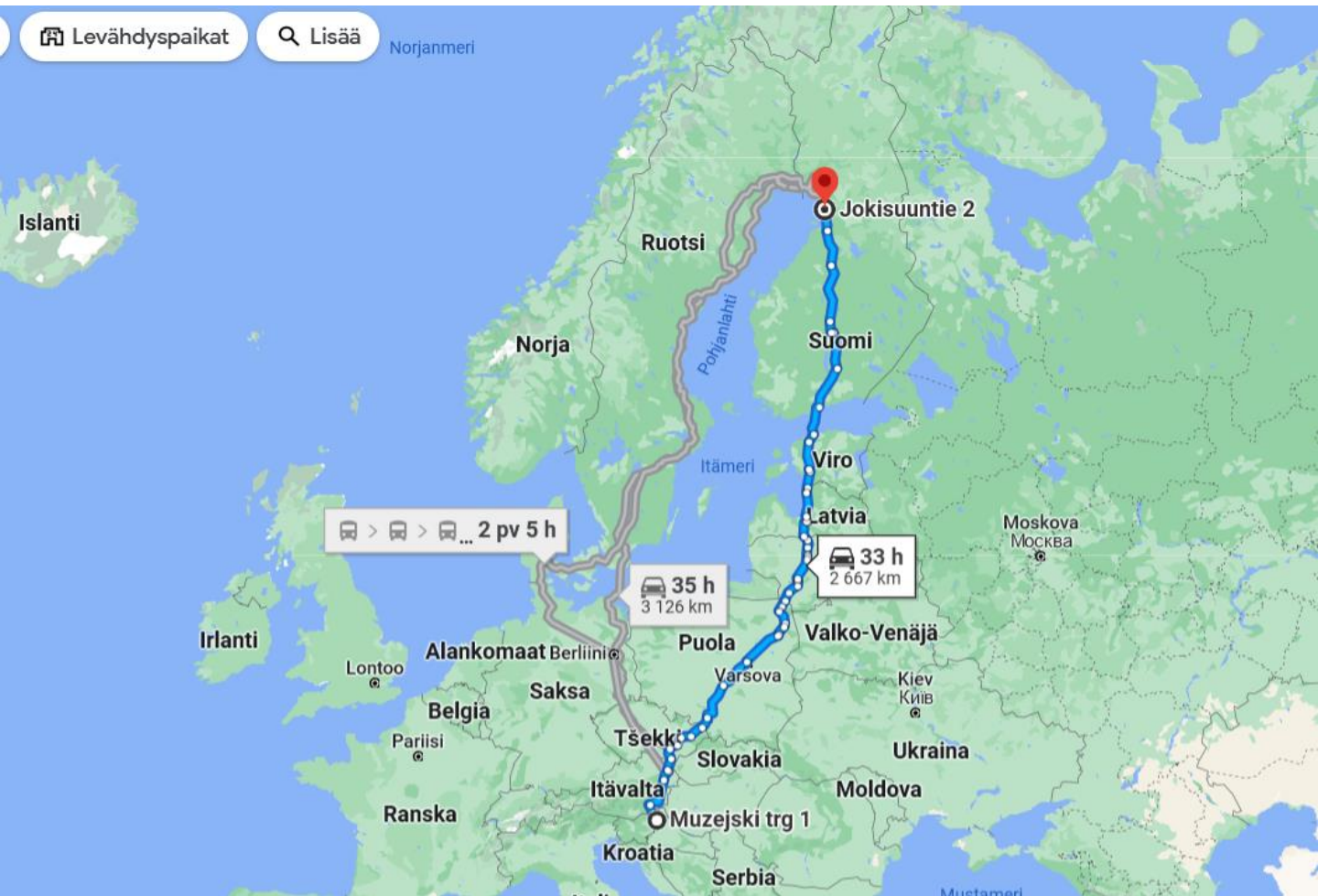


Levähdyspaikat

Lisää

Norjanmeri





MICRO
POLIS

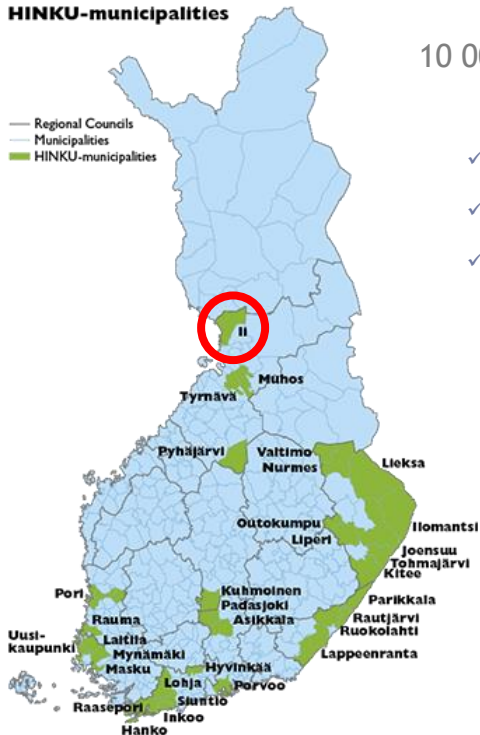
18.5.2022 Ceesen Partnership Conference
Green transition: Case Ii
Towards Carbon Neutral Community

Noora Huotari, Micropolis Oy CEO



Ii municipality - Renewable Energy Forerunner

INKU-municipalities



10 000 inhabitants, part of Oulu region (population about 250 000)

