



The District of Tomorrow, a catalyst for SBE

Developments in Energy & Renewables Education / Reducing the boundaries

Ludo Kockelkorn, MSc
Zuyd University of Applied Sciences
BETA / RiBuiLT

May 10th IEA, Copenhagen
May 16th Great Rivers, Nizhny Novgorod



The District of Tomorrow

Ongoing processes from now to 2020 :

- Research, Design, Construction, Exploitation
- R&D environment for Zuyd University and Partners
- Four buildings will be constructed for different purposes:
 1. Living & working / passive house
 2. Demonstration / concept of zero
 3. Living & homecare services / exergy
 4. Recycle house / 0-materials
 5. Public area
- First building is ready for use

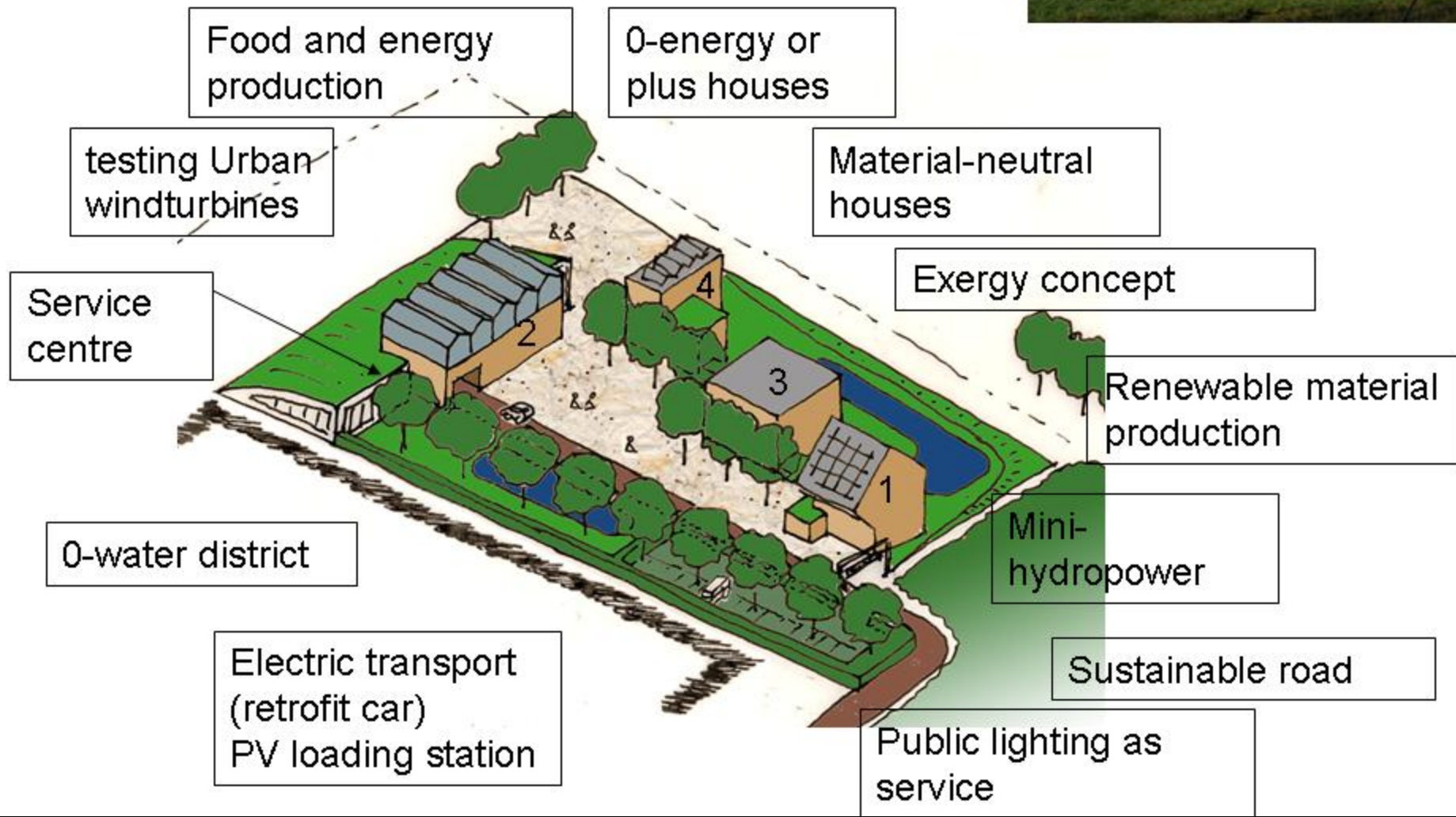


The District of Tomorrow - a real life lab-



The District of Tomorrow

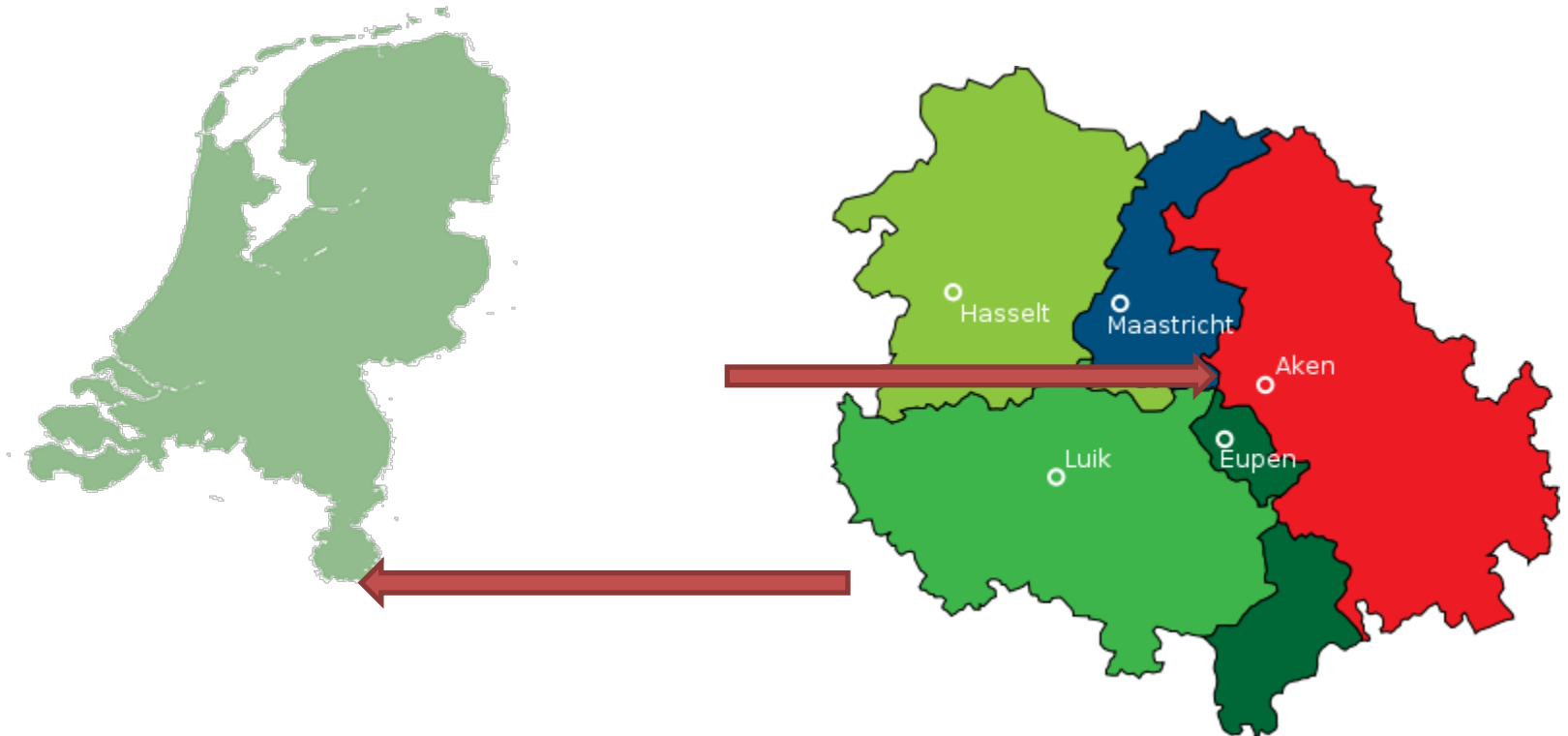
Besides houses, many other elements are developed, designed, constructed and researched



Euregion Meuse-Rhine

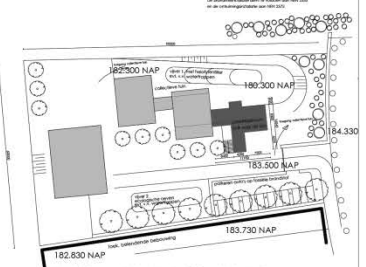
Area: 11000 km²

Population: 3.9 Mio



Artist impression





Kavel 1.200 voor exacte ligging in tekening zie DO kaverekening; de wijk van morgen
Kadastrale aanduiding: H1801-5 nr 00642 en 00659

Overige constructieve gegevens zie rapport en tekeningen ingeniebureau Patte

Overige bouwtechnische gegevens zie rapport Cauberg Huijzen

Dreessen A80	verval	aan de hand van de gegevens over de verloop van de ontwerping
	opbouw	aan de hand van de gegevens over de verloop van de ontwerping
	opbouw	aan de hand van de gegevens over de verloop van de ontwerping
Architecten	verval	aan de hand van de gegevens over de verloop van de ontwerping
	opbouw	aan de hand van de gegevens over de verloop van de ontwerping
	opbouw	aan de hand van de gegevens over de verloop van de ontwerping

