

# **Final Presentation**

**Energy Target Setting**

# Presentation Steps



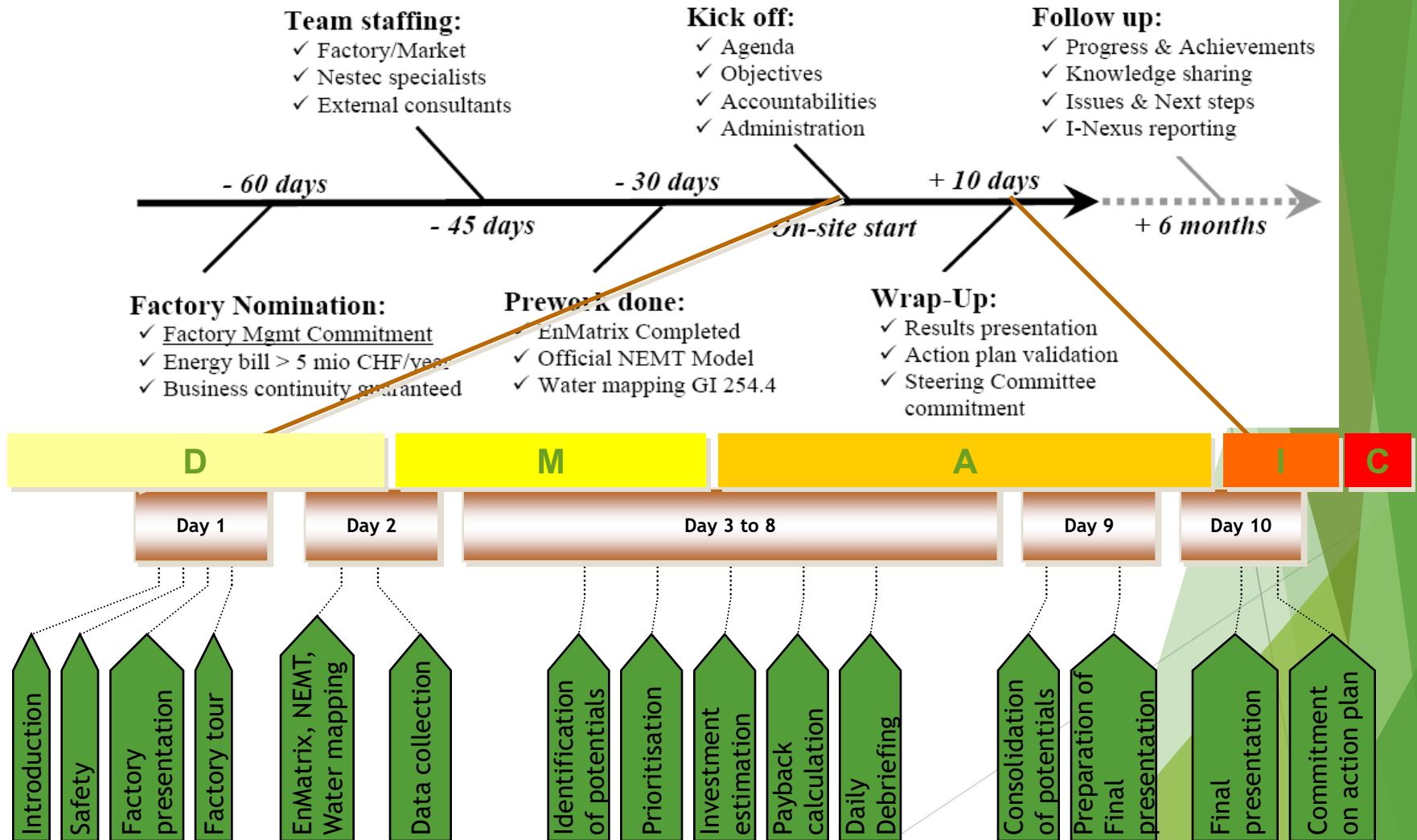
ETS Methodology

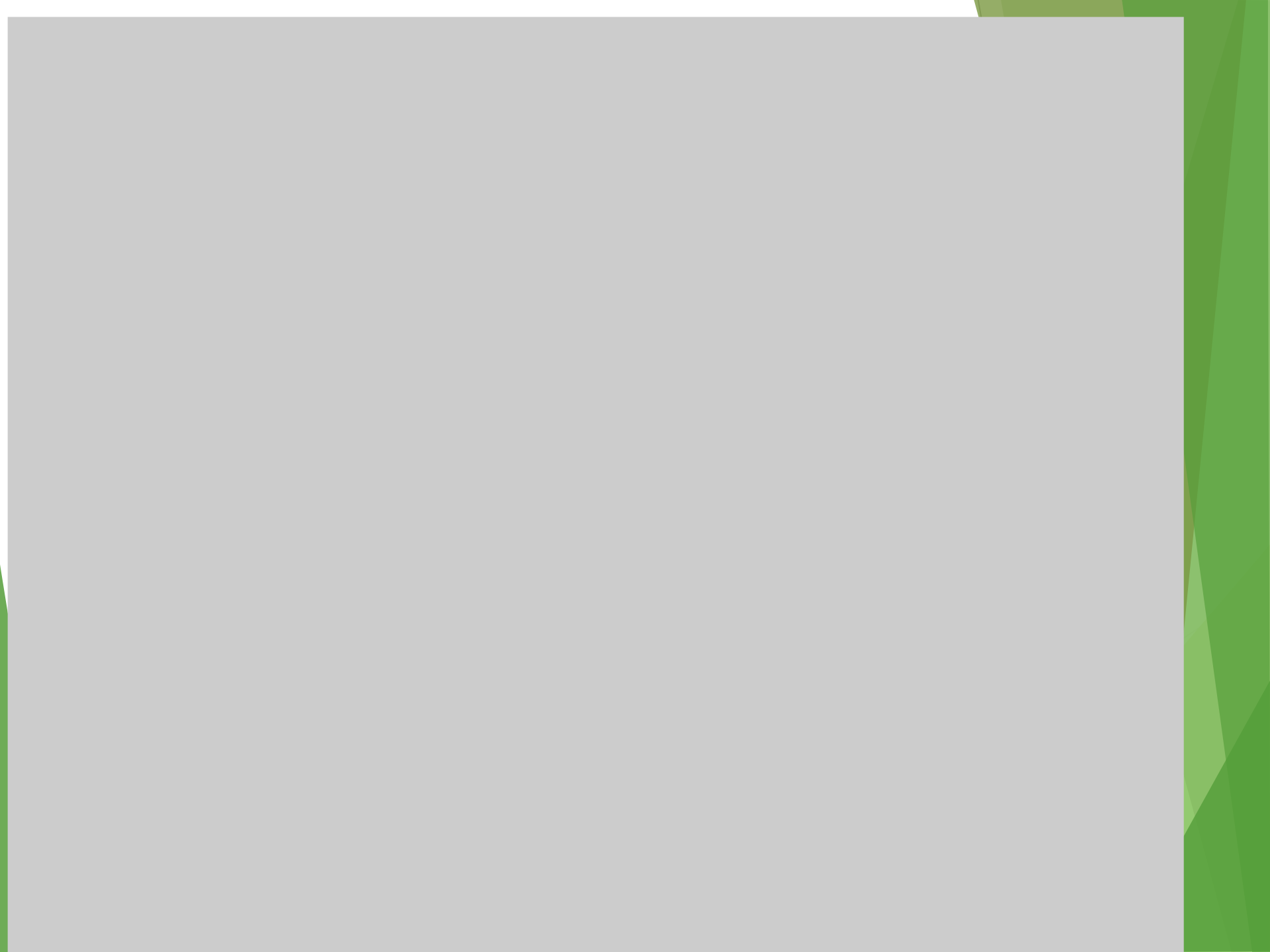
Key Figures

Saving potentials

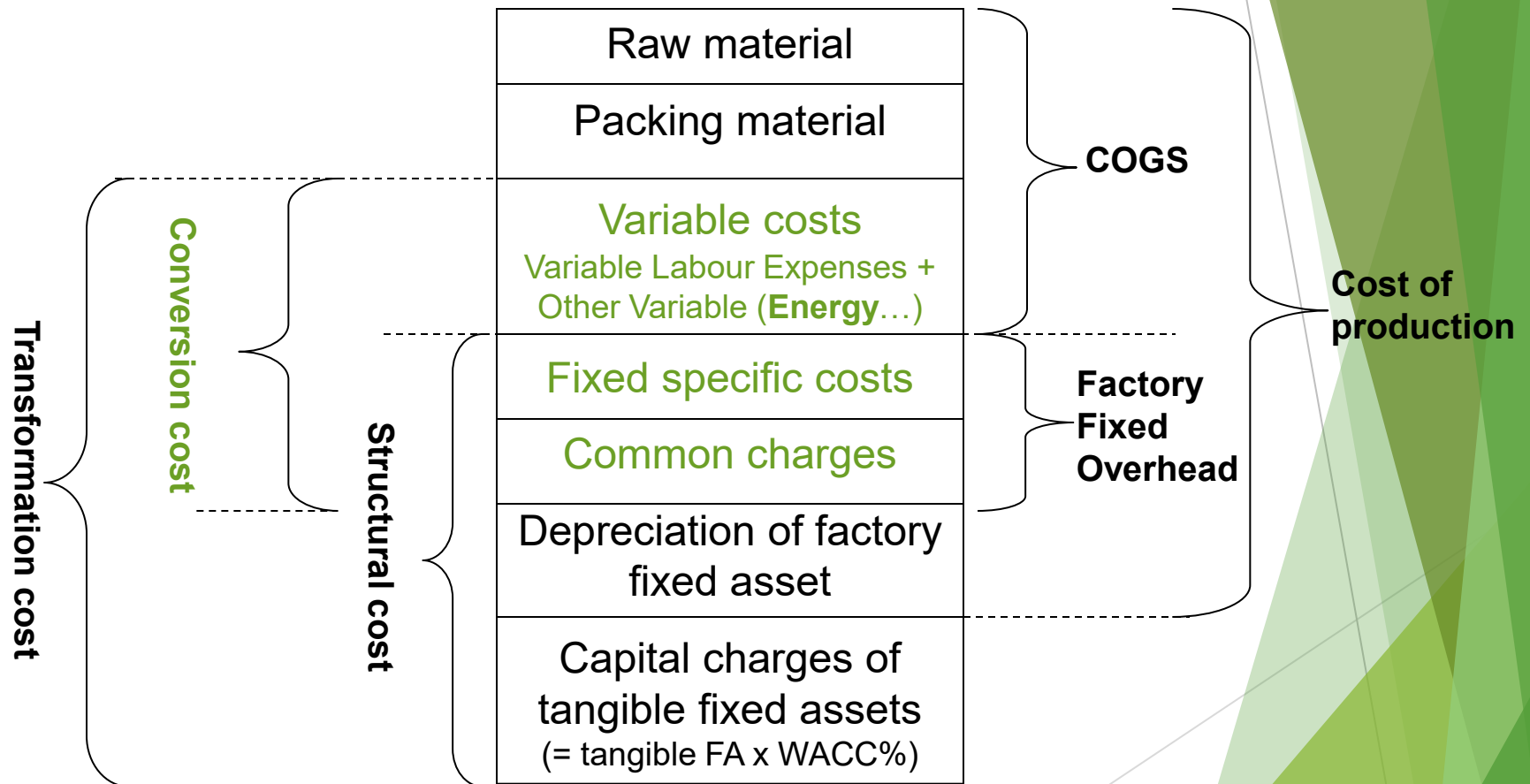
# Methodology

## How does it work and conditions for eligibility?

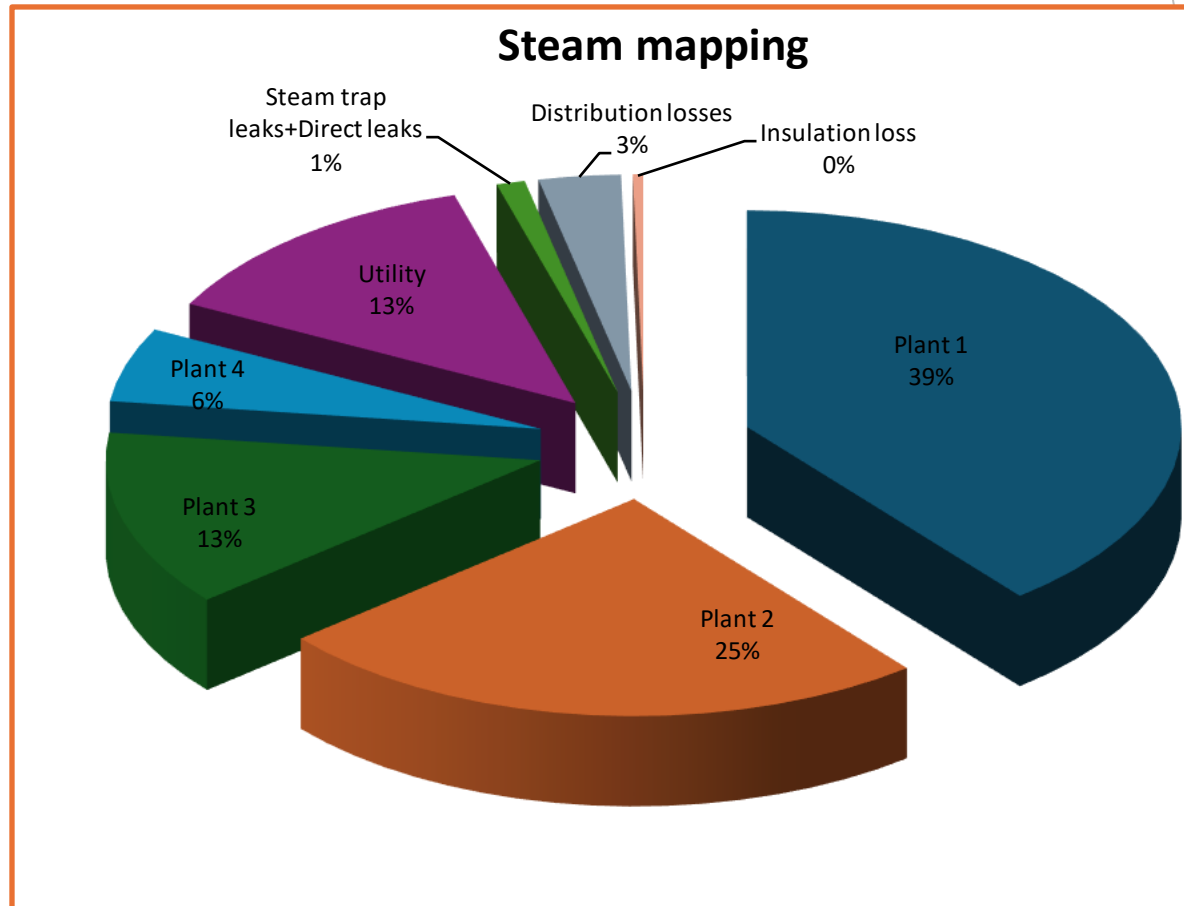




