



# EQUIPO

*quality first*

## Plan of presentation

1. About EQUIPO
2. Experience of EQUIPO
3. Biological treatment of MSW
4. Mechanical treatment of MSW
5. Questions?

## WASTE MANAGEMENT

### Applications:

MSW stabilization systems  
Waste drying systems  
Sorting lines  
Municipal waste mechanical and biological treatment plants  
Composting plants

### Products:

Composting, stabilization, drying systems  
Single- and double-shaft shredders  
Baling presses  
Conveyors  
Separators  
Screens  
Bag openers and bale breakers  
Dosing feeders

## ALTERNATIVE FUELS

### Applications:

Production lines of alternative fuels  
RDF  
RDF drying systems  
RDF storing systems  
Single machines supplying

### Products:

Single- and double-shaft shredders  
Conveyors  
Separators  
Screens  
Dosing feeders  
Storage systems  
Belt dryers  
Drum dryers

## RECYCLING, RECYCLABLE MATERIALS

### Applications:

Paper and cardboard processing systems  
Data destruction lines  
Recyclable materials processing systems (film, big bags, textile, plastics, cables, rubber, electronic scrap)  
Single machines supplying

### Products:

Baling presses  
Single- and double-shaft shredders  
Shredders and pre-crushers  
Film compactors  
Reel splitters  
Conveyors  
Separators  
Scrap collection system

## SEWAGE TREATMENT

### Applications:

Sewage sludge composting plants  
Biosolids drying systems  
Waste Water Treatment Plants

### Products:

Composting  
Belt dryers  
Drum dryers  
Container WWTP  
Regular WWTP

# Company Introduction



20.. ?

2015

2010

2008



## History of EQUIPO

- » Founded in December 2008
- » 2011 we got first big orders in recycling market
- » 2013 – realization of 6 plants as general contractor, turnover over 4 mln EUR
- » 2014 – we start works on our new office, we build 10 plants, turnover over 8 mln EUR
- » 2015 – EQUIPO start with new logo, new office and as a GmbH with stock capital 4 mln EUR
- » 2016 – we finished next 6 plants in MSW sector, 30 employers
- » 2017 – finalization of 2 plants, and new contracts started
- » 2017 – **EQUIPO Balkan doo**

## EQUIPO's experience

1. Biological treatment more than 400 000 T/y,
2. Absolut lider in biological treatment in Poland, bio drying, composting and stabilization
3. More than 30 plants operated in full load and without any clams,
4. World wide experience with engineering and design works,
5. Order of MBT plant in India 350 000 T/y during realization,
6. 30 employs trained to run big projects.

## References of EQUIPO for biological treatment

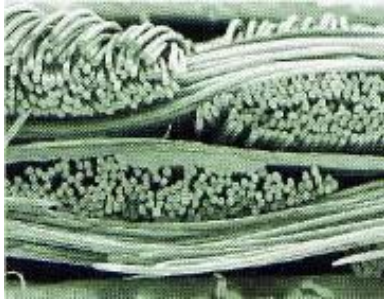
COMPANY	DESCRIPTION	CAPACITY	YEAR
NOVAGO Sp. z o.o. Żnin	Delivery and commissioning of technology for bio drying of over sieve fraction separated from MSW	48 000 T/y	2011
MPO Warszawa Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of biodegradable fraction separated from MSW	16 000 T/y	2011
NOVAGO Sp. z o.o. Susz	Delivery and commissioning of technology for bio drying of over sieve fraction separated from MSW	65 000 T/y	2012
MPO Warszawa Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of biodegradable fraction separated from MSW	80 000 T/y	2012
NOVAGO Sp. z o.o. Uniszki	Delivery and commissioning of technology for bio drying of over sieve fraction separated from MSW	30 000 T/y	2013
MZO Pruszków Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of under sieve fraction separated from MSW	26 000 T/y	2014
BM Recykling Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of under sieve fraction separated from MSW	22 000 T/y	2014
"ZUM,, Chełmno Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of under sieve fraction separated from MSW	12 000 T/y	2014
PGK "Saniko" Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of under sieve fraction separated from MSW	35 000 T/y	2015
PGK Koszalin Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of under sieve fraction separated from MSW	25 000T/y	2015
PGO Płock Sp. z o. o.	Delivery and commissioning of technology for aerobic stabilization of under sieve fraction separated from MSW and composting of green waste	30 000 T/y	2016
<b>TOTAL</b>		<b>389 000 T/y</b>	

