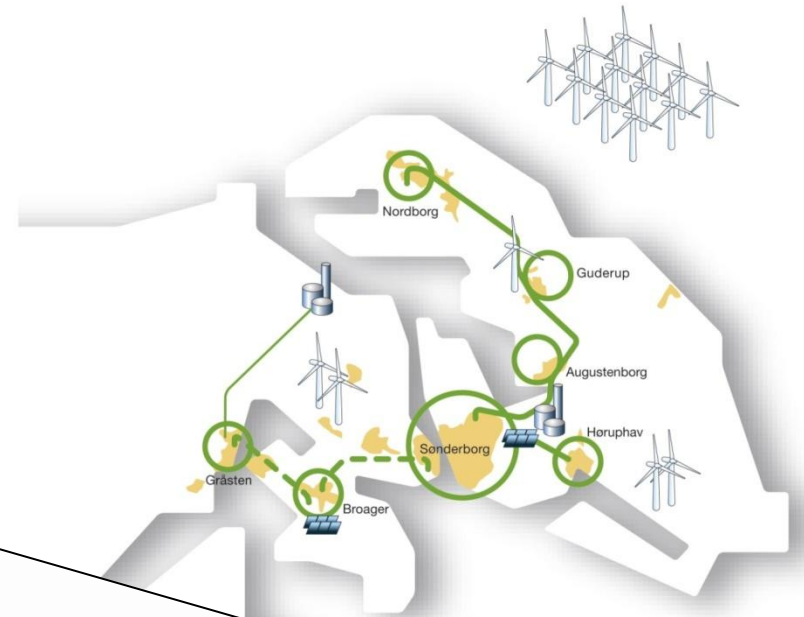
A New Green Energy Infrastructure

- **Green District heating** in the urban areas
- **Wind turbines** onshore & coastal near
- **Biogas plants** processing manure

A Dynamic Energy system

Learning and Competencies

Changing the mindset and thinking



Our participation started with the ZERO+ house but now the ZEROmindset have taken over!



- new homes
- new municipal buildings
- new schools
- companies going ZERO+
- shops going ZERO+
- schools going ZERO+
- families going ZERO+
- urban development going ZERO+