# Cost structure and definitions



# Steam Pie-chart



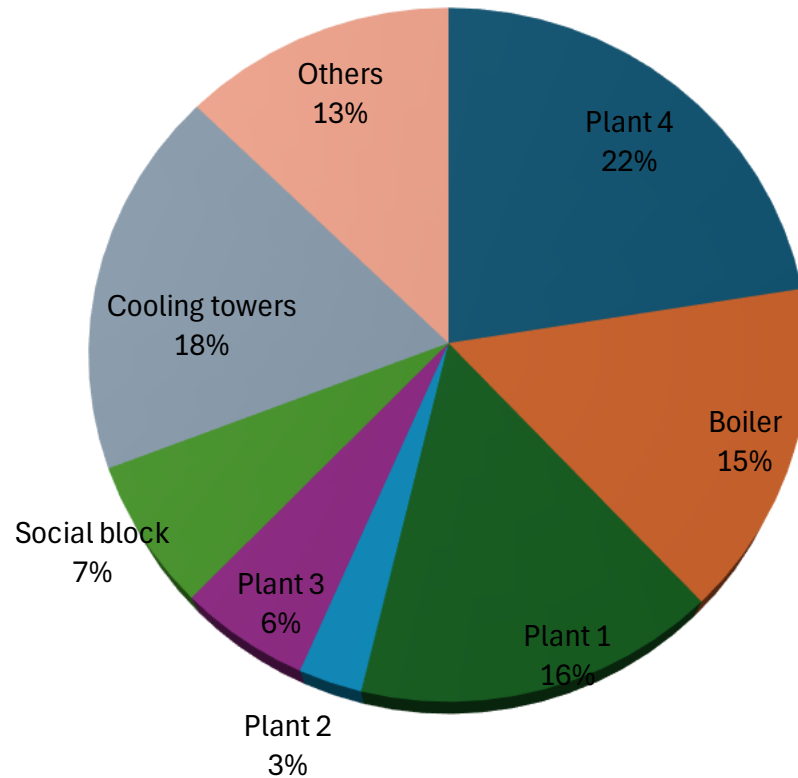
Total steam generation,



**60846**

MT/annum

# Water Piechart



**Water Usage : 323,874 m3**

# Cost savings calculations

## Basis

*All the savings presented hereafter are calculated using the following marginal costs\*.*

### Utilities Cost Baseline

#### Water

	Unit Cost	Unit	RM/GJ
Townwater	1.71	RM/m3	
Softwater	2.95	RM/m3	
