

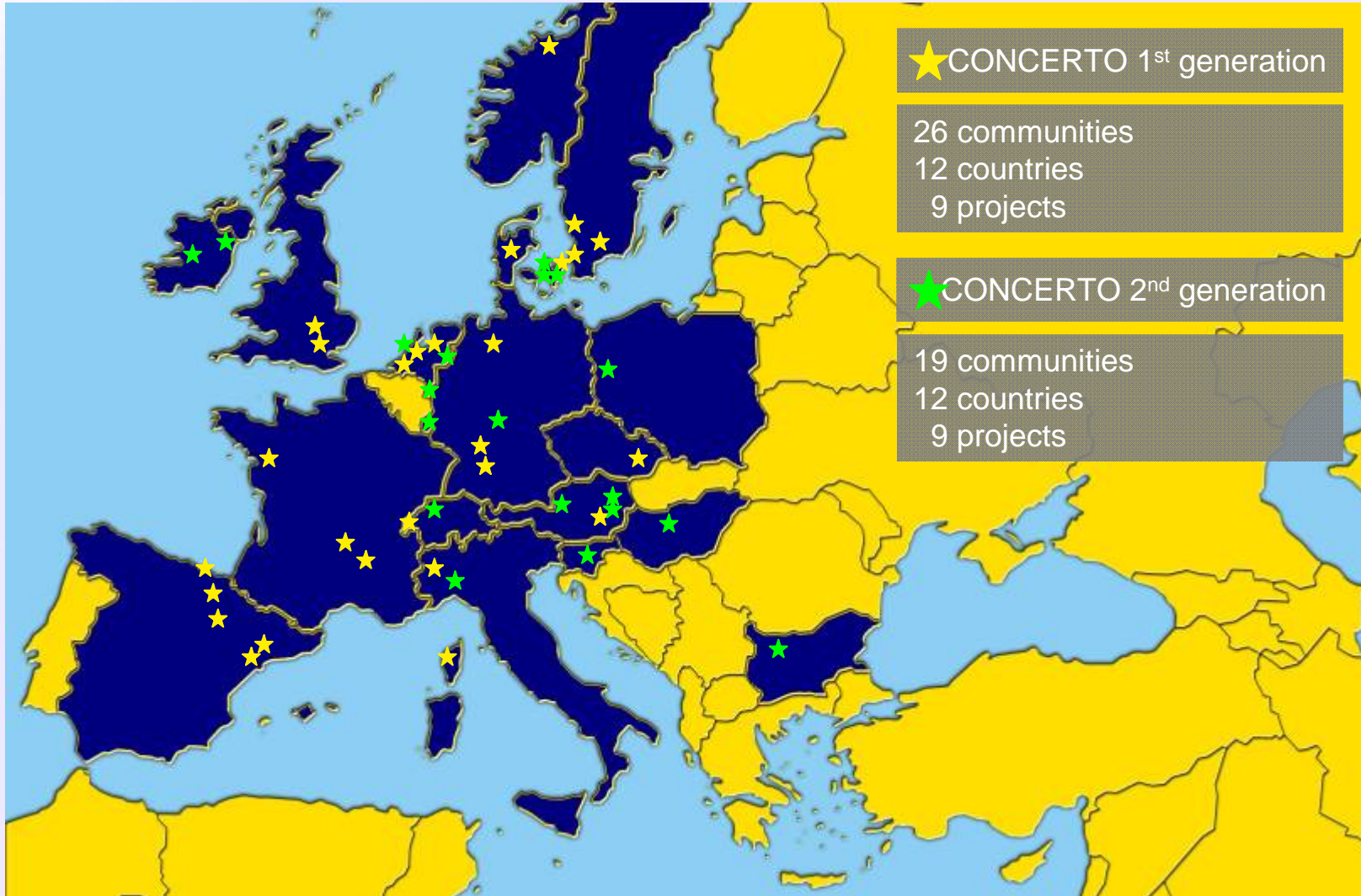
*Development of EU strategies in
municipal energy sector -
CONCERTO breaks new roads,*

Hans Nilsson
FourFact AB
Sweden





CONCERTO in a city close to you!





