

MPS Betriebsführungsgesellschaft mbH



## Production of Residual Derived Fuel by Mechanical-Physical Stabilisation of Residual Waste

Dr. Beate Vielhaber





**1. Background - Organisation**

**2. Prozess Flow of MPS Technology**

**3. RDF Quality**

## Background

*method of waste treatment*

Mechanical-Physical Stabilisation (MPS)

*objective*

production of residual derived fuel (RDF)



*Input*

Municipal residual waste, industrial waste

360,000 Mg / year



## Development of MPS as PPP

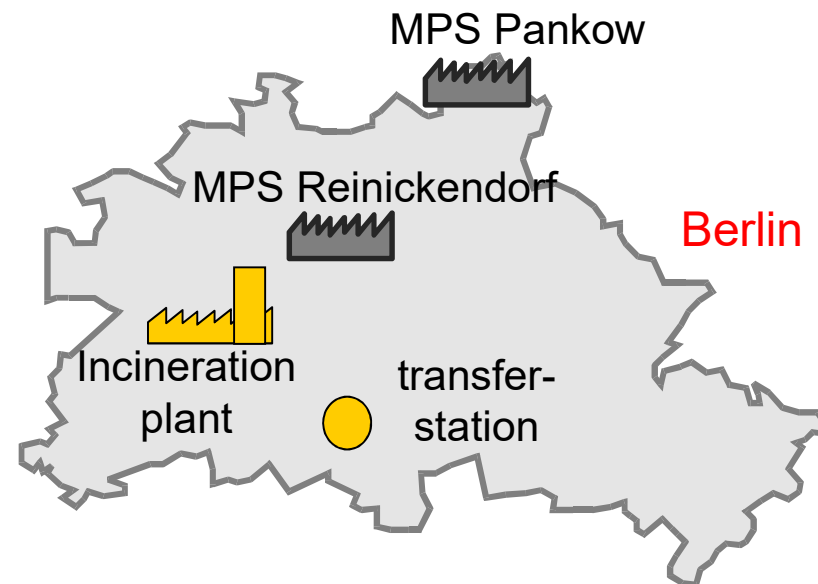
In 2004 foundation of the MPS Operations Management Company (in German: MPS Betriebsführungsgesellschaft mbH) as PPP model („Public Private Partnership“)

- public partner: Berliner Stadtreinigung (BSR) → 51%
- private partner: ALBA 2 Energy GmbH (A2E), Berlin → 49%

In 2004/2005: construction of two MPS treatment facilities in Berlin

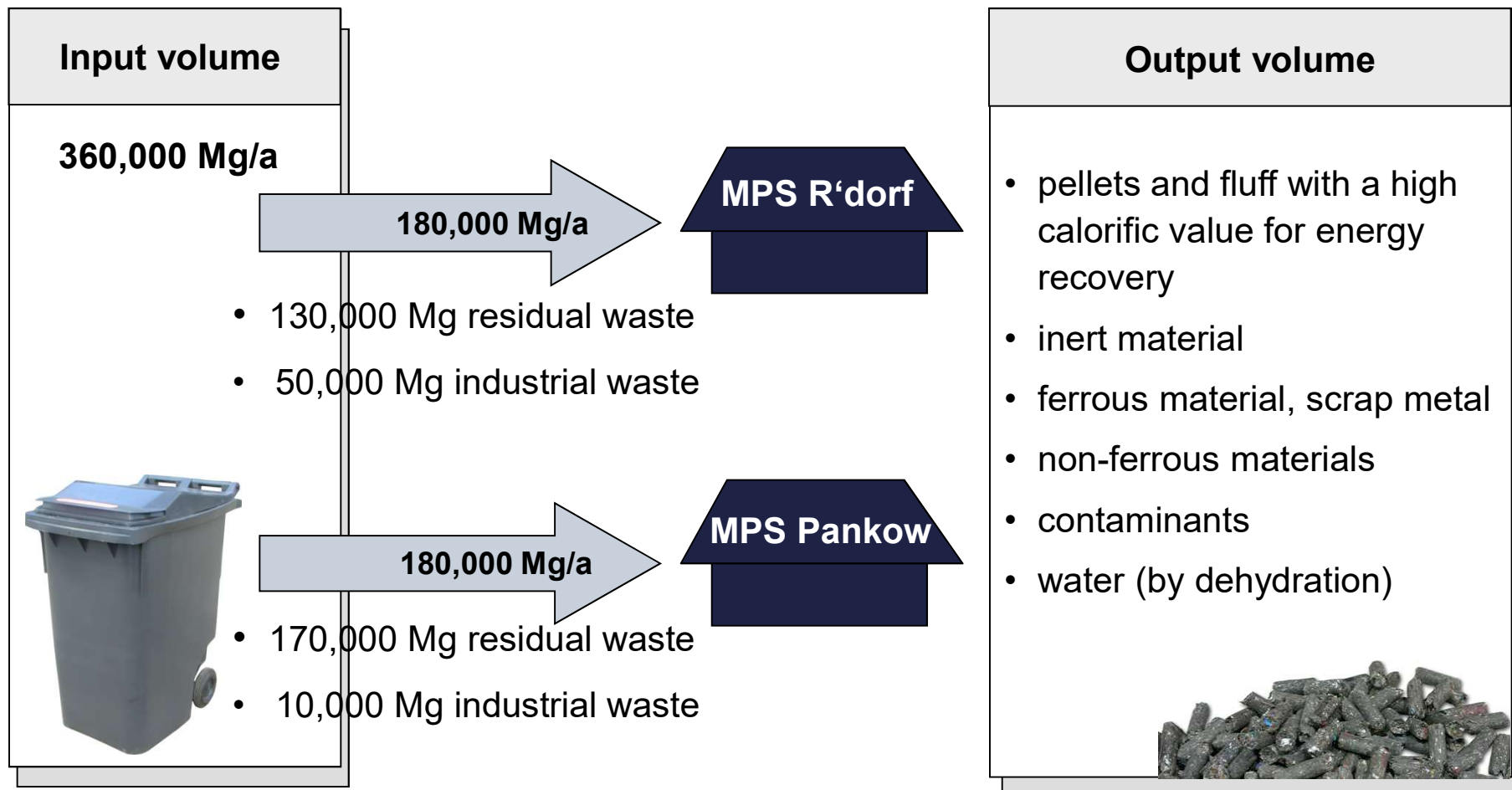
*MPS Reinickendorf, MPS Pankow*

approved capacity: 190.000 Mg each