Process Cooling Water	0.13	RM/m3	2.09
Chilled Water 5°C	0.61	RM/m3	28.09
Chilled Water 2°C	0.49	RM/m3	36.05
Chilled Water 10 °C	1.00	RM/m3	35.44
Chilled Water CPW	0.39	RM/m3	39.25
Waste Water	2.79	RM/m3	

#### Fuel

Diesel	1.9685	RM/litre
LFO	2.038	RM/litre
LPG	2.8	RM/kg

#### Utilities

Steam	210.78	RM/Mt
Compressed Air	0.051	RM/m3
Hot Air		RM/m3
Electricity	0.357	RM/Kwh

### Utilities Cost Baseline

#### Water

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Chilled Water CPW	0.39	RM/m3	39.25
Waste Water	2.79	RM/m3	

#### Fuel

Diesel	1.85	RM/litre
LFO	1.32	RM/litre
LPG	2.80	RM/kg
CNG	1.33	RM/Sm3
NG	0.72	RM/Sm3

#### Utilities

Steam (LFO)	127.18	RM/Mt
Steam (CNG)	124.59	RM/Mt
Steam (NG)	72.31	RM/Mt
Compressed Air	0.051	RM/m3
Hot Air		RM/m3
Electricity	0.357	RM/Kwh