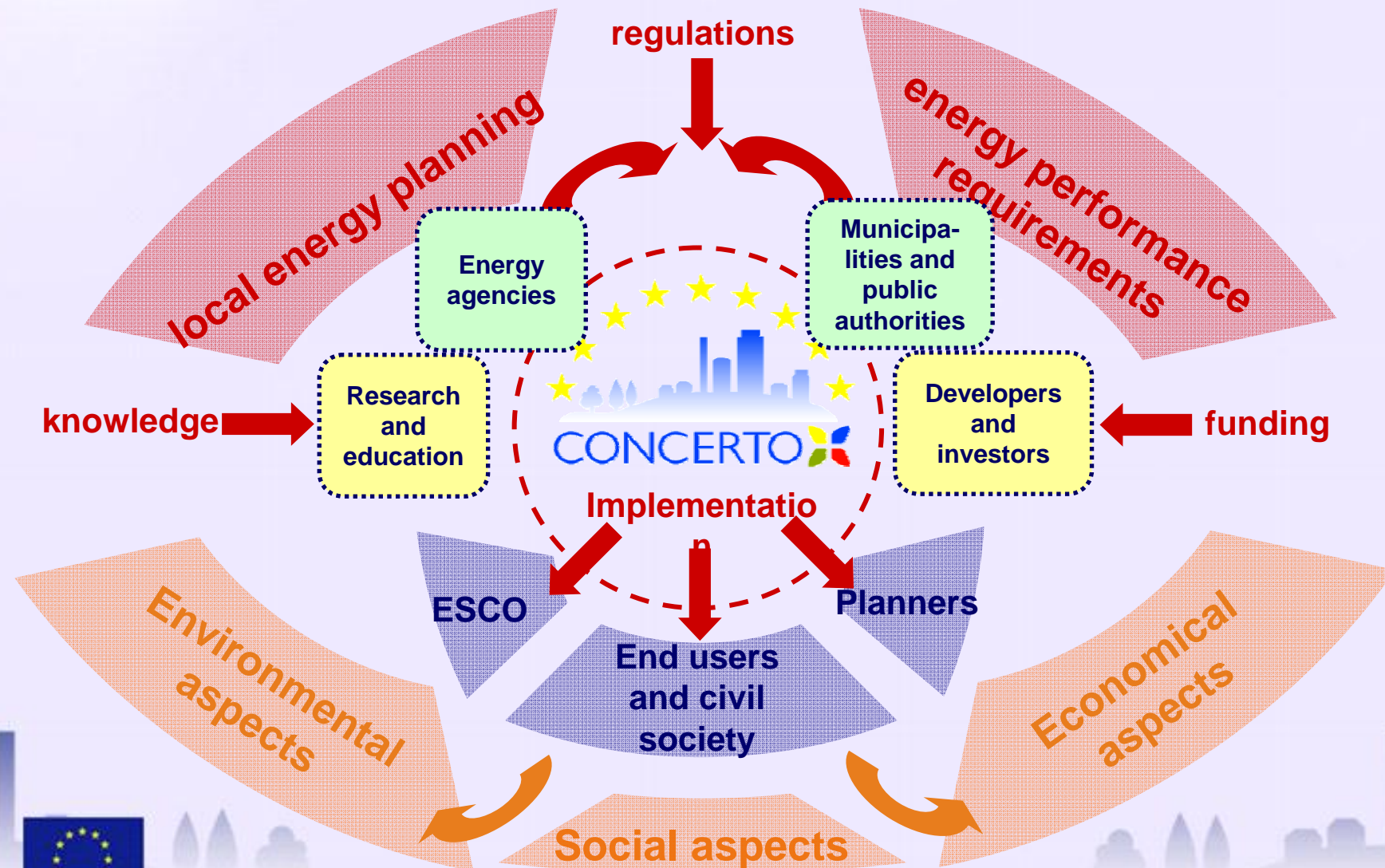
CONCERTO – Comprehensivness

- ✚ Communities will serve as ‘role models’ in advancing means for sustainable energy management.
- ✚ **Higher performance standards** in energy efficiency and integration of renewables
- ✚ **Integrated solutions** to combine all aspects of energy efficiency, poly-generation and renewables
- ✚ Strong **socio-economic and educational focus** to facilitate a value for the citizens where the overall benefit is more than the sums of its parts.
- ✚ **All relevant players** at all levels – from the politicians, the energy providers, the developers and planners – play together to achieve this goal of true sustainable construction.