## References of EQUIPO for mechanical treatment

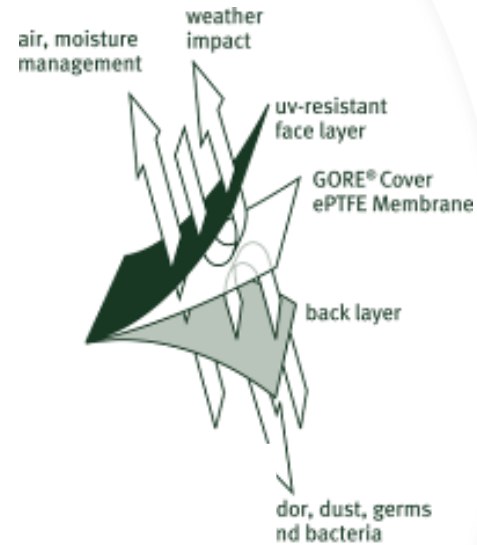
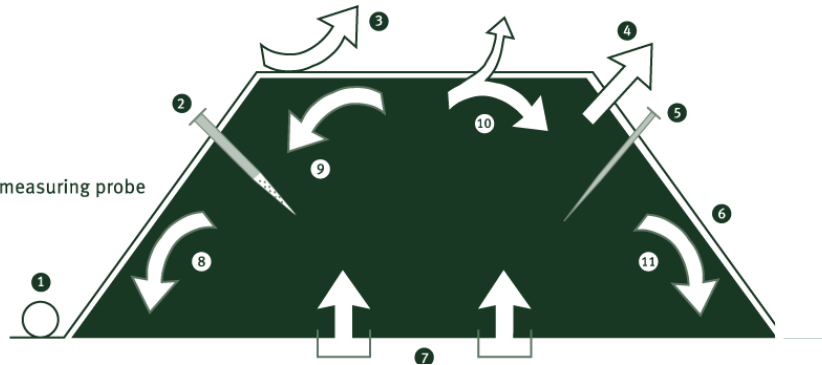
COMPANY	DESCRIPTION	CAPACITY	YEAR
ZGO, GAĆ	Modification of existing line and built new RDF line	35 000 T/y	2015
Novago, Mława	Supply RDF shredders	95 000 T/y	2011
NPT Recycling, UK	Full MBT plant with 11 tunnels by WTT	150 000 T/y	2010
777 Demolition, UK	C&I and C&D Palnt generating SRF and <2% to landfill	120 000 T/y	2012
Hinckroft Waste, UK	MSW and MRF residue separation of organics and production of RDF	140 000 T/y	2013
Ragn Sells, Estonia	Full MBT plant with 6 large tunnels from WTT	80 000 T/y	2013
Recydia, Turkey, Izmir	Full MBT with 8 bio drying boxes	80 000 T/y	2013
Recydia, Turkey, Instambul	Full MBT with 64 bio drying boxes	660 000 T/y	2014
OPES, UK	MRF residue and C&I waste to SRF	150 000 T/y	2015
<b>TOTAL</b>		<b>1 478 500 T/y</b>	



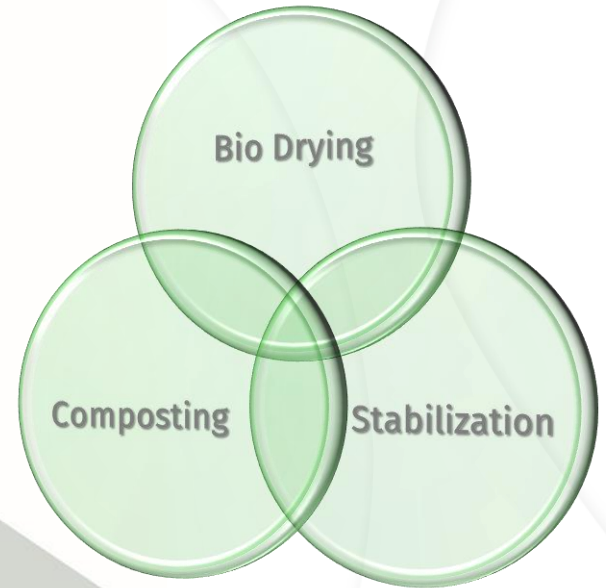
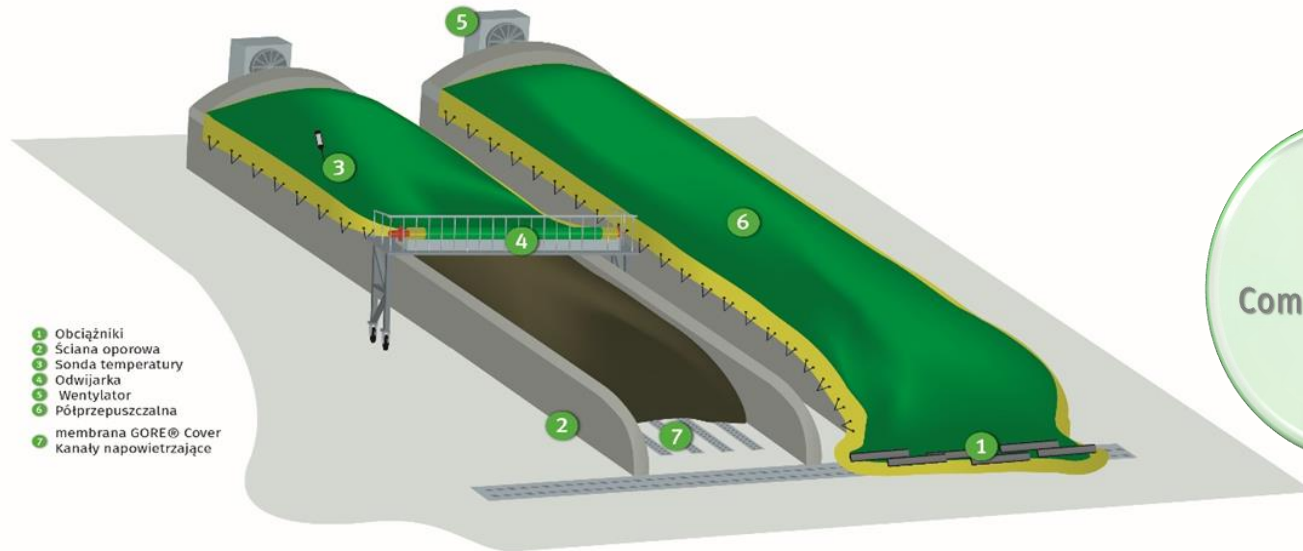
## Biological treatment – why do not use organic to work for us?