Jul-15  
2016



# Summary of Energy Savings Projects

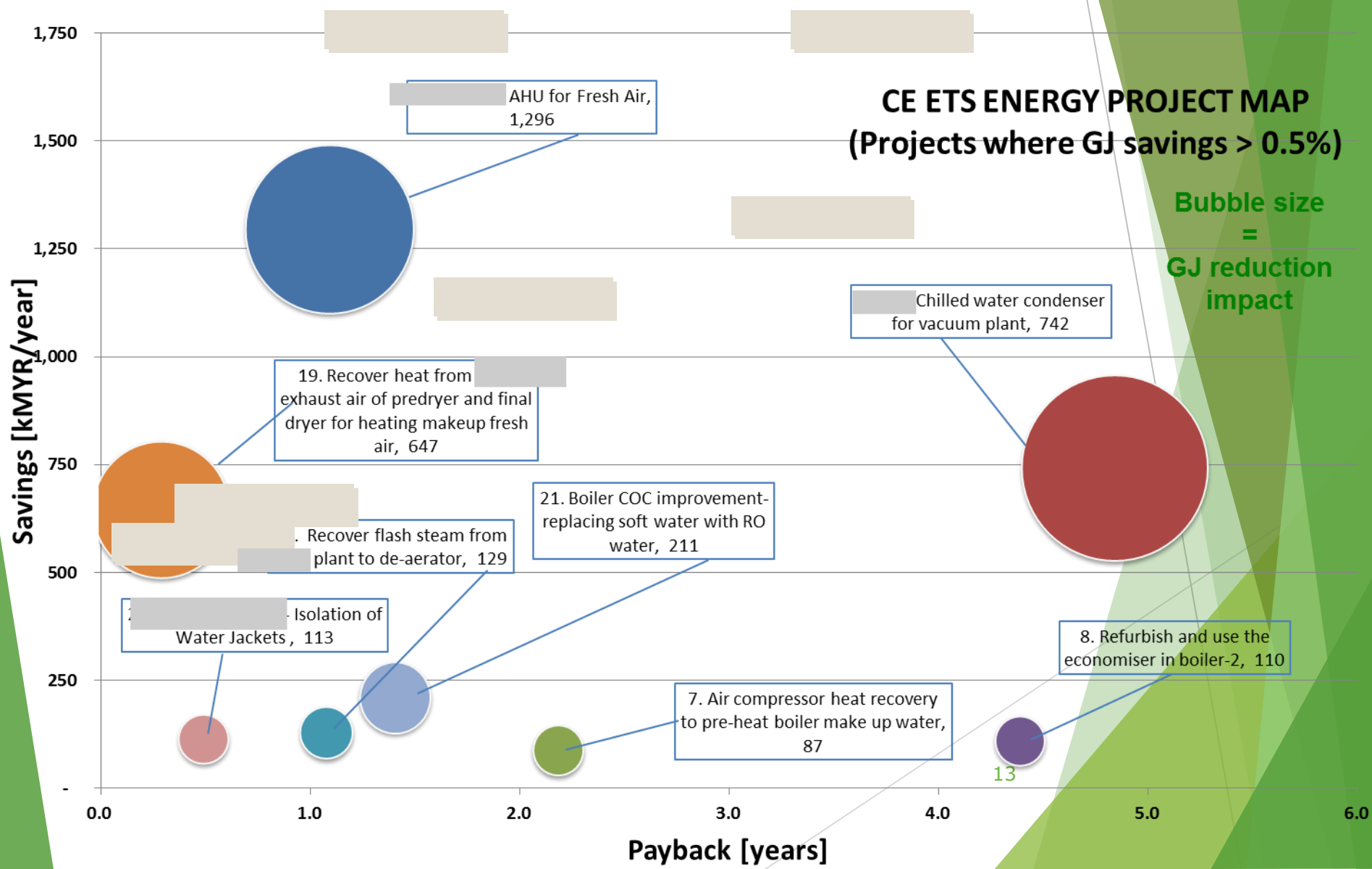
Total Number of Projects Identified - 30

