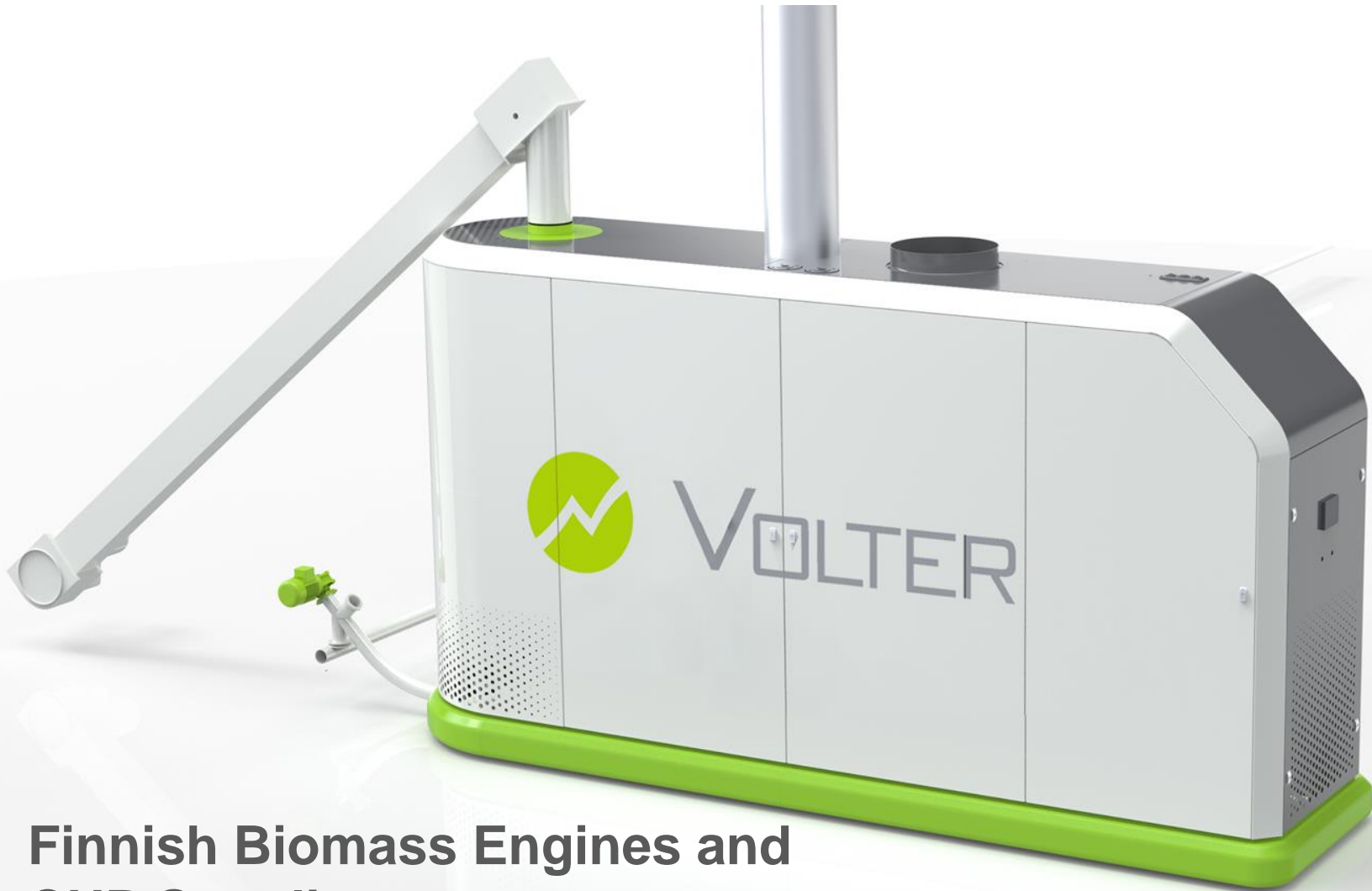


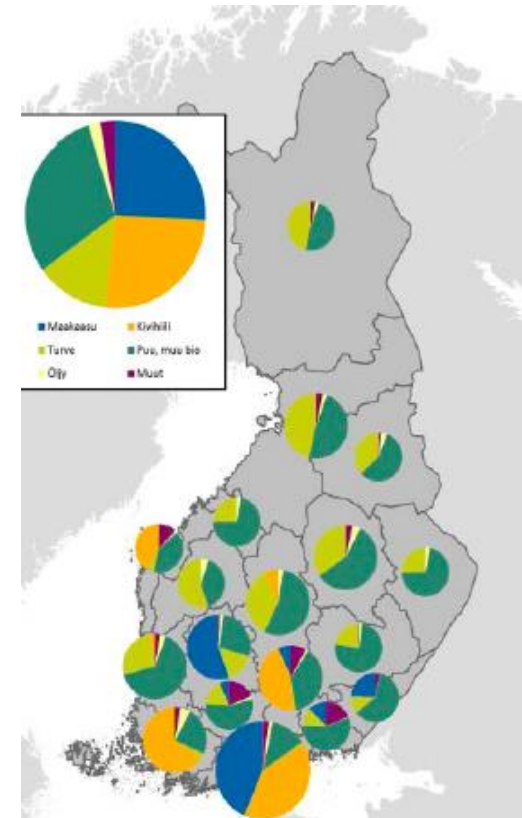
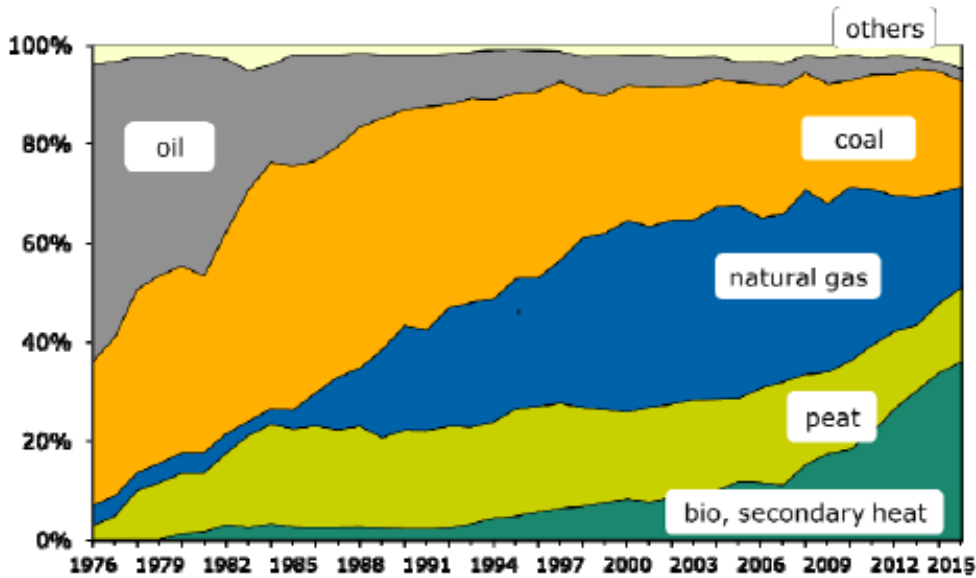
# YOUR OWN ELECTRICITY FROM **WOOD**



**Finnish Biomass Engines and  
CHP Suppliers**

Michael Laho, EUFORES IPM17, Tallinn

# Development of utilization of biomass



District heating: 75%

Electricity: 25%

# Finland is a global forerunner in CHP

- One of the main drivers of developing high-efficiency CHP has been on imported energy → *security of supply*
- *Climate conditions* make space heating a must for 9 months a year, and during the winter lighting is needed for most of the day → CHP is produced year round
- *Energy efficiency* is an important national goal to maximize the relatively *scarce resources*
- The integration of forestry and paper sectors in Finland has meant that it has become highly cost-effective to have CHP units utilizing *forest wastes* and provide heat necessary for P&P production and often for heating nearby communities
- Overall high national level of CHP utilization has been market driven with little direct government support

In 1998, Juha Sipilä – founder of Volter Ltd – received an offer for electricity to his home in Northern Finland. The offer was more than the cost of the home, which made him consider his own electricity production.



Our development story with wood based combined heat and power units has grown thanks to many challenges encountered on the way.