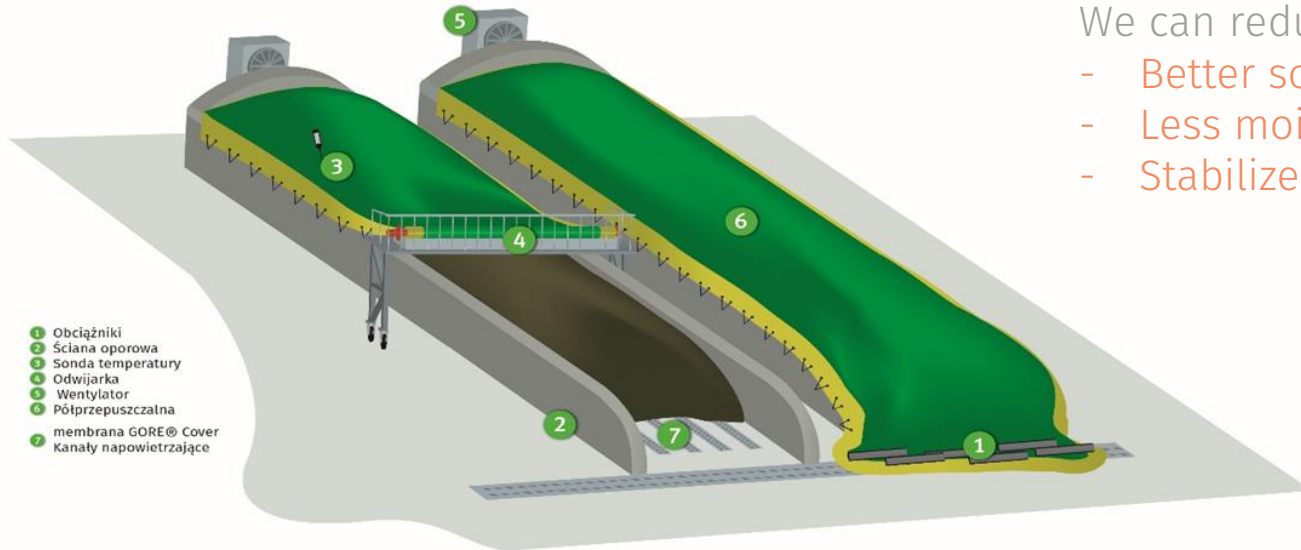
- 1 Tarpaulin retainer
- 2 O<sub>2</sub>-measuring probe
- 3 Weather impact
- 4 CO<sub>2</sub>
- 5 Temperature profile measuring probe
- 6 GORE® Cover
- 7 Air
- 8 Heat
- 9 Odour
- 10 Moisture
- 11 Micro-organisms