CONCERTO: the integrated approach at local level towards sustainability



Towards Sustainability


		Supply	
		High density, (Low availability) <i>(e.g. fossil, nuclear)</i>	Low density, (High availability) <i>(e.g. solar, wind, bio)</i>
End-Use of Energy	High Efficiency (Low Intensity) <i>e.g. CFL and LED lighting; Adjustable speed drives</i>	UNECONOMICAL	SUSTAINABLE
	Low Efficiency (High Intensity) <i>e.g. Incandescent lamps, Direct electrical heating</i>	PRESENT SYSTEM	HARDLY FEASIBLE

Energy in minds !

PARTICIPATING COMMUNITIES:

-  [Falkenberg, Sweden /](#)
[Weiz Gleisdorf, Austria /](#)
[Neckarsulm, Germany /](#)
[Zlin , Czech Republic](#)

OBSERVER COMMUNITIES:

-  Gornji Grad, Slovenia /
Province of Torino, Italy /
-  Wieselburg, Austria /
-  Värnamo, Sweden /
-  Comunità Montana Val Pellice, Italy /
-  Provincia di Biella, Italy /
-  Trier, Germany





Zlin (Renewables)

- ✚ Population of around 76,000. (suburb Louky with around 1,600 inhabitants, is the principal focus area of CONCERTO measures.)
- ✚ **360 m² area of solar thermal systems** for combined heating and Domestic Hot Water (DHW) for 36 single-family houses and 440 m² large-scale applications for multi-family houses,
- ✚ Complemented with **10 Photo Voltaic (PV) systems** in private family houses (5 kW each) and **2 large-scale PV systems** (40 and 200 kW).
- ✚ **Re-process the biodegradable wastes** into a certified combustible compost with the heating value of ca 3,2 kWh/kg. The capacity of the plant is 1500 tons of biodegradable wastes a year, with the production of ca 900 tons of energetic compost. Combusted in the central heating plant, the energy yields is approx. 2,88 GWh/year.





ZLIN (Energy Efficiency)

- + **Energy checks for all private, office, and industry buildings** in the demonstration area of Zlin-Louky include the identification of the 20% least energy efficient buildings.
- + Additional actions to improve EE in the community involve the **retrofitting of 12 single family houses, 120 apartments in multi-family houses, 1 public, and 4 office buildings** with the goal to **reduce the energy demand for space heating by min. 50%** compared to the status before the retrofitting and **30 % below the current national standards**.
- + **New buildings: 15 single-family houses, 1 apartment building and 1 office building** with thermal characteristics **min. 30% better than required by the national building codes**





CONCERTO 1 and 2

Expected total reduction in energy use:	C1	C2
+ Of electricity use:	17%	35%
+ Of heating energy use (final energy):	30%	31%
+ Of cooling energy use (final energy):	33%	38%

Saved CO ₂ emissions through EE measures:	C1	C2
$\text{kt}_{\text{CO}_2}/\text{yr}$	~ 40	~ 36

Unified baselines for calculation

- + Electricity: UCPTTE mix: $617 \text{ kg}_{\text{CO}_2}/\text{MWh}$
- + Heating: individual gas boilers with 90% efficiency: $308 \text{ kg}_{\text{CO}_2}/\text{MWh}_{\text{heating}}$





CONCERTO 1 and 2

	C1	C2
Saved CO₂ emissions through CONCERTO	ca. 220 kt_{CO₂}/yr	ca. 110 kt_{CO₂}/yr
Total eligible costs	ca. 128 653 000 EUR	ca. 93 380 000 EUR

Altogether the predicted reduction in CO₂ emissions per year across the CONCERTO communities is comparable to:

530,000 people switching to a CO₂ neutral electricity provider.

Reference: (average value for domestic electricity consumption: 1,000 kWh_{el}/pers)

A town of approximately 32,000 inh. made totally CO₂ neutral

(including CO₂ emitted from transport, living, food etc. average value: 11 t_{CO₂}/pers)





What do we expect to learn?

