



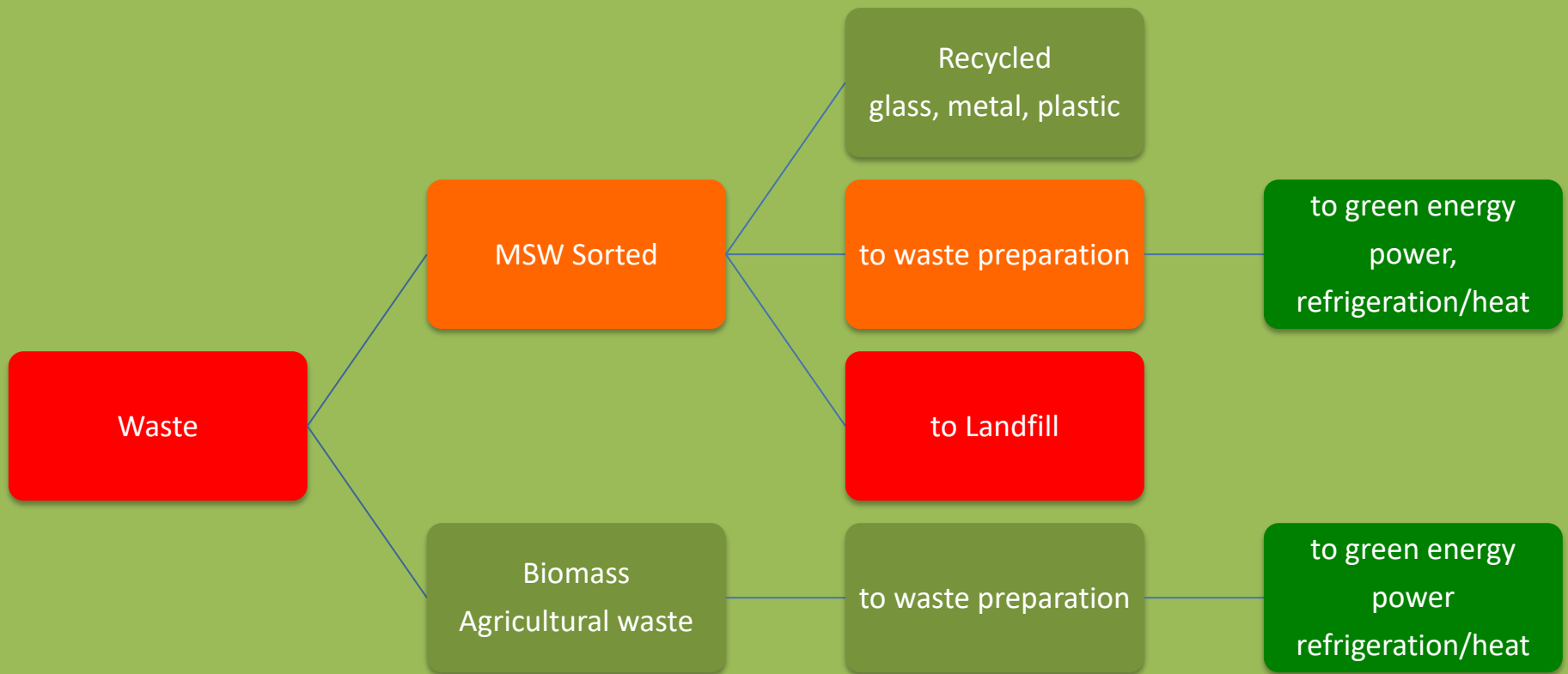
# Waste

to

## Sorted Waste and Clean Energy

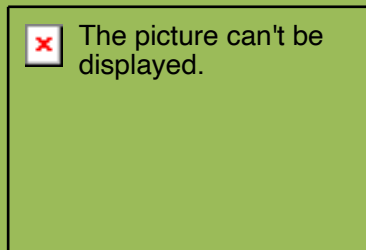
From BRE

# What BRE does we deal with waste – from beginning to end





and



**SHREWS Ltd.**

**Formed**



**to present**  
**the next generation of green energy**  
**responsible / profitable / practical**

A presentation by  
Ed Kalvins, COO, BREH  
August, 2021

**Baltic Renewable Energy – Latvia**



# Baltic Renewable Energy Key Personnel

**Baltic Renewable Energy  
Holdings  
(BREH)**



**John Birchmore**  
**BREH CEO**  
Managing Director, SHREWS Ltd  
Renewable Energy Specialist  
United Kingdom



**Ed Kalvins, P. Eng**  
**BREH COO**  
President & CEO, Technical Partners  
Plant Operations and Engineering  
Canada / Latvia

# Why?

## The issues

- Environmental (pollution) concerns
- Concerns about energy security and self-sufficiency
- Decreasing energy production and waste disposal costs

## The opportunity

- Reduction / elimination of municipal solid waste and hazardous wastes to landfill
- Revenue from recycled products from waste sorting.
- Production of **green energy**
  - Revenue from the sale of refrigeration or heat
  - Revenue from the sale of electricity



# Technology

## Waste Sorting / Fuel Preparation

- Proven technologies
- Chosen to accommodate local waste characteristics

## Waste Processing – Energy Generation

- Designed to meet EU emissions regulations
- Technology neutral – we choose the best solution



A powerful combination of factors  
that drives the need for technology, expertise,  
O&M contracts and equipment sales.

