

**Investor Presentation** 

22 March 2023

- Commercial in Confidence -

### About us



We are a Greentech company that seeks to become a key player on the global market for environmentally friendly energy systems by using cutting-edge technology.

We aim to develop, manufacture, and sell robust distributed<sup>(\*)</sup> and dispatchable energy systems using advanced Stirling engine technology.

The Stirling engine is a heat engine capable of converting heat from an external heat source to electrical power.

By utilizing the Stirling technology, we will provide options for sustainable clean local energy generation with primarily renewable energy sources such as various types of bioenergy and by utilizing waste-to-energy resource.

(\*) Scalable plant size up to 1 MW

# Mountains of Waste are being unused





2/3 of all waste generated each year (20B tons) ends up in landfills or the environment

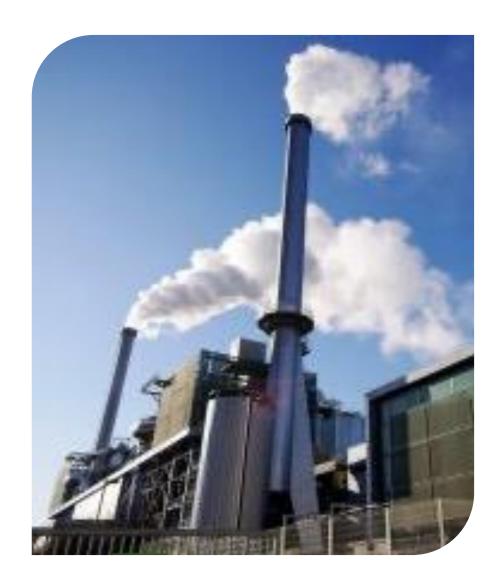
Nearly half of the EU countries send more than **40**% of their municipal waste to landfill

The global waste-to-energy market size is projected to grow to **USD 45B** by 2029

**Hot flue gases** from various industrial processes are underutilized

# Waste-to-Energy market challenges



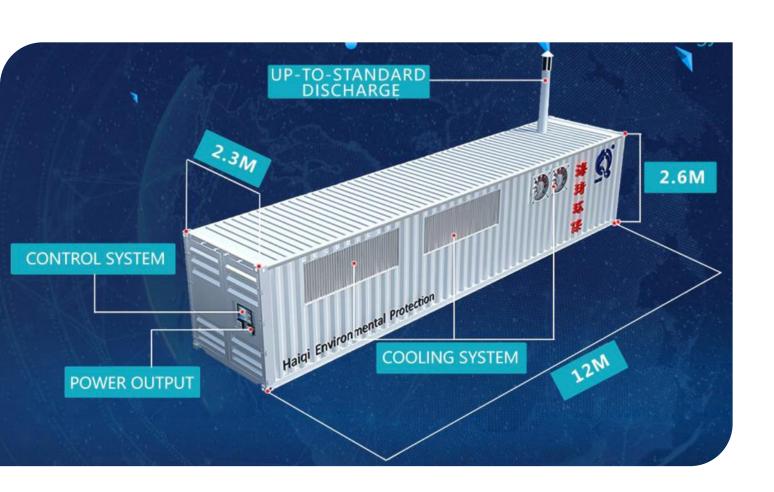


Regional incineration plants dominate, but:

- 1. Large amounts of waste being generated too far from those plants
- 2. High temperature flue gases are inefficiently utilized or completely spoiled







Tailored plant size to match:

- Input (waste and high temperature gases)
- Output (electricity and heat)

Enable off-grid energy supply close to energy source and consumers; distributed system

Attractive for remote locations

Reducing cost and CO<sub>2</sub> pollution by avoiding distant transport to large regional incineration plants

Manages polluted gases

# Design and manufacturing approach





50% cost reduction compared to other Stirling technology providers; engine consists of 40% less component compared to competitors

Robust, reliable design with long lifetime and cost-efficient to maintain

World-class cost-efficient supply chain on a highly commercialized core product

# Testing and improvement activities in Sweden





### Continues improvement activities ongoing

- Verification of stirling PCU and components from new suppliers
- Activities for cost reduction
- Improvement of tools and methods
- Adaption to new applications