- + BAT Technology performance (RES and RUE)
- + Technology integration (supply and demand side)
- + Customer perception of changes (different socio-economic groups)
- + Models for planning of changes (macro and micro perspectives)
- + Industry learning and applications (business models)
- + Policy instruments (measures)



And finally...

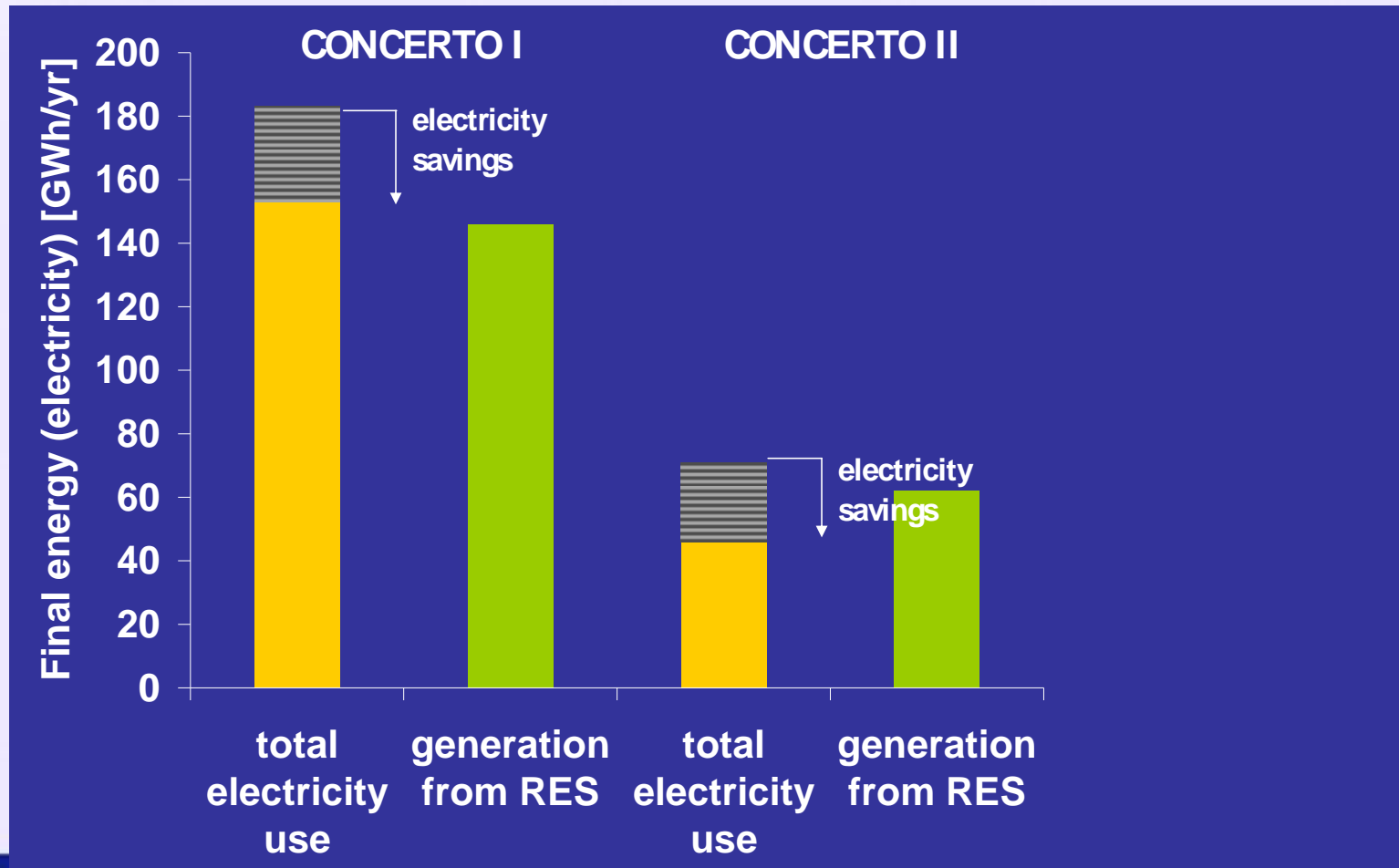
**THANKS FOR
LISTENING !**



www.concertoplus.eu



ELECTRICITY



CONCERTO 1 and 2

HEATING