## Biological treatment – why do not use organic to work for us?

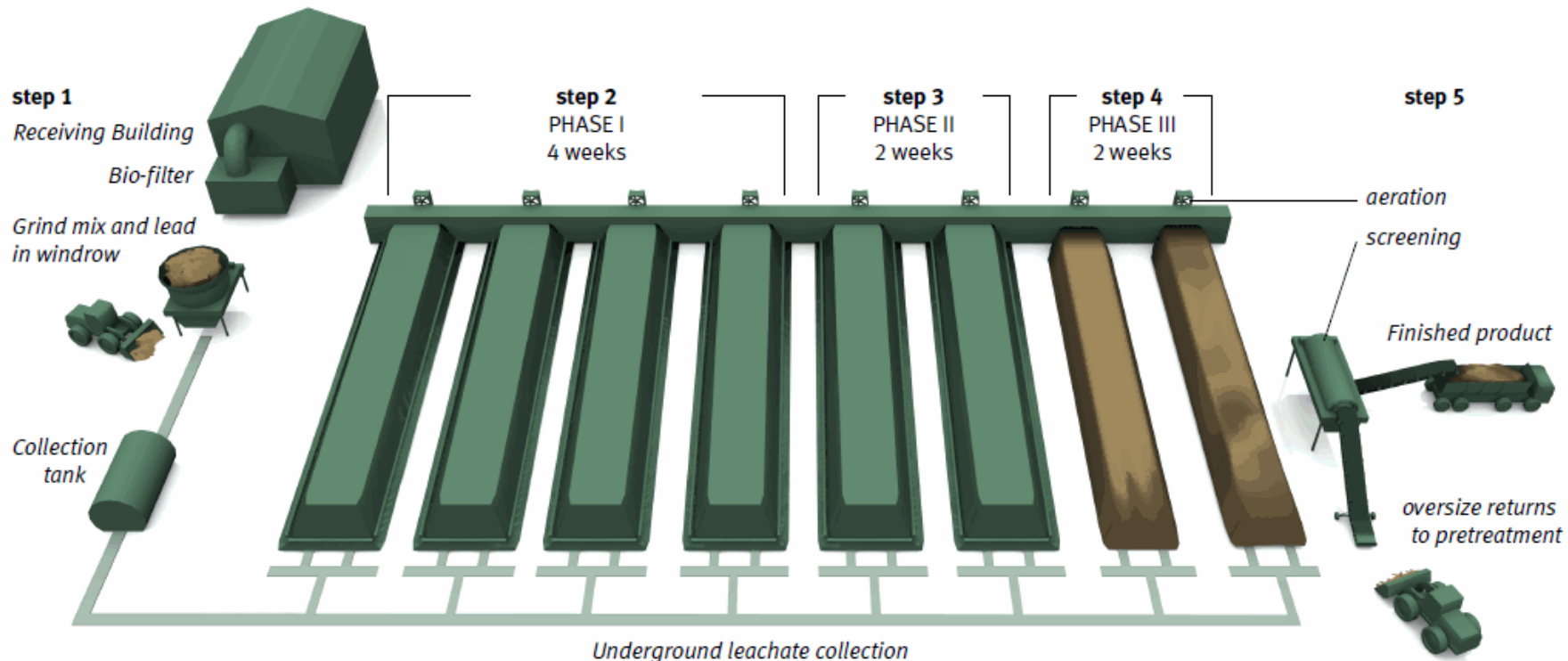


## Biological treatment – why pay gate fee for water?



We can reduce moisture down to 25%

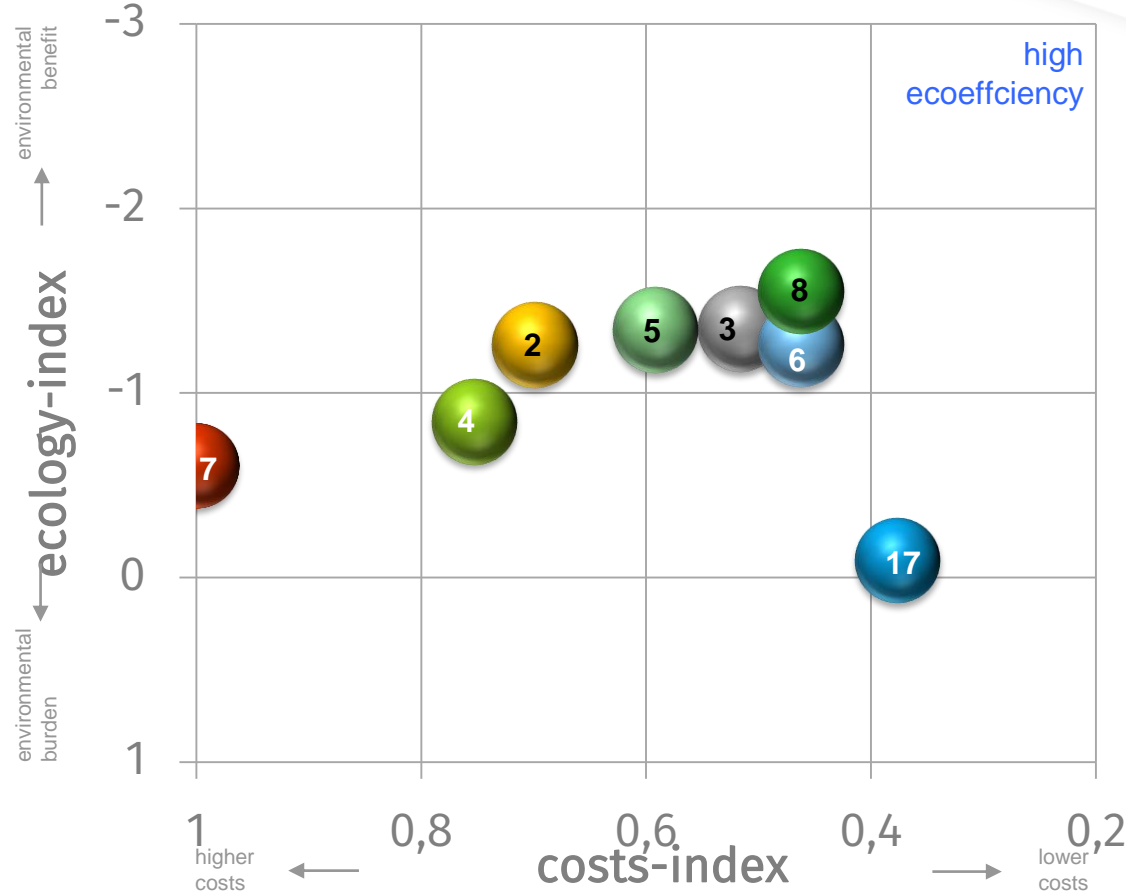
- Better sorting parameters,
- Less moisture in waste on landfill,
- Stabilized waste to work with



## Comparison Technologies (in reference to cost-index)

	ecology-Index	costs-Index
(7) municipal incineration	-0,61	1,00
(4) dry fermentation, batch system	-0,84	0,75
(2) fully enclosed composting	-1,26	0,70
(5) dry fermentation, continuous system	-1,34	0,59
(3) partly enclosed composting	-1,35	0,52
(6) wet fermentation	-1,26	0,46
(8) composting with EQUIPO® Cover technology	-1,55	0,46
(1) open windrow composting	-0,09	0,38

