

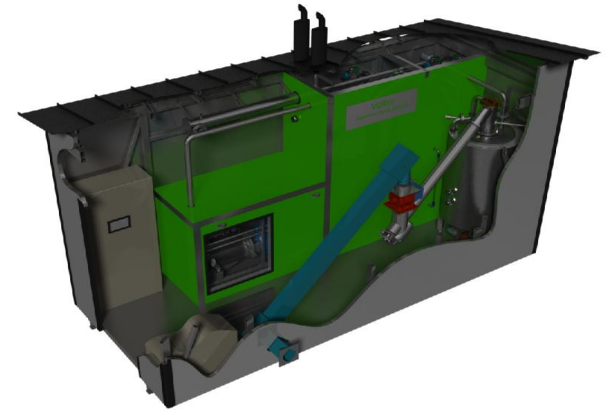
# YOUR OWN ELECTRICITY FROM **WOOD**



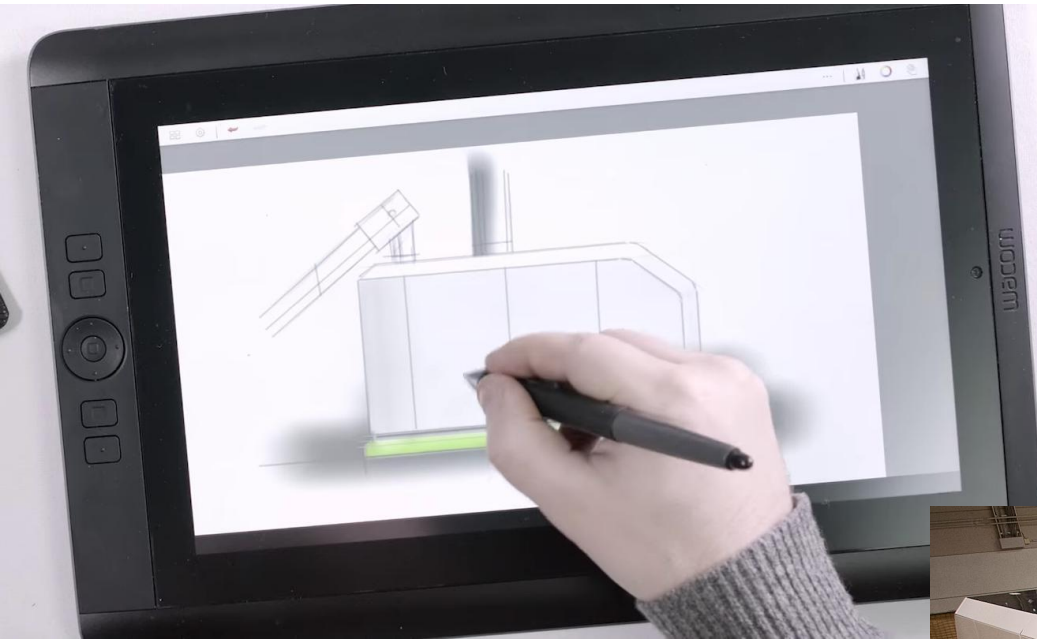
In 1998, Juha Sipilä – founder of Volter Ltd – received an offer for electricity to his home in Northern Finland. The offer was more than the cost of the home, which made him consider his own electricity production.



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



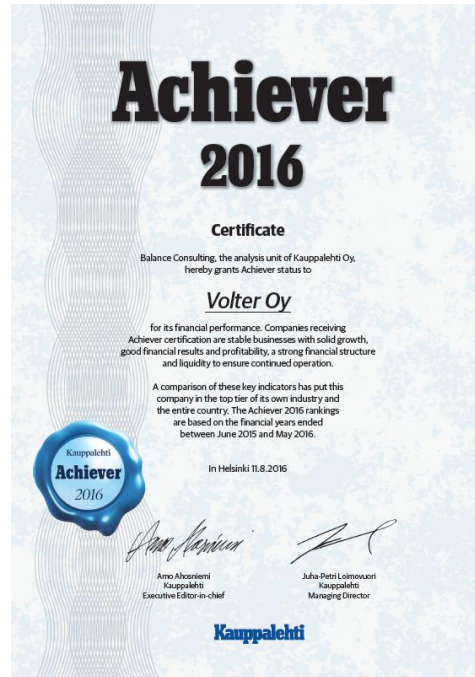
# Unique and compact design



Today we continue our journey with many like-minded customers and partners in Europe, Japan, Australia and North America. We kindly welcome you to join our family and become a part of our story.