#### **Current activities**

- Verification of stirling PCU and components for HFG
- Detailed test programme with testing at various pressure, temperature and speed
- Optimization of performance with components from alternative suppliers
- Assembling of stirling HFG-units for testing and delivery to China for further system and acceptance testing at customer facilities

# Activities at Stirlingversal in Kunshan



- Supply chain management
- Quality control
- o Preparation of assembly facility
- o Training
- Assembling of Stirling engines







# Testing at our partner HaiQi is progressing according to plan



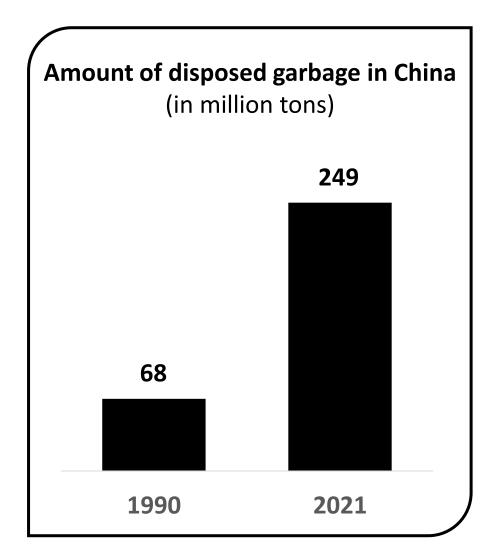




- Initial system verification testing
- Acceptance testing
- Long-term testing

## Target markets and customers



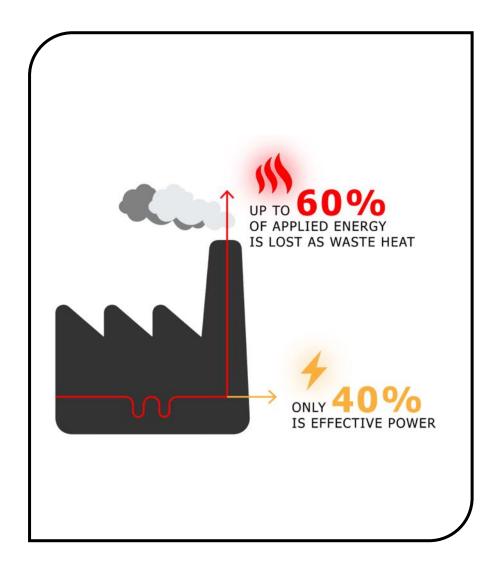


China is the focus for the first phase of commercialization of the product:

- 1. To scale the production from a wholly owned subsidiary in China
- 2. The trend in China is for distributed energy systems where the waste is generated
- 3. To shorten the time to market by utilizing Chinese system integrators such as our partner HaiQi and expanding to huge players such as the ZhongJing Group

# Entering the European market





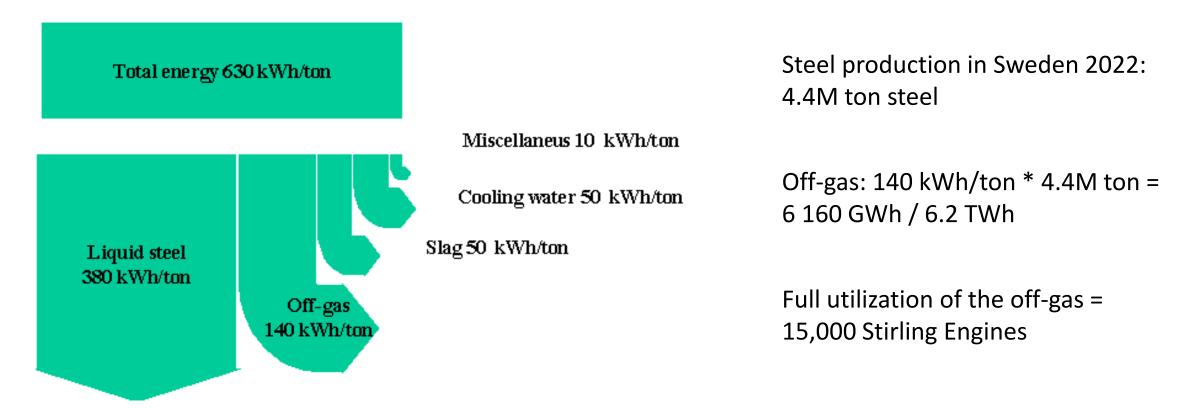
Future entry with the optimized products from our assembly site in China