## BRE Advantages

- **Proprietary access** to cutting-edge ATT technology
- Professional, knowledgeable **team**, experienced with technical and political issues
- Complete and viable **business plan**
- Regional **experience** in cogeneration since 2007,
- Current, reliable **databases** on technology suppliers for waste sorting, fuel preparation, funding prospects and waste suppliers.

# Fuel - Types of Fuels Handled

**Focus on**  
municipal solid waste  
agricultural residues

**Can include the following carbonaceous wastes**

Industrial, Domestic,  
Pharmaceutical, Clinical,  
Putrescible, Offal,  
Ships wastes, Sewage,  
Tyres, Plastics, Rubber, Photographic, Oils, Hydrocarbons, Emulsions,  
Hazardous





# BREH Contribution

BREH has access to the necessary expertise to put a project together through from inception, planning, financing and project implementation.

We help the Client by completing the following:

- **Scoping Study** that identifies the client's conditions, requirements and potential
- **Pre-feasibility studies** to provide a project concept and good budget quote
- **Feasibility Study and Business Plan** to provide the basis of investment proposals
- Search for **Investors / Financing**
- **Project implementation** – Engineering Design & Build, Commissioning and Training



BALTIC RENEWABLE  
ENERGY

# The Way Forward

## Scoping Study – Step 1

The project scoping study identifies the client's conditions taking into account such factors as:

- Waste availability (type (MSW, commercial, clinical and other hazardous, etc.), CV of wastes and quantities)
- Local policies on waste reduction and recycling and landfilling
- Site size, site conditions and road access
- Access to grid and on site power needs
- Proximity to heat loads and details of load (diurnal and seasonal demands) also considering options for cooling in summer
- Neighbour issues
- Local regulations on emissions and other environmental standards

Deliverables:

A report that identifies

- Available information organized in a Project Master File
- The recommended concept and approach to be used for developing the project

# The Way Forward

## Pre-Feasibility Study – Step 2

The pre-feasibility study develops the favoured project concept and may consider alternative concepts for comparison to choose the concept to be used and to provide a budget estimates with a +/- 30% reliability factor and to determine if the project is economically practical. This involves the following:

- detailed definition of the main concept and other options,
- preparation of concept design drawings,
- preparation of outline User Requirement Specifications (URS) for major equipment that will be the basis for budget equipment quotations,
- provide budget estimates for capital and operating costs,
- establish income/financing sources,
- develop full financials for the project (balance sheets, income/expense statements, cash flow, etc.)

Deliverables: A report that

- determines if the project is a “go” or no go”.
- compares the options available and chooses the preferred option,
- provides and order of magnitude budget and indicative returns,
- provides concept design details.

# The Way Forward

## Feasibility Study / Business Plan – Step 3

The feasibility study further develops the favoured project concept and provides a budget estimates with a +/- 10% reliability factor in order to confirm that the project is economically viable. It is also the basis for the business plan. This involves the following:

- fine-tuning of financial information, receiving competitive quotations,
- some detailed design for major components,
- updating of User Requirement Specifications (URS) for all major equipment that will be the basis for firm equipment quotations,
- update financials for the project
- prepare a business plan
- prepare a prospectus or information memorandum for financing institutions.

Deliverables include:

- periodic reviews with client confirming that the project is a “go” or no go”.
- concept design details.
- budget,
- business plan and information for funders



# The Way Forward Financing – Step 4

This stage involves working closely with the client to secure financing for the project by presenting the project to both local and international financing organizations. This involves the following:

- distributing the prospectus or information memorandum to potential funders,
- addressing questions and concerns,
- modifying project information to suit funder requirements,
- addressing legal issues which may arise.

Deliverables include:

- client securing project financing

# The Way Forward

## Project Implementation – Step 5

This stage involves the project management of the technical design and construction of the project. This involves the following:

- using the **PM-PROformance™** project management system (<http://pm-proformance.com/>) to get the job done properly.

Deliverables include:

- commissioned plant,
- trained personnel,
- option to provide plant management over agreed period
- handed over to the owner



# Contact Information

Ed Kalvins, P.Eng.

[ed.kalvins@brehgroup.eu](mailto:ed.kalvins@brehgroup.eu)

+371 29 255 223

John Birchmore

[john.birchmore@brehgroup.eu](mailto:john.birchmore@brehgroup.eu)

+44 (0)1968 660022

<https://www.brehgroup.eu/>

Address:

Vienibas gatve 109,  
Rīga, Latvia, LV-1058

**We don't just offer cogeneration ...**

**We offer and deliver waste management solutions**