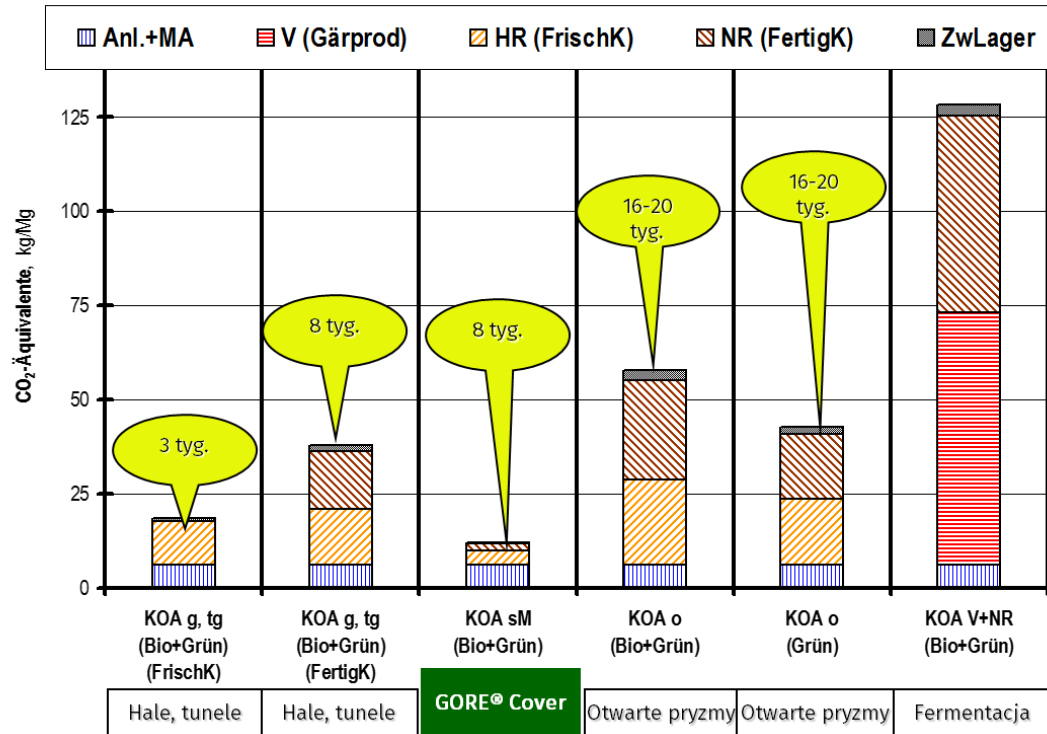
## Eco-Efficiency picture



● (1) open windrow composting

● (2) fully enclosed composting

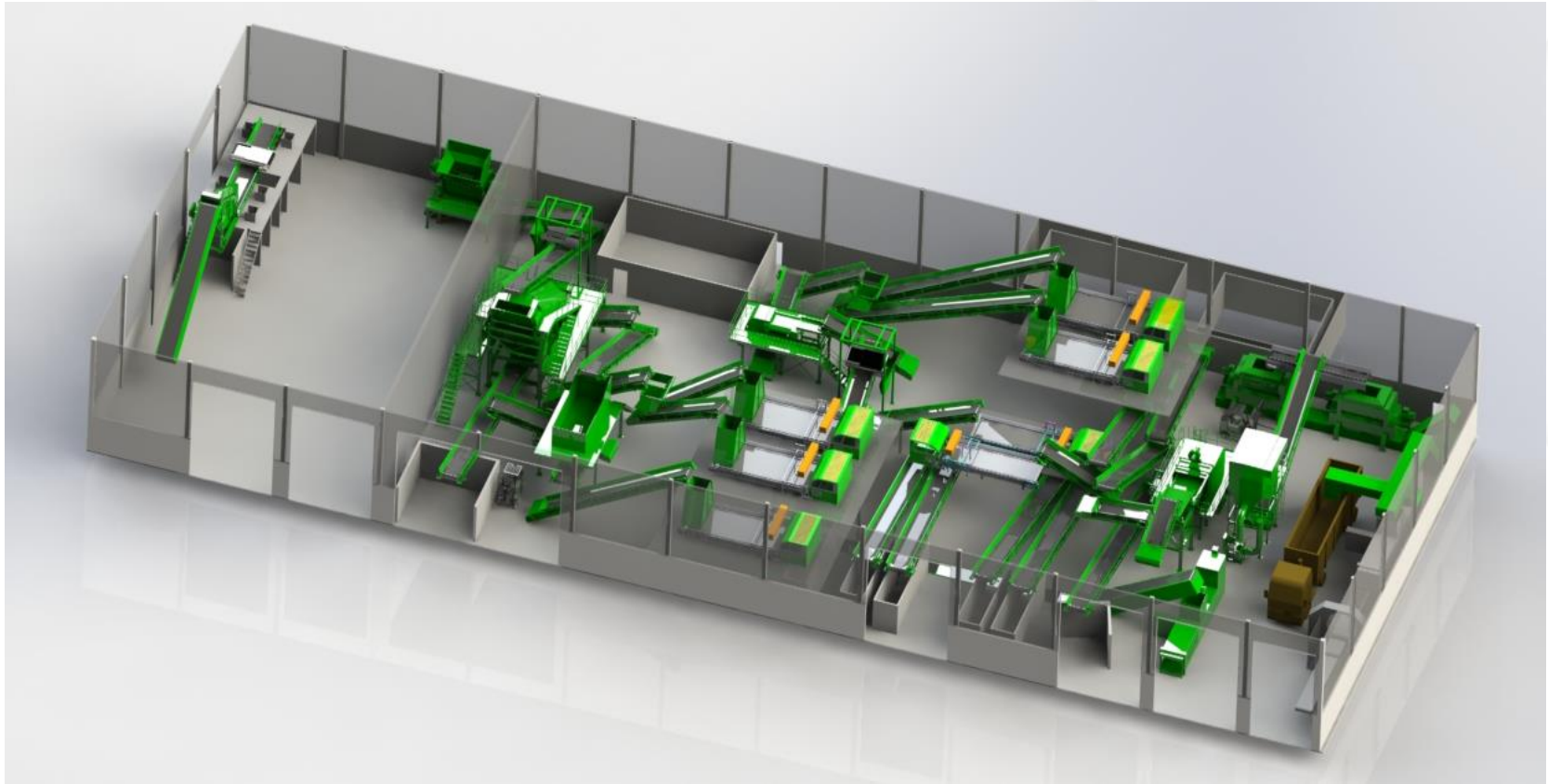
Biological treatment – save and easy to work with, no odour emission!