Energy – 26

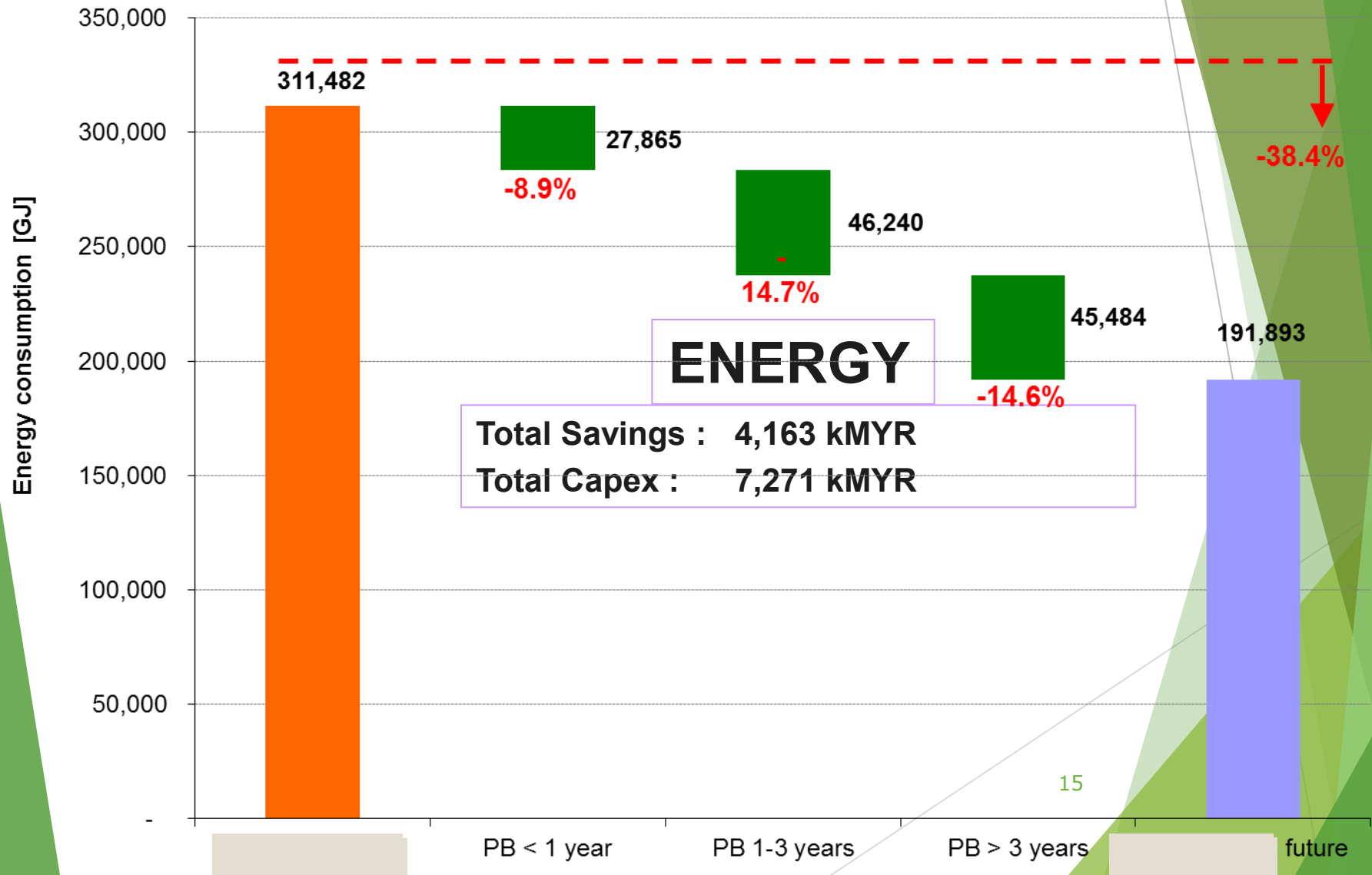
Water -4

Projects	Numbers	Savings (kMYR)	% Savings (GJ)	% Savings (m3)	Investment ( kMYR)
>0.5 % GJ Savings	8	3,334	34.3	16.0	5,736
<0.5% GJ Savings	22	723	4.1	30.3	1,535
Total	30	4,163	38.4	46.3	7,271

