



Centre for Economic Development,
Transport and the Environment

Stakeholder co-operation to boost biogas production – case Pirkabio and ECO3

Closing event, Thursday, December 2nd, 2021 – Biogas, Carbon Footprint and Industrial Symbiosis

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Pirkanmaa ELY centre

- Centre for Economic Development, Transport and the Environment (ELY comes from Finnish words)
 - E = Business and industry, the labour force, competence and skills
 - L = Transport and infrastructure
 - Y = Environment and natural resources
- Pirkanmaa ELY centre is one of 15 centres in Finland, government administration at regional (incl. 23 municipalities) level.
- ELY centres promote regional development by implementing government initiatives and development tasks in the regions
- Many steering ministries → multiple goals → in many respects in the heart of sustainable development (social, economic and the environment)
- **Here today:** Regional aspect for the promotion of bioeconomy (as part of Circular Economy)



Case Pirkabio

- Stakeholder network driving at closer co-operation along the whole value chain of biogas production
 - From the logistics of potential biomass to the use of biomethane and utilization of digestates
 - Both public and private operators, farmers, waste and wastewater management, energy producers, users of biomethane, publicly funded project operators..
- Main purpose of co-operation
 - To strengthen the idea of ecosystem and a holistic approach to promote the transition of circular economy
 - To accomplish the road map for 2030 on how to increase both the supply and demand of biomethane in Pirkanmaa region
- Ecosystem of biogas is one of the best examples of cross-cutting area, where the benefits of the ecosystem become visible when looked at as a whole. At the moment, environmental politics and combatting climate change is still too much looking one problem at a time.
 - We do need more and more systems thinking: “How to invest money to achieve as many environmental and economical benefits as possible?”

The main content of the Pirkanmaa biogas road map for 2030

- 1) How to read the road map
- 2) Stakeholders and actors of Pirkabio
- 3) The main content and targets of the road map
- 4) Potential raw materials for biogas production in Pirkanmaa region
- 5) Production of biogas
- 6) Use of biogas and refining biomethane
- 7) Utilization and processing for digestates (improving nutrient cycles)
- 8) Bottle necks for the development of biogas ecosystem
- 9) Ideas for R&D
- 10) Summary
- 11) Websites and links for further information

Available only in Finnish; www.pirkabio.fi; [Pirkanmaa biogas road map 2030](#)

Lessons learnt – where do we stand now?

- Stakeholder co-operation needs time and the resources, Pirkabio can be seen as a starting point or kind of "pre-ecosystem" for public-private co-creation process and business ecosystem
 - It is very important to consider the actions needed in local, regional, national and even at EU level. Many obstacles for further increase in the production of biogas and use of biomethane in transport are closely interlinked with legislation and the common predictability of political decision-making
 - Transition to circular economy needs activities like this to make bigger entities and whole value chains visible, to show the path we need to walk and to understand we cannot get there without new kind of thinking and co-operation.
- Pirkabio is meant to be a long-term platform for stakeholder co-operation, but at the moment resources to further facilitate co-operation are limited. Luckily there are many other activities and projects such as national biogas program and projects to improve the use of manure and grass for biogas production, which can be seen as actions for the right direction.
 - The most active Pirkabio has been last year when five virtual workshops were arranged in order to create a road map for biogas ecosystem
 - Biogas ecosystem has also been high on the political agenda in Finland: a lot of good will at the moment, but still lot of uncertainties also for investors to take the crucial steps



ECO3

BIO- AND CIRCULAR ECONOMY BUSINESS PARK AND CONCEPT

2.12.2021

● European
○ Business
○ Awards®

NATIONAL
WINNER
2019

Sakari Ermala
CEO
Verte Oy



ECO3

HOW DO WE OPERATE ?

Verte Ltd. ECO3 platform company. 100% owned by the city of Nokia

- ECO3 Business Park and concept coordination
- Site marketing and site planning coordination
- Matchmaking
- Setting up value chains and concepts in national and international level

ECO3 Consortium

- Corporations
- Business Tampere Ltd
- Tampere Regional Solid Waste Management Ltd
- Cooperation partners
- Universities and research centres

THE HOME OF ECO3 IS IN THE HEART OF FINLAND

Pori 100 km

Rauma 130 km

Helsinki 180 km

ECO3



ECO3
Nokia

Pori
Rauma

Helsinki

Situated at the crossroads of
highways 3 and 11

- 10 minutes from
the Tampere-Pirkkala Airport
- 2 hours from Helsinki
- 1.5 hours from Pori