- ✓ Create carbon neutral community (long term)
- ✓ Decrease CO₂ emissions & consumption
- ✓ Attract RE investments (short & long term)

→ Incomes to companies, local land and forest owners

→ New businesses, jobs and inhabitants

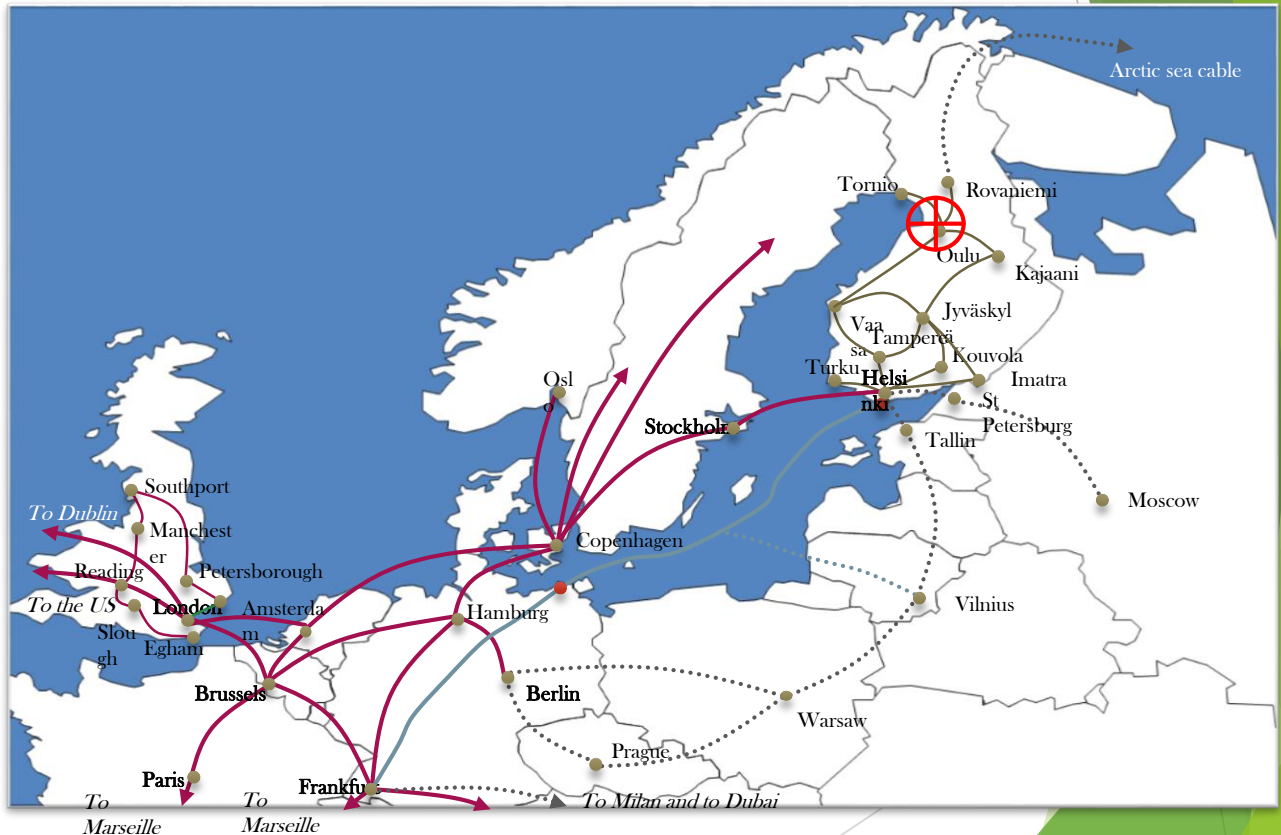
Increase the production and use of renewable energy and to decrease energy consumption in municipality facilities, residents and companies