0902.BV.0



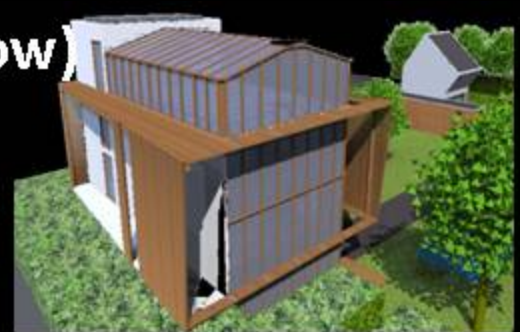
4 nominations and winner project 2 2009 (below)

Some Requirements where:

plus-energy ,

energy productive roof (greenhouses for energy water and food)

50 % renewable materials



Omayra Mingels, Han Houben



Ruud Smeets, Erwin Janssen,
Simon Reumers



Leroy Merks, Roel Derkx



Dirk Derikx, Stan Pinckaers,
Roy Tossings

FL- EX house




DE WERK VAN ARCHITECT





project indicators planning

		project 1: Knik	project 2 Eco/nnect	project 3 exergie house	project 4 0-materials
				?	
		under construction	in detail phase	in design	planned
		energy	energy	energy	energy
demand	vraag	passive	EPC= 0,3	min-exergie	exergie 2.0
supply	levering	100%RE (0-energie)	Energieplus	e-plus	e-plus-e-auto
		Materials	Materials	Materials	Materials
demand	vraag		< 750kg/m2	< 750 kg/m2	exergie 2.0: min-m2
supply	levering	25% renewable	50% renewable	75% renewable	~100% renewable
		Water	Water	Water	Water
demand	vraag			min "watergie"	
supply	levering		25% renewable	50% renewable	100% renewable
		Landuse	Landuse	Landuse	Landuse
demand	vraag				
supply	levering		plus 1	>0	exergie 2.0: minimal

Involvement of public and market



- Challenging study and R&D environment
 - 60 partners from 4 countries
 - 100 students per year
 - € 5 Mio
- To demonstrate the use of sustainable technologies & the concept of 0
- To realize targets of the partners:
 - Build 1000 zero impact houses (e.g. Province of Limburg)
 - Build experimental neighborhoods (e.g. Kerkrade West)
- Stimulate new business activities attract new employees
- Update education and get more students

Involvement of public and market



replicable programme

New programs:

1. Future Proof Technology Education in Parkstad
 - External, integrated professional education
 - Learning communities
2. EU Cradle to Cradle Network of the Province of Limburg
 - Interreg IV-C program
 - Transition to other regions
3. IDES EDU
 - Transition to other EU-partners
 - 600 students, 150 architects, 300 engineers, 150 professionals
4. Tempus Circle of Districts
 - Partners in Russia, Finland, Germany

Developments in Energy Education

Reducing the Boundaries", to be held 9-10 May 2012 in Copenhagen, Denmark

The IEA Copenhagen discussion has been broken down into four sessions:

- A. Needs Assessments of Competencies and Requirements
- B. The Education Value Chain
- C. Capacity Building – a Global Responsibility
- D. Teaching the General Public

“The District of Tomorrow” has to solve it all

Based on: Learning by doing & Researching by improving

- *Do cross-disciplinary programmes and initiatives accelerate innovation? YES*
- *How can universities implement energy R&D and whole-systems or cross-discipline programmes and approaches? JUST BY DOING*
- *What are the spill-over effects of education developments on employment? MORE AND BETTER EMPLOYEES*
- *What are the barriers and opportunities to expanding university programmes across borders or regions? MANY OPPORTUNITIES BUT EVEN MORE BARRIERS*
- *How can higher education and R&D address the needs of enterprise in a global economy? BY ORGANIZING COOPERATION AND FLEXIBILITY*
- *What lessons can higher education learn from 'teaching the public' (and vice-versa)? IT'S A PSYCHOLOGICAL, SOCIAL, FINANCIAL CHALLENGE NOT A TECHNICAL*

- Workshop: "Civil Society and Energy Education"

The framing questions that we attempt to answer in our session are:

- *What are the most effective approaches to educating the public? Why? **BY SHOWING THINGS***
- *What entity is best suited to engage the public - universities, government, private sector, or non-profits? Are top-down or bottom-up approaches more successful? **RESEARCH AND SOLVE REAL LIFE PROBLEMS***
- *How can we improve and further careers in the field of public energy education and training? **LEARN IN A REAL LIFE LABORATORY***

Thank you for your attention

www.thedistrictoftomorrow.org

www.ribuilt.eu

www.maasvolga.com

www.ansunz.com

Ludo.Kockelkorn@zuyd.nl



**ZU
YD**