ECO3 IS BUILT UP IN PHASES



FACTS

- An innovative, industrial-scale multidisciplinary bio- and circular economy business area is being built in Nokia, Finland
- 120 ha
- ECO3 competence centre works simultaneously as a demonstration and pilot environment

ECO3

ECO3 BUSINESS PARK AND CONCEPT



120 ha
BUSINESS
PARK IN
FINLAND



More than
70 M
investments



**THE CONCEPT
IS FULLY**

scalable
scalable

scalable

scalable

scalable

scalable

scalable



**ONE OF THE BEST
CONCEPTS IN EUROPE**

Investment potential

200M



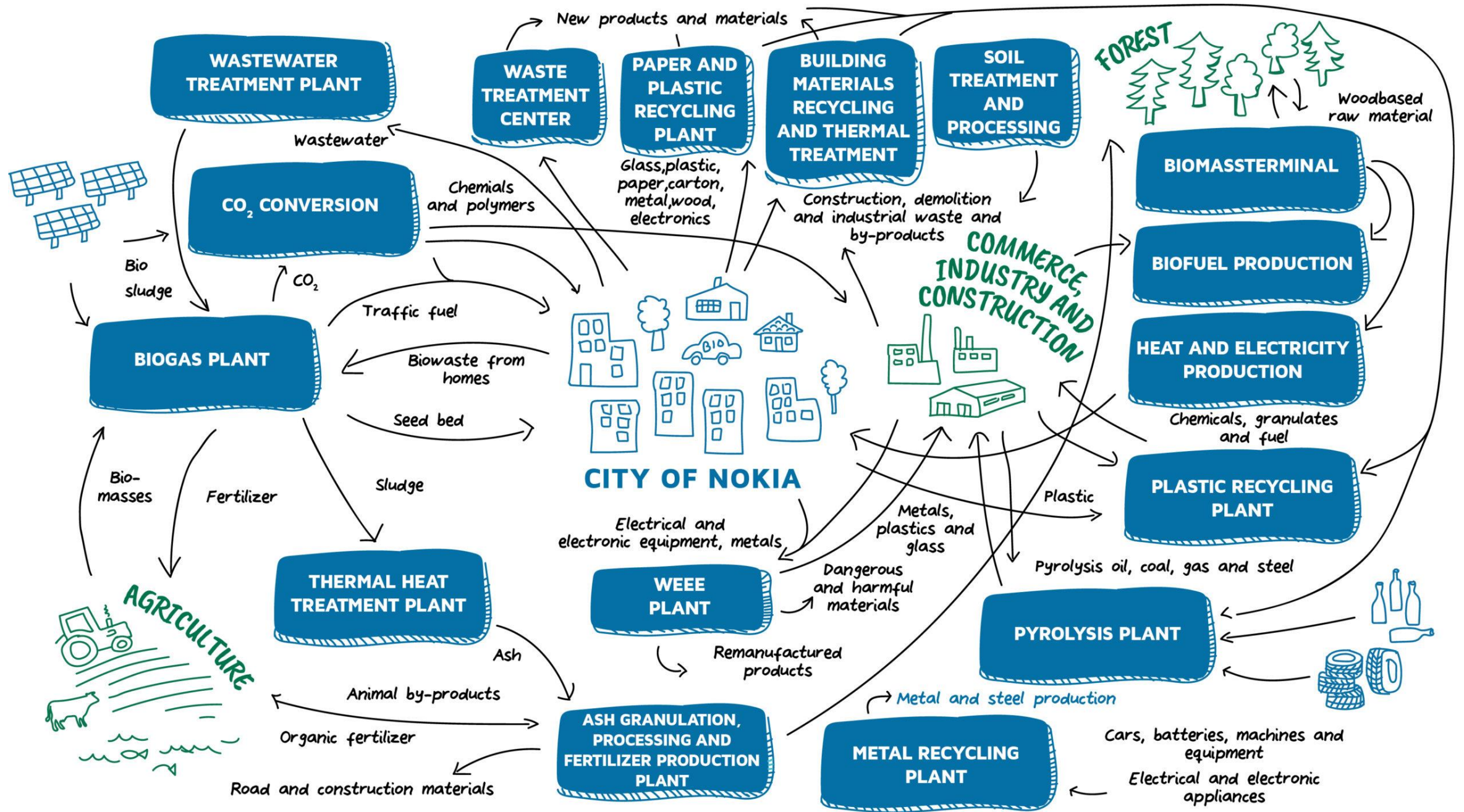
INDUSTRIAL-SCALE

bio- and circular economy

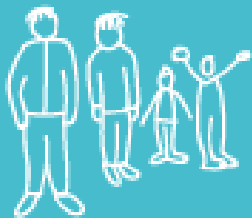
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independent bio- and
circular economy
companies