Frank Gehry



Changing society thinking and mindset

creating 15.000 young smart ambassadors

University College
& University

High Schools

Elementary &
Mid school

Kindergarden

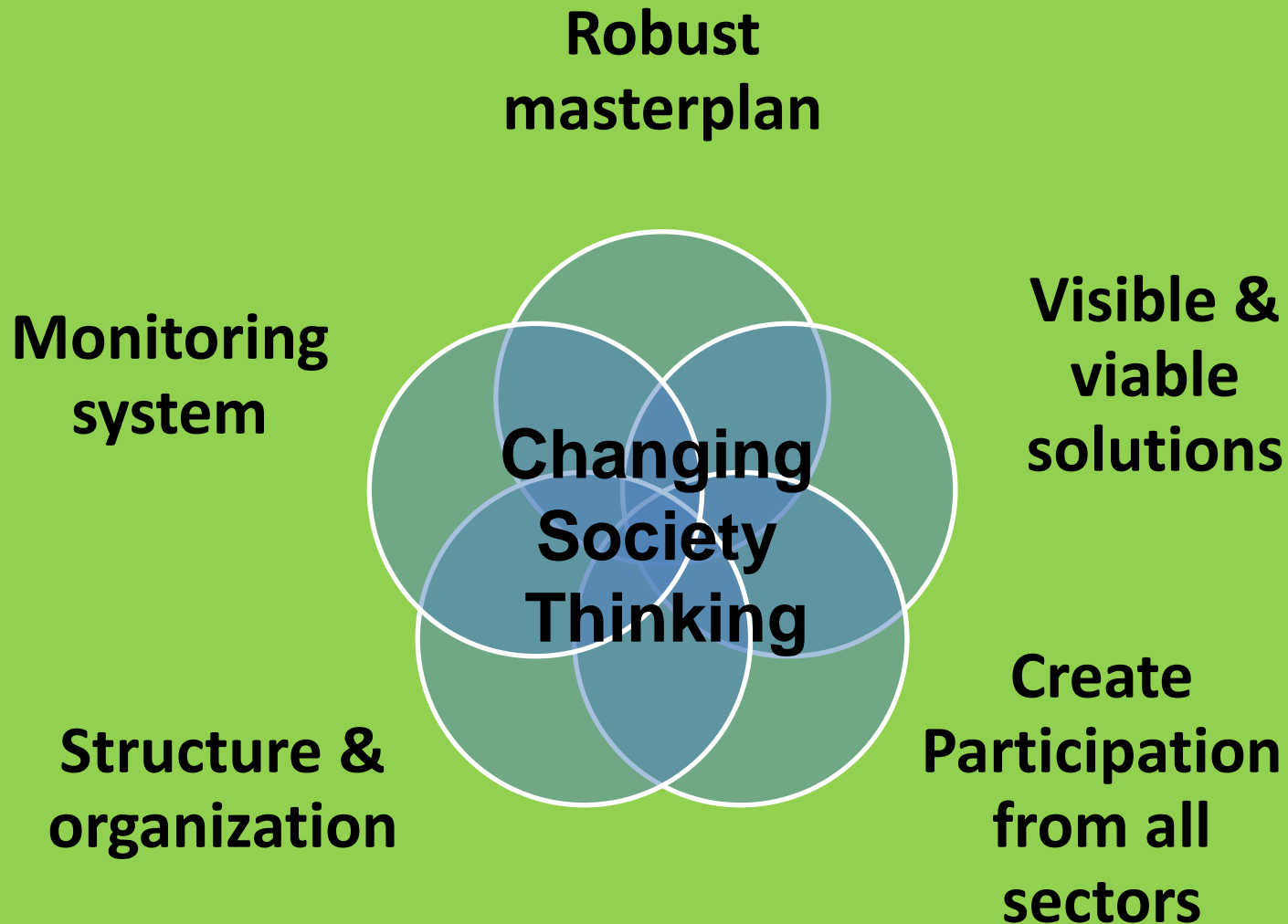


Major achievements first 5 years

- **16.2% CO2-reduction during 2007 – 2011**
 - Well on our way to achieve 25% reduction in 2015
 - And 50% reduction by 2020
- **800+ Green Jobs Created**
 - In the construction industry
 - Green district heating
 - Energy consulting
- **Positioning Sonderborg as a leading ZEROcarbon community**
 - Setting a new direction with future common goals to be achieved
 - Enterprises and educations align with the new direction
 - Best practice national and international cooperation



Going Green - how to get there?



Mission possible

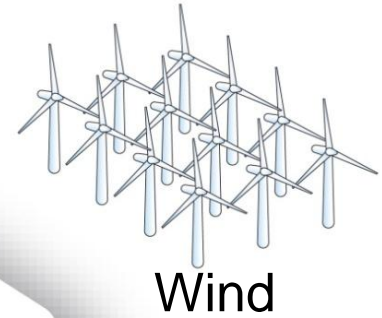
- **To get started, requires**
 - Mayors and City Council commitment
 - Local business community interest
 - Ambitious goals and a masterplan
- **To be successful, requires**
 - Integrate the business dimension
 - Make it the areas DNA & thinking
 - Leadership & Communication
 - Creation of Short and long term results
 - You stay ambitious!



supplementary

Green District Heating as the heating backbone

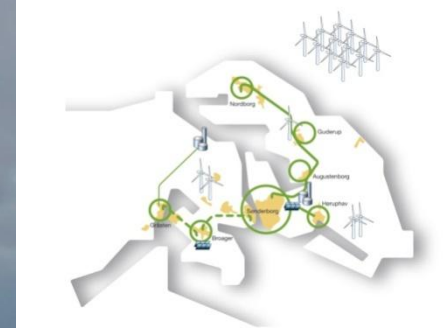
Smart and with multiple GREENfuel sources



Local turbines power the Grid



Our next challenge: establishing a coastal near Wind-turbinepark 120 MW capacity



Energy
efficiency
improvement
- require
participation
from all
society
stakeholders



The ZEROfamily

115 participating families (2009)

I'm a big
ZERO
fan
ProjectZero.dk

I'm a big
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fan
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I'm a big
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Impact

- 25% energy savings
- 45% water savings

ZERO+ & NZEB participation

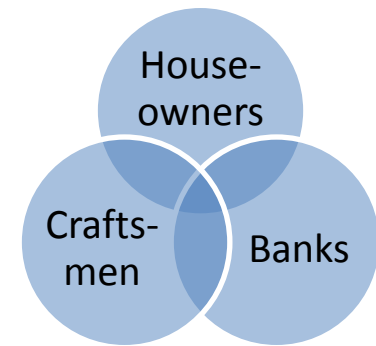


The ZEROhouse program

engaging 18,600 owners of private homes



- Average house is 65 years old
- Concept
 - easy, safe and economic viable for owners
 - strengthen craftsmanship competencies
 - secure financial support
 - lean processing across sectors
- House construction, installations, green district heating, heat pumps, appliances, mindset, ..
- Impact
 - 1,100 homes visited by Charlie
 - 65% have initiated retrofit with average €21,000 generating €14 mio in craftsmen sales
 - Energy savings up to 45% per household





The ZEROcompany program

Transforming Linak a €350 mio company to a 100% green company

Based on:

- energy efficiency
- green district heating
- own wind turbine
- Denmark's largest intelligent PV-park
- partnership with bioplant
- ZEROmindset – at all levels





In cooperation we can achieve more ambitious energy/climate goals and create more new green jobs