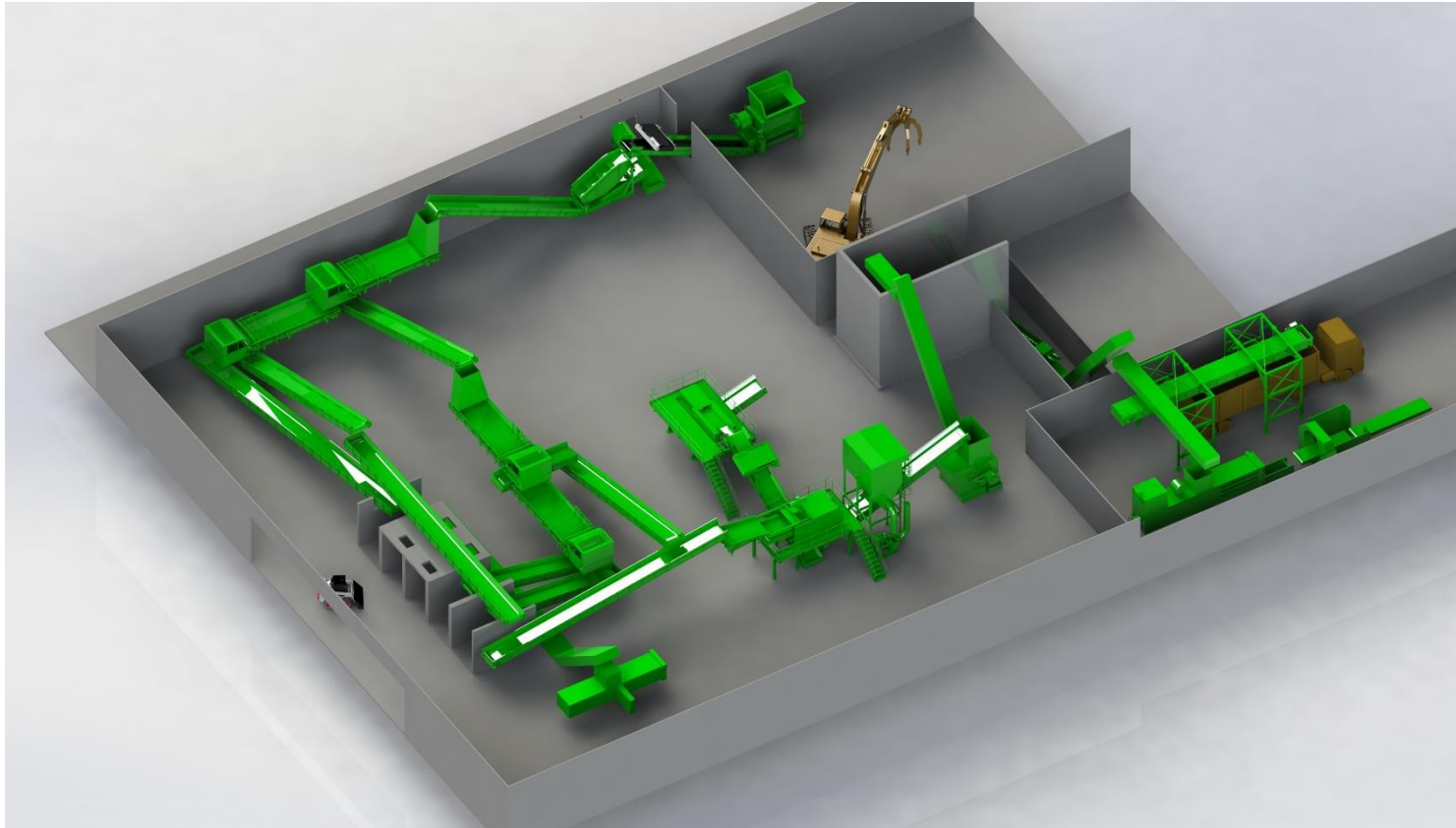


## Biological treatment - summary

- It clearly indicates that static composting with positive aeration using the semi permeable membrane has the lowest possible emission rate compared to the other technologies. In this case study, windrows at different age stages of the decomposing process were taken into consideration.
- The study demonstrated that use of membrane technology reduced emissions from an industry average of 47kg per tonne to **12** kg per ton.

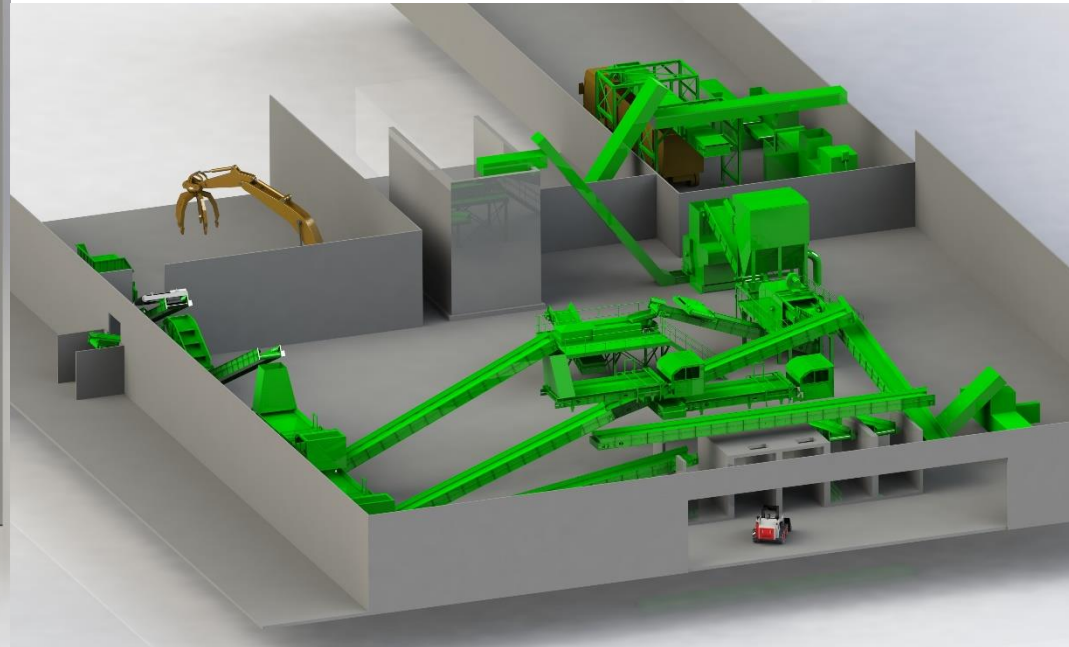
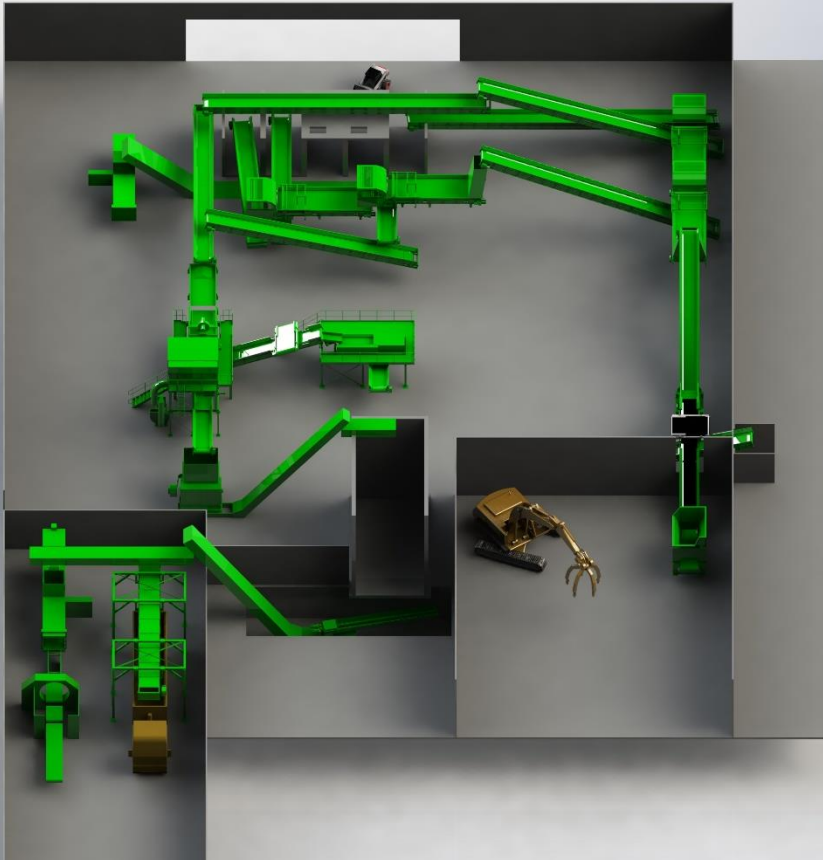