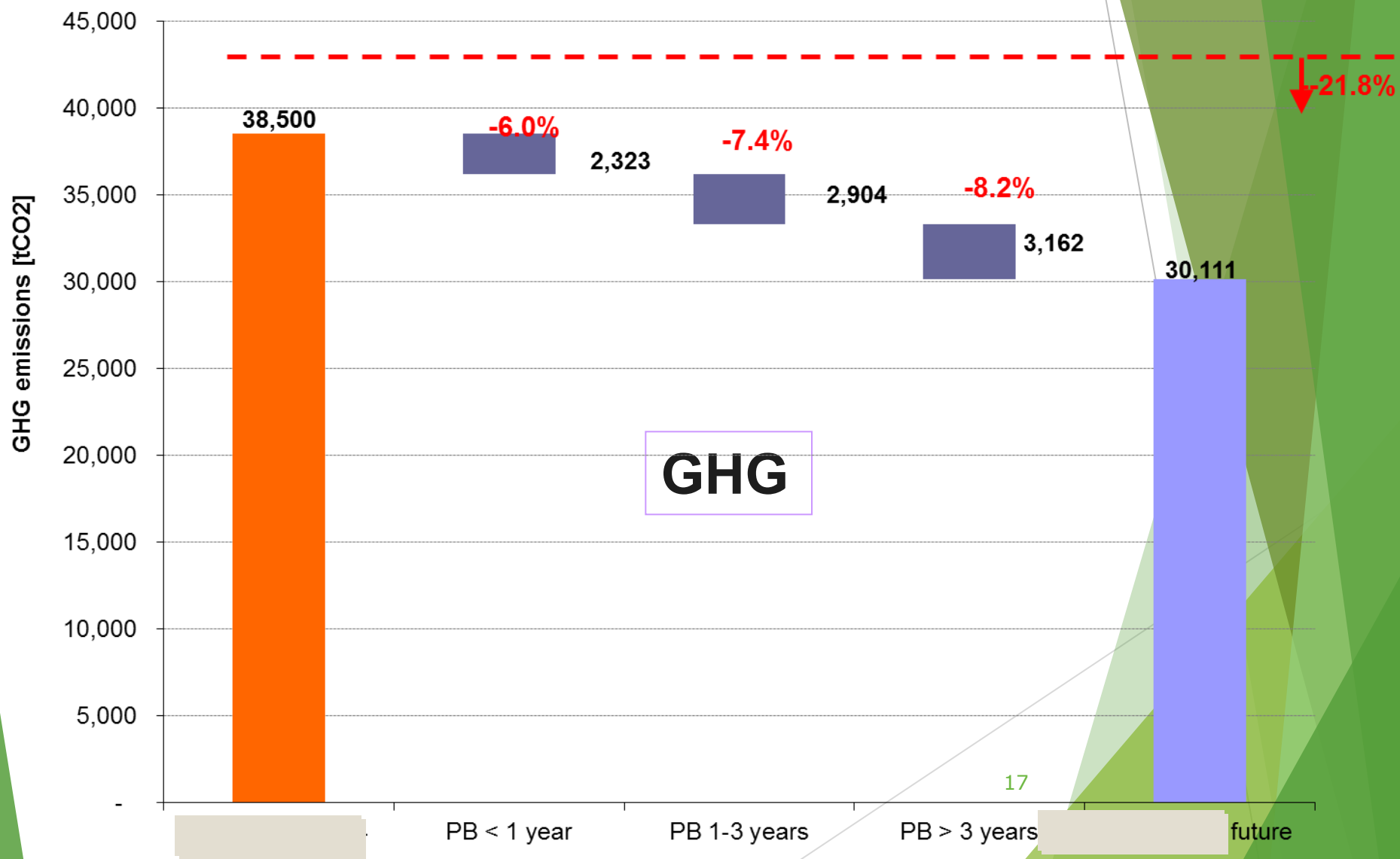
# Energy savings bubble chart



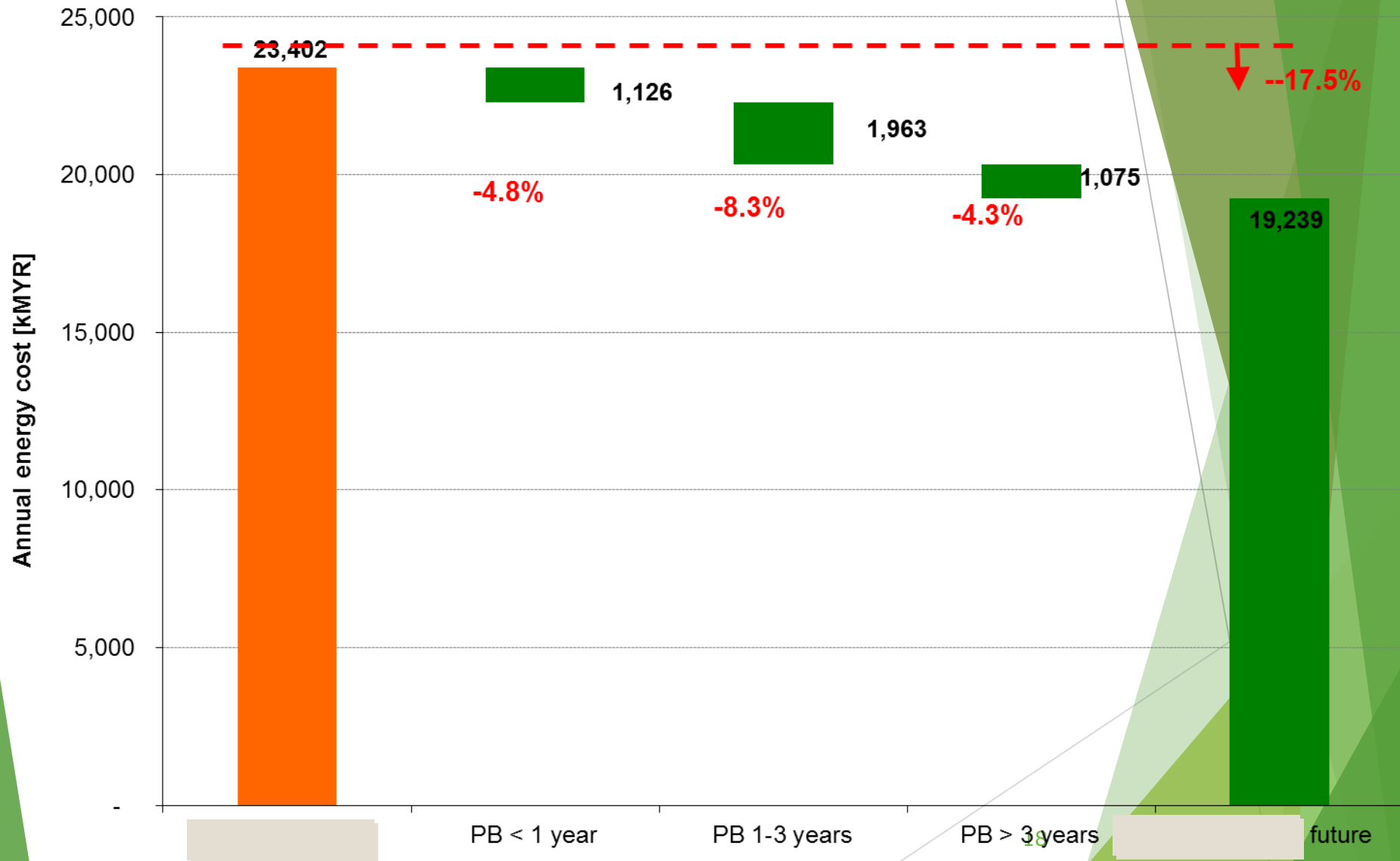
The proposed projects can reduce the energy consumption by 38%.