Method:

- Pilots - Measurements - Upscaling - Large scale investments
- By doing yourself, you learn and achieve knowledge cumulation



Location





Approach

- Municipality as an enabler and driver of local "Energiewende"...
- Energy as a visible source of growth and employment... (old thinking - energy as a cost)
- Economy, employment, energy, climate, innovations, knowledge as a one unit...

Milestones

- | | |
|--|------|
| ▶ Political commitment to start the process | 2011 |
| ▶ Membership in HINKU Forum | 2012 |
| ▶ "Towards Resource Wisdom" programme | 2016 |
| ▶ Membership in FISU society | 2016 |
| ▶ CO ₂ Emission reduction target 80 % | 2020 |



Carbon Neutral Society Results and Achievements

- Investments 1,7 M€ (2012-2015)
- Total savings:
 - ✓ Energy: 7 707 MWh (from 2010)
 - ✓ CO₂: 63 000 000 kgCO₂/a (*)
 - ✓ Euros: 566 000 €
- Oil consumption reduction 314 544 l/a.
 - ✓ 2010: 367 492 l/a
 - ✓ 2015: 52 950 l/a

li municipality target:

-80 % by 2020
leader in Finland,
leader in Europe

(*) According to Finnish Environmental Institute (17.11.2015),

li municipality is the number one emission reducer in Finland with **-67 % CO₂**





How did we achieved it?



- ▶ Producing more renewable energy (wind & solar & bio & groundheat)
- ▶ Improving Energy efficiency (led lighting, waste heat, real time consumption measurement, adjusting air ventilation)
- ▶ New buildings (passive houses)
- ▶ eCars and charging stations
- ▶ 50/50 method, Schools and kids engagement
- ▶ Citizen involvement



Producing more Energy than we use



li area energy production:

- WaterPower 620 GWh (Raasakka at Iijoki)
- WindPower 290 GWh (Vatunki, Olhava, Nyby, Myllykangas ja Laitakari)
- Heating by wood energy 40 GWh (2 heating stations + small units)

Energy use approx 80 GWh

New workplaces 80



Effects

What	Where	Investment	Savings	Payback time	Reducing Emissions
		[€]	[€/a]	[a]	[kg CO ₂ e/a]
From Oil to groudheat	3 schools	390 000	85 000	4,7	198 200
From Oil to heating by wood	Olhava school	30 000	6 000	5	120 000
Energy Efficiency	Valtari school	300	23 000	0	5 500
From Oil and Electricity to groudheat	Buildings rented to citizens (52 apartments)	330 000	60 100	3,3	156 000

Improving Energy efficiency (led lighting, waste heat, real time consumption measurement, adjusting air ventilation)

Valtari school (2012)

- Real time energy consumption following system
- Air ventilation system fixing, time adjustment and control →
savings costs
23 000 € / year

Raasakka factory (2012)

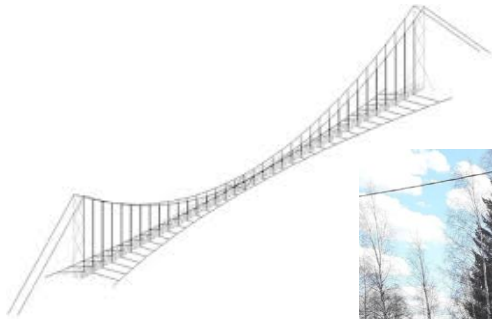
- IV-air ventilation yearly service and checking
- Investment in new timing system and fixing (old system was working all time in full power) →
Saving costs 38 000 € / year

Less CO emissions	5 500 kg CO ₂ e/a
Inv.cost	0 €
Yearly cost(before)	181 000 €/a (204 000€/a)

Less CO emissions	77 000 kg CO ₂ e/a
Inv. cost	500 €
Yearly cost (before)	33 000 €/a (71 000 €/a)