TAMPERE REGIONAL WASTE MANAGEMENT



444,000
INHABITANTS

**ONE OF THE BEST
IN THE WORLD**

Finalist, Guangzhou
International Award 2016

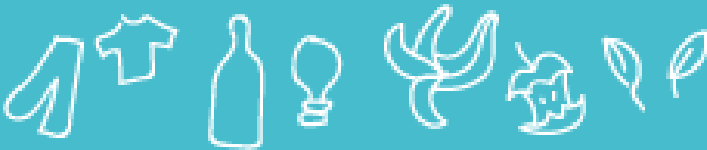


**THE BEST WASTE
MANAGEMENT IN FINLAND**



**OWNED BY 17
MUNICIPALITIES**

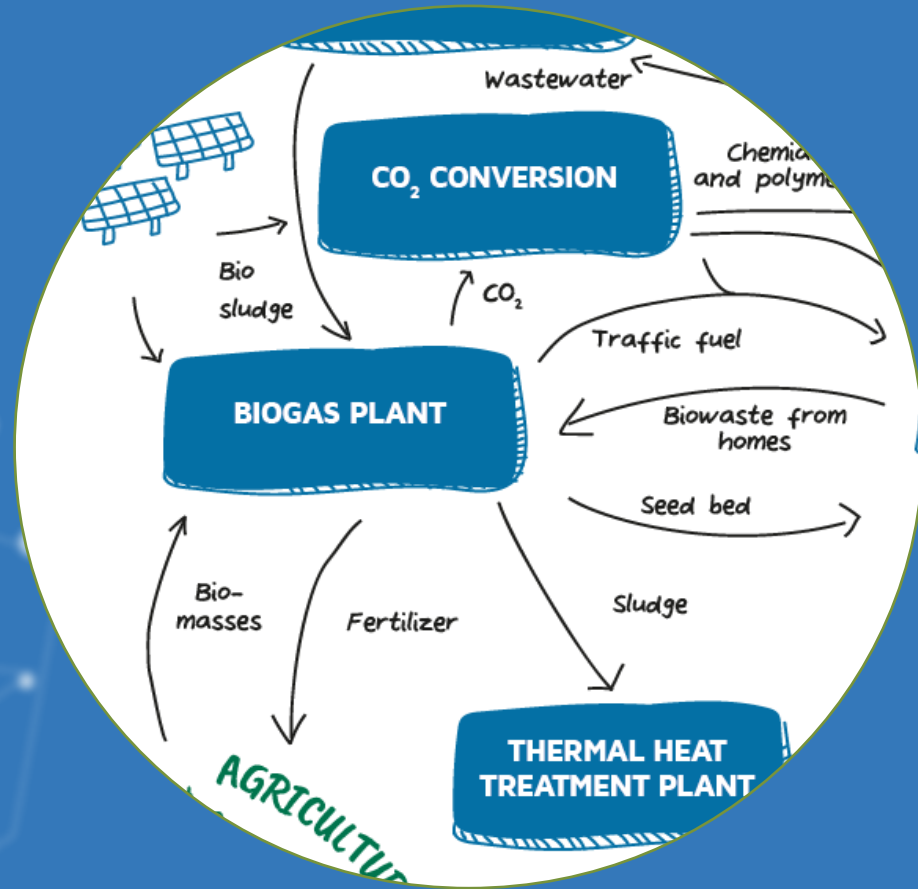
The lowest waste management fees
but no taxes needed for investments



99%

**RECOVERY FROM
WASTE TO RAW
MATERIAL OR ENERGY**

ECO3- BIOMYLLY/BIOGAS PLANT



ECO3

BIOGAS PLANT

- The operations of the Tampere Regional Waste Management Biogas plant, ie Biomyllly, began in the ECO3 area in autumn 2021. The plant processes biowaste from 17 municipalities and sludge from the Nokia city.
- The plant has two separate lines, a dry line for biowaste and a wet line for sludge.
- The two-line plant is unique in Finland
- The plant treats 24,000 tons of biowaste (dry digestion) and 10,000 tons of sludge (wet digestion) annually.
- Biogas plant produces renewable, local BIG biogas(25 GWh) as well as fertilizers suitable for organic production and farming.
- Construction work began in 2019.



ECO3