To convert industrial process waste energy (e.g., high-temperature process heat or flare-gas) to electricity

Most industrial process waste energy is wasted (burnt as flare gas), inefficiently converted to energy or completely unused

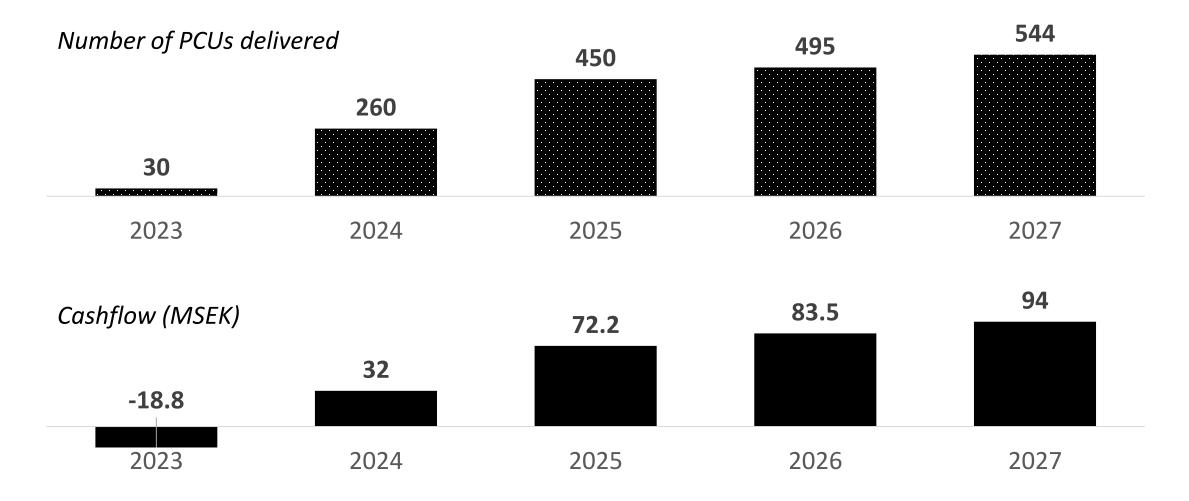
# Example application: Steel manufacturing





# Forecasted volume and cashflow for Stirlingversal Power Conversion Units (PCUs)





# Key people





Lars Larsson CEO and Board Member

- 40+ years of industrial experience including various engineering and management positions
- Former head of Stirling Technology at Saab Kockums
- > Stirling engine specialist
- Co- founder and former CTO of Ripasso Energy (now Swedish Stirling AB,
- > Co- founder of Stirlingversal AB



Johan Mattson CTO

- 25+ years of experience in design management, engine and advanced energy systems development at
- Volvo corporations and Swedish Stirling AB (former Ripasso Energy AB)
- Expert in engine and energy system design
- Long experience in leading large product development projects
- Strong competence in product cost reduction and industrialization



Johan Arrhenius Managing Director, China Operations

- 20+ years of supply chain and manufacturing leadership experience in China
- > Fluent in Chinese



**Qijiang Li** Supply Chain Manager

 12+ years of supply chain and project management from European and Chinese advanced industrial projects



Jacky Ge Production Manager, China Operations

 10+ years of experience in solar and heavy machinery production management

## Invitation to subscribe to shares



SUBSCRIPTION TIME	MARCH 1, 2023 – MARCH 31 2023
SUBSCRIPTION LOT	46 720 SEK (1 460 SHARES PER LOT)
SUBSCRIPTION PRICE	32 SEK
ISSUE VALUE	7 008 000 SEK
ISSUE VOLUME	219 000 SHARES
NUMBER OF SHARES (PRE-ISSUE)	948 477 SHARES
VALUATION (PRE-MONEY)	30 351 264 SEK

# Use of proceeds



To raise beneficial working capital and to broaden the shareholders' base with long-term investment partners who can support the next phase.

Phase 1: Development and commercialization of Stirling technology power units for W2E applications targeting positive cash flow within 2023.

The longer-term phase 2 will enlarge the application base for the Stirling technology with modular power conversion units for the conversion of heat generated from renewables; both gas and liquid fuels.

To scale up production, the next share issuing is planned for May 2023.



# Q&A