Be brave, try: Jakku Bridge



Involvement

- citizen

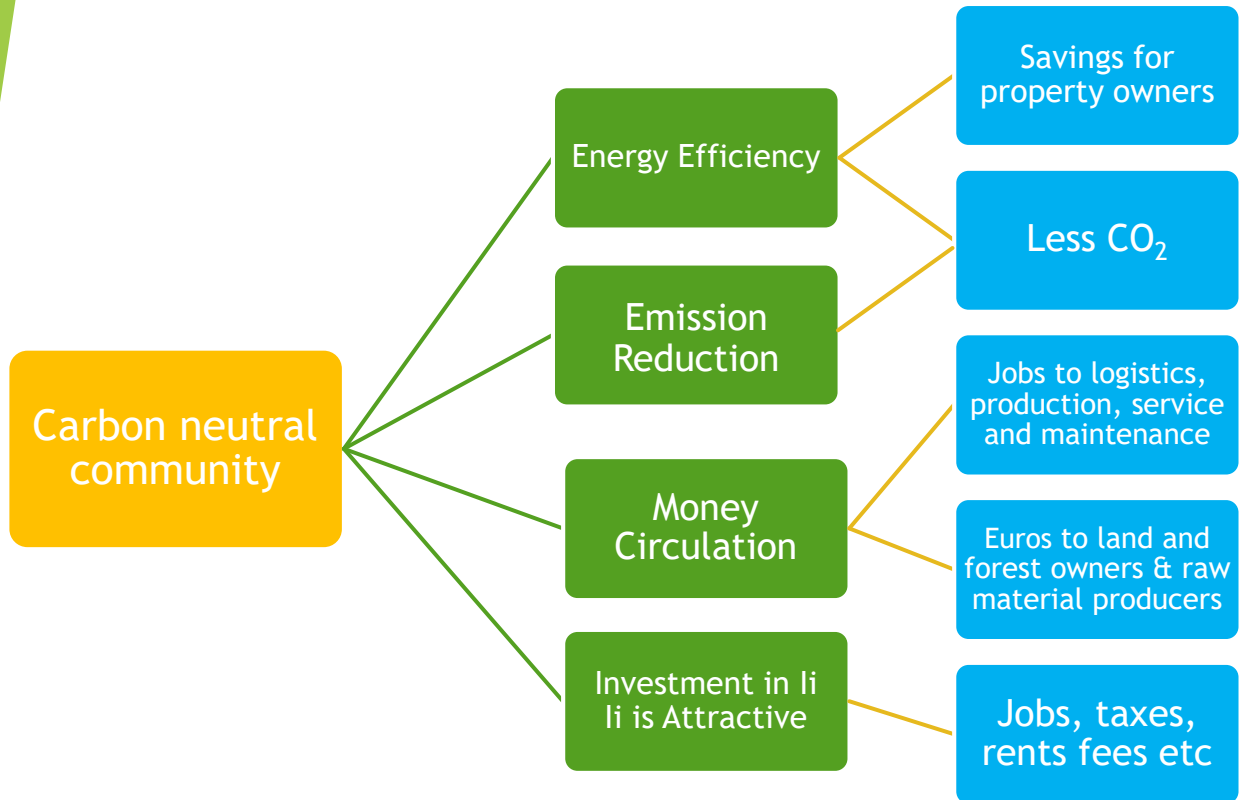
- companies

- find the benefits and decisions are easier to make and accept

- 50/50 models and other activities are giving back more than we expected -> social impact



Benefits



li 2019: Innovation in Politics Awards 2019
winner



Next steps to carbon neutral community

Roadmap: Towards Resource Wisdom

1. RE Production & Consumption

New power / heat investments & Led lighting & Facilities

2. Community structure & Traffic

eCar project - phase 2 & Cycling roads & Public transportation & local train connection...

3. Less Consumption & material circulation

Waste management

Digital solutions & Broadband network & eLearning & eAdmin & e...

4. Food production & consumption

Local food (fish) & food management in schools / shops & ...

5. Water resources & Natural waters

Sewage water management & Water quality in Li river & ...



5G and IoT - First in the world with VTT, open platform for companies



Thank you for your interest

Contact:

Noora Huotari

p. +358 40 683 0541

noora.huotari@micropolis.fi



ii.fi/en

<https://micropolis.fi/en/>

Vatunki, li

Negawatt is the Best Watt !