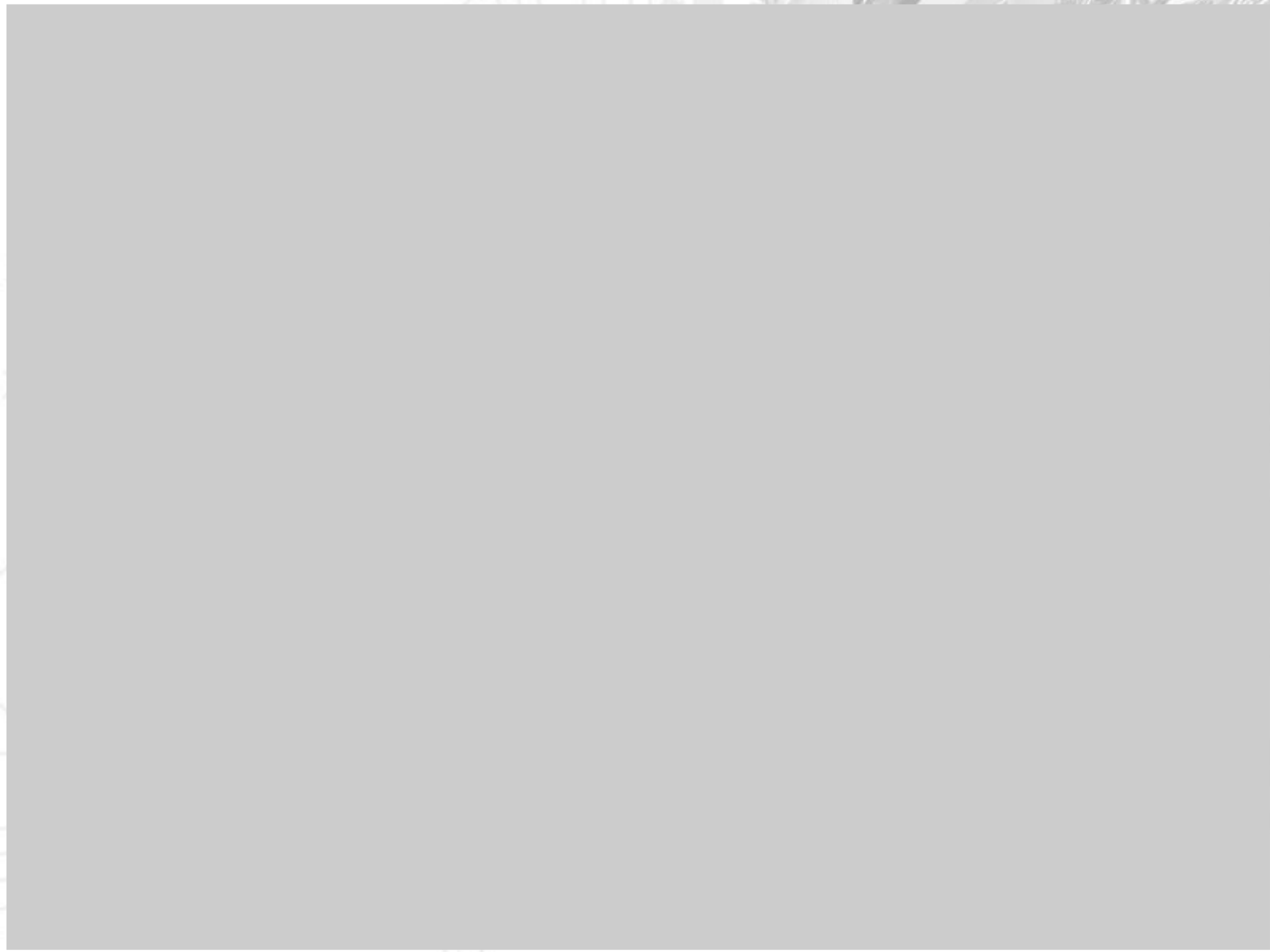


## ...GHG emission by 21%



## ... and the energy bill by 17%





# THE ENERGETIC ETS/WTS TEAM