# Business Awards



- Fuel feeding
- Reactor, wood chips are converted into wood gas
- Primary gas cooling and heat recovery
- Gas filtering
- Secondary gas cooling and heat recovery
- Control panel

- Automation cabinet
- Gas motor
- Exhaust gas cooling and heat recovery
- Ash removal



# The best gasification technology – best efficiency and longest life-cycle.

“I have done gasification research and development at VTT since 1981, Volter’s gasifier is the first ideal working downdraft gasifier that I have come across. Congratulations!

Esa Kurkela, Development manager at VTT  
Gasification and Gas Cleaning Technologies

Easy to maintain.

High reliability  
guaranteed by a simple  
process.

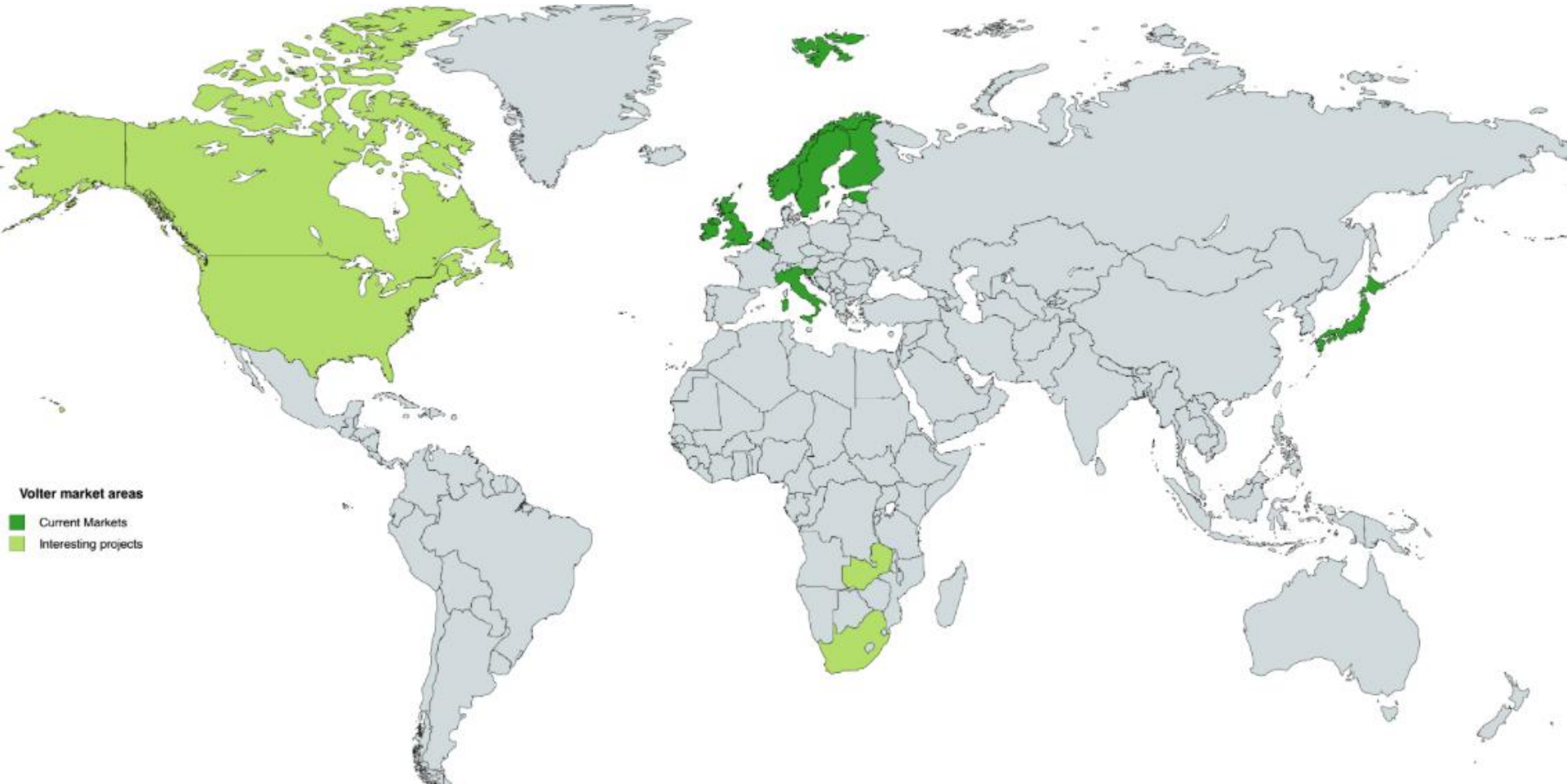
Fully automated  
operation and remote  
monitoring.