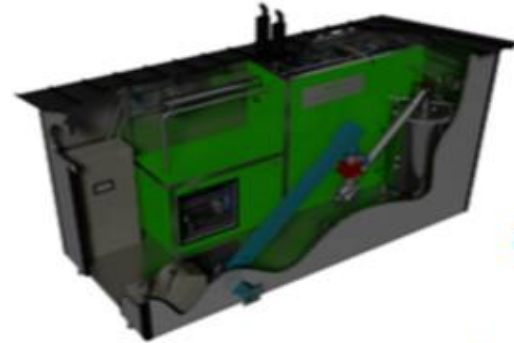
2010



2011



2012



2006

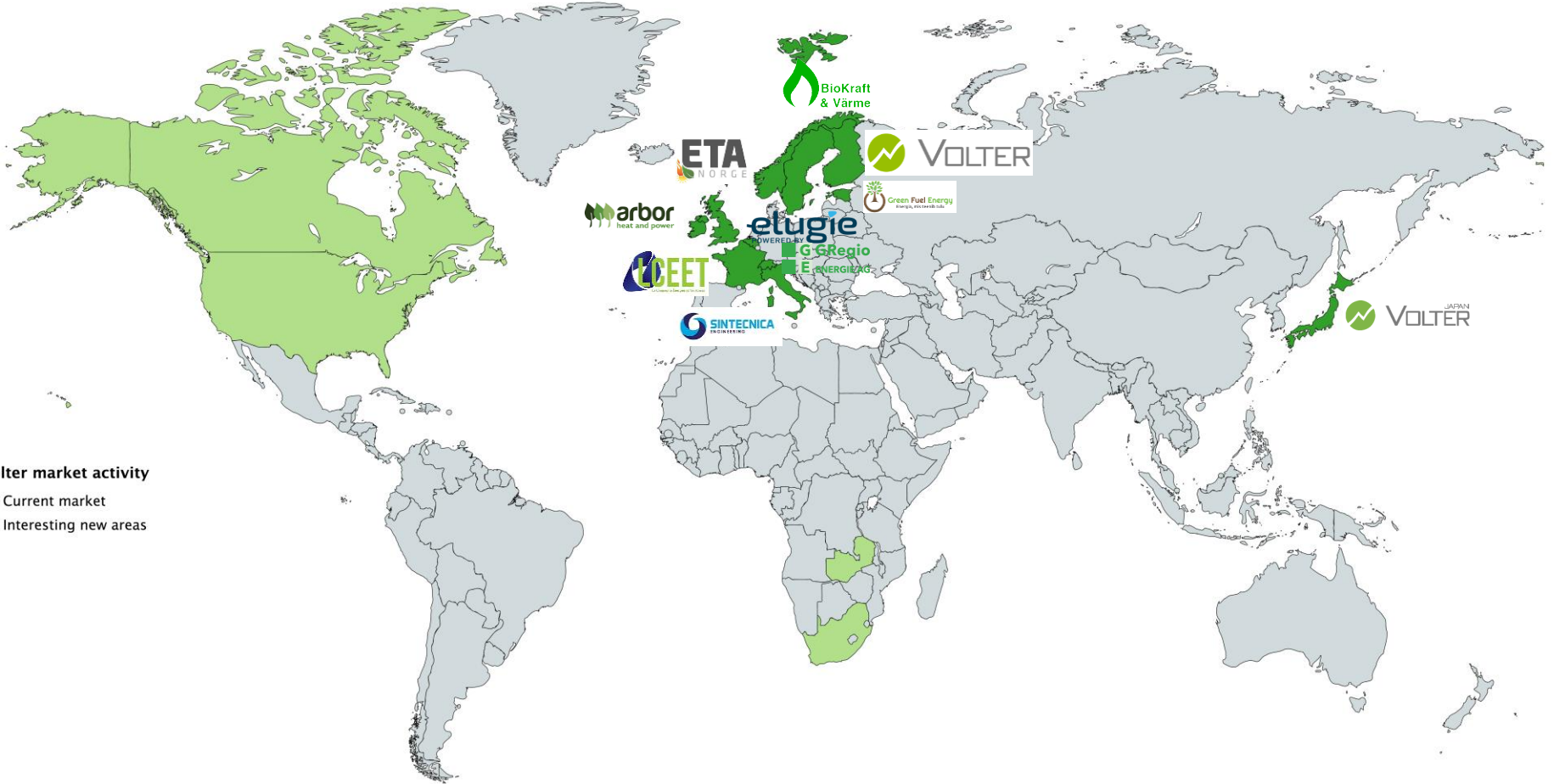


2014





# Where are we?



**Volter market activity**  
■ Current market  
■ Interesting new areas

Created with mapchart.net ©

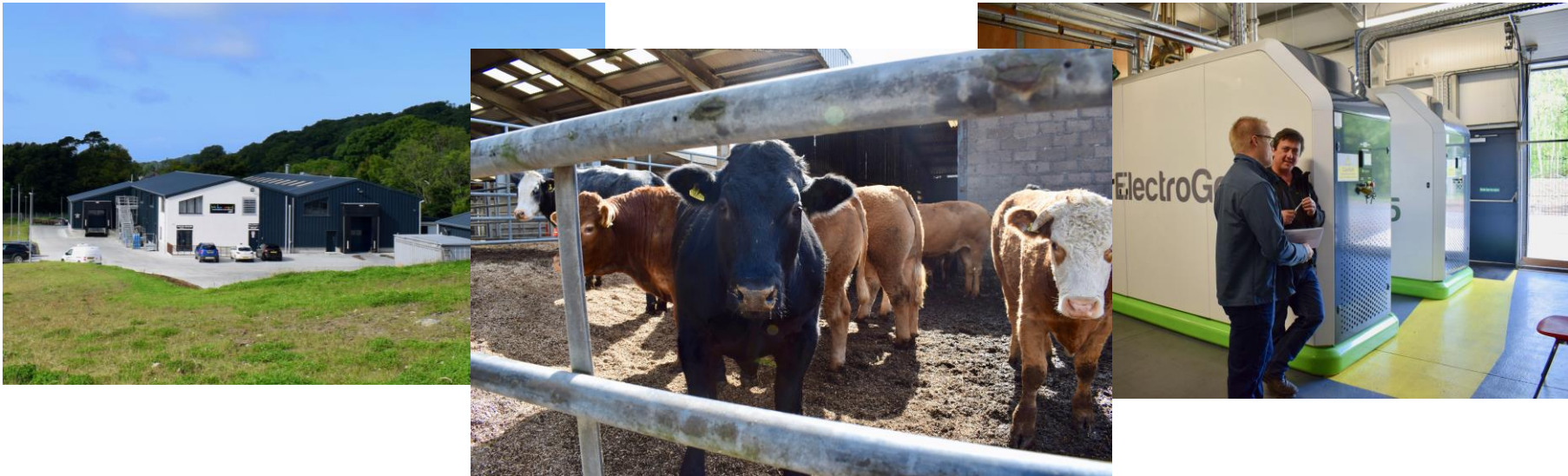
# Volt Factory, UK

10 unit facility delivering heat and power to an industrial park. The customer also has developed a woodchip business under its portfolio allowing significant savings in input costs and additional revenue from chip sales.



# Beef farm, Scotland

Two Volter 40s boost this meat processing plant's power supply behind the grid. After installing the Volters the farm has experienced energy savings of **11'000 GBP per month** and reduced its carbon footprint by over **90%**! Traditional farming methods are used to create unique value to many award-winning meat products supplied to big-name local shops.

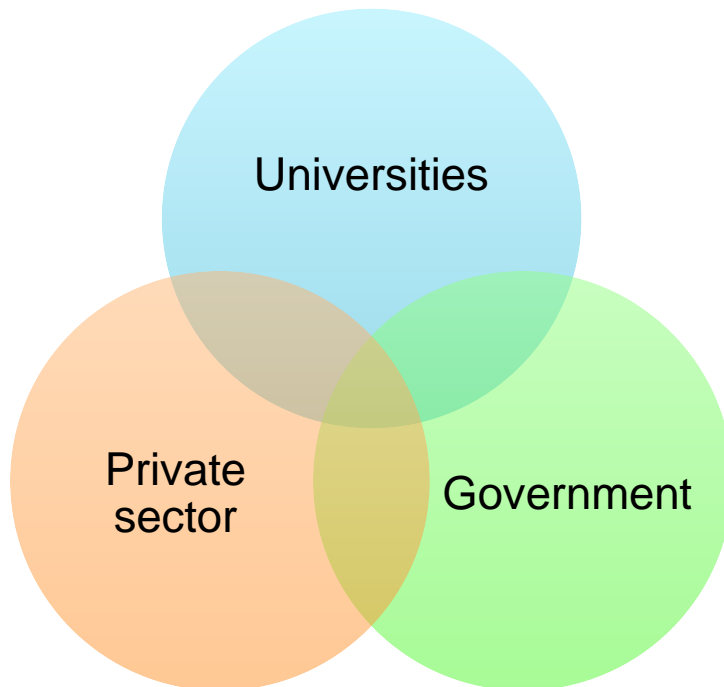


"The cattle are at the center of our livelihood; and the Volter is a key element to keep things running." - Alex P.



# Regional collaboration

## Triple Helix



## Some challenges from the Nordregio forum 2016

- Placed-based perspectives not enough
- Lack of industry networks
- Ineffective procurement policy
- Comm. research-politics
- Dialogue between nations and regions

# Regional collaboration

## Benefits our projects create

- Local economy
- Creating jobs
- Empowering local decision-making
- Value-added innovation

## Successful projects include:

- 1 local involvement
- 2 Project champion
- 3 inter-disciplinary approach
  - UK / Japan / Canada

Together with our partners we have manufactured over 100 CHP plants worldwide, making small-scale renewable energy production accessible to more and more people.

*Passion*

*Bravery*

*Care*



Managing Director, Sales  
Jarno Haapakoski



Sales  
Michael Laho



Production  
Laura Eräpuro-Piila



Aftersales  
Jani Kaaresto



Aftersales  
Tomi Koskela



Design  
Iikka Ylikoski



Automation Engineer  
Iikka Korva



Automation Engineer  
Janne Terho



R&D  
Esa Terho



Office worker  
Suvi Etelämäki