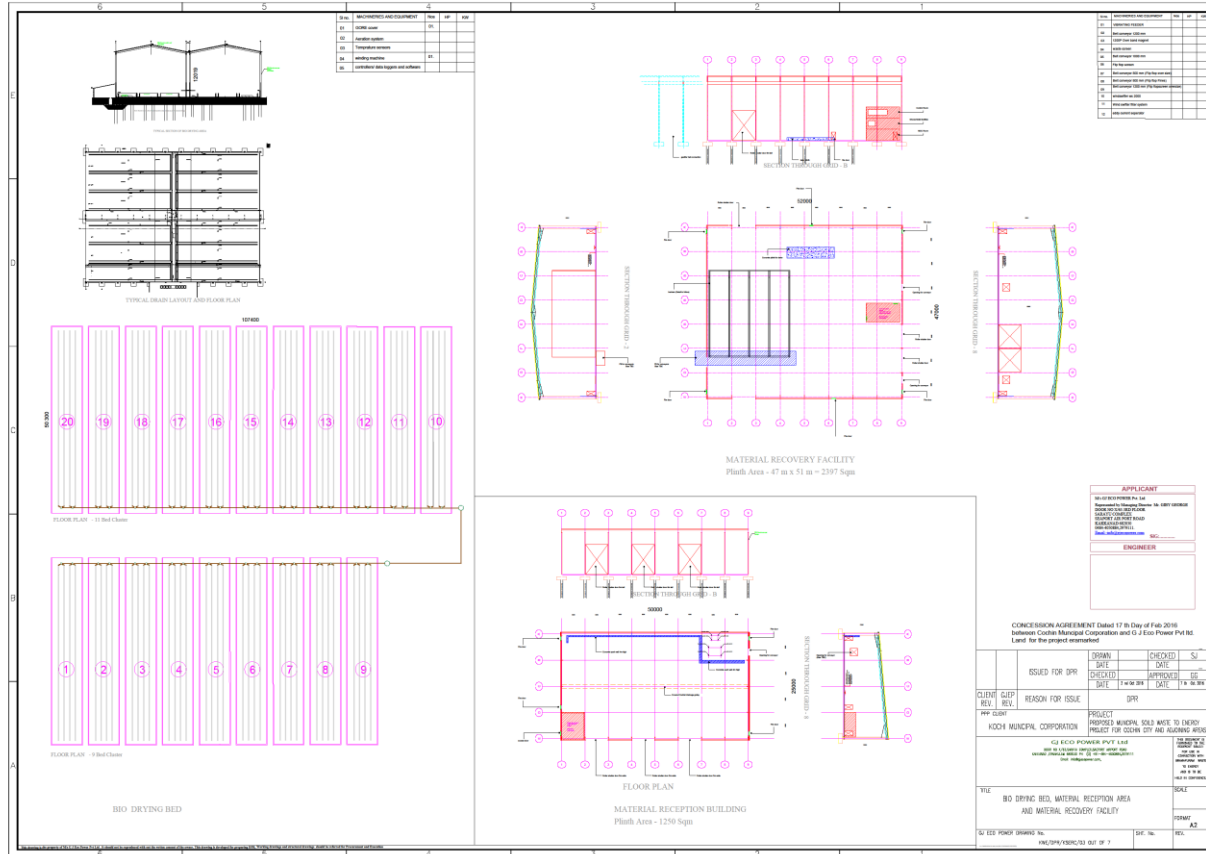




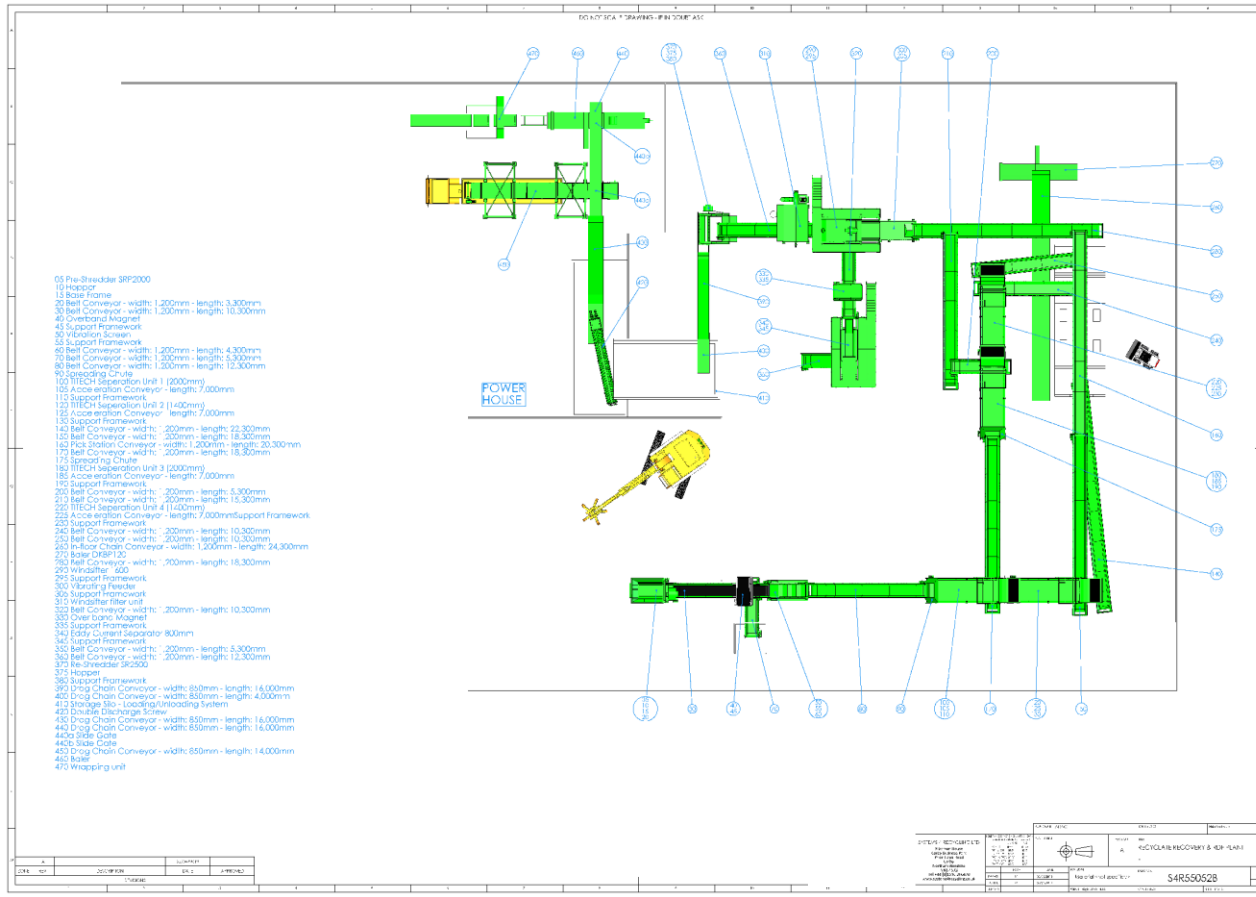


Example of MBT plant

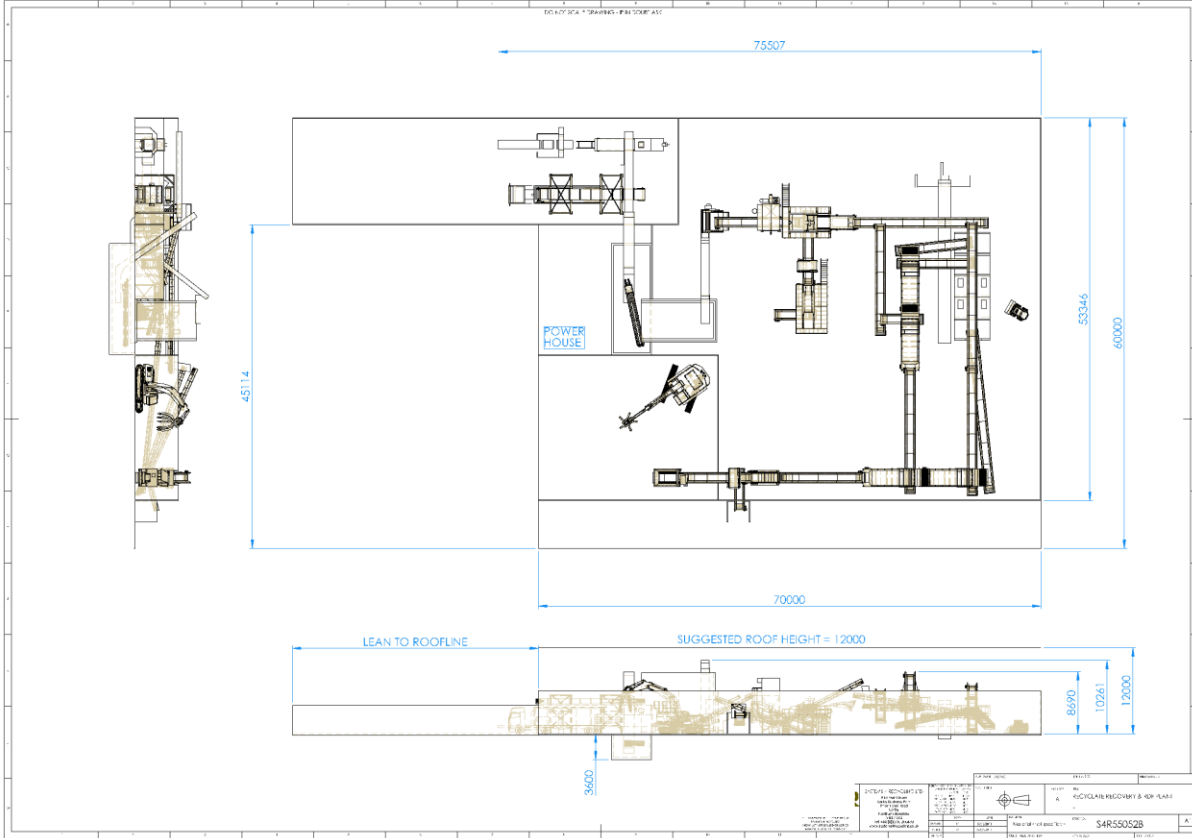




# Example of documentation



# Example of documentation































# Thank you for attention

Further Information & Contact

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