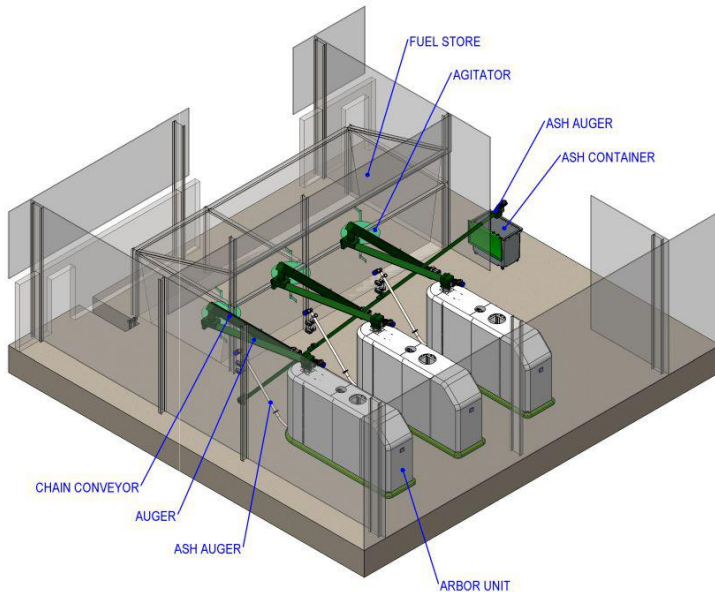
# Where are we?



**Volter market areas**  
■ Current Markets  
■ Interesting projects

# UK Market

- 39 units delivered
- 7 multi-unit sites
- Used primarily for agriculture
- Expanding into industrial uses



# Japanese Market

- Opening of Volter Japan in early 2016
- Tremendous market interest
- Recent 25 unit sale



”This is a solution literally rooted in the community” - Naoyuki H.

# Italian Market

- Getting Volter started in Italy
- Inspiring market reception
- Many customers interested in multi-unit industrial/agricultural projects



"I enjoyed with great interest their functionality and reliability" - Gianfranco R.

# Hybrid RES case studies

# Hybrid RES – UK

- 5<sup>th</sup> generation farm Alton court
- Hybrid CHP / PV
- 1 Volter 40 / 225 kW PV



”The earlier you get into something within the Renewables sector the better.” - Will W.

# Hybrid RES – UK

- Warren Farm
- Hybrid CHP / AD
- 1 Volter 40 / 250 kW AD
- Heat is utilized for working space and the AD plant, with surplus heat utilized to dry digestate, woodchip and other material.



# Hybrid RES – UK

- John Ruck
- Hybrid CHP / biomass boiler
- A growing business demanded more energy. After installing 3 Volter 40s, in addition to covering an increasing heat demand, John now offsets electricity demand and exports excess production outside of working hours.



# Hybrid RES – in the making

- UK – 10 unit CHP / boiler / small PV
- Alaska - pilot project that will test power systems integration – RES for eventual remote settings
- Japan – municipal projects
- Italy – industrial/commercial projects
- South Africa Region - more of a renewable eco system of better use of wood resources



“We continue to create positive impact”

$$HE^x(0 \times \infty) = \bigcirc$$

HE

“Human Energy” refers to the six elements on the right held by an individual person.

x

“X” is the number of partner companies and their employees.

0

“0” usually means nothingness, however we have a unique view of 0; the chance to begin something new

∞

A symbol of infinity

⊙

The circle represents impact, our “opening up” the world to new potential. A circle can also be construed as a zero in our case to mean new chances and new beginnings.



Our young and energetic group is filled with different personalities, which together form a strong team. By exploring our products you can feel the passion we share for uncompromised quality and functionality.

*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

# Thank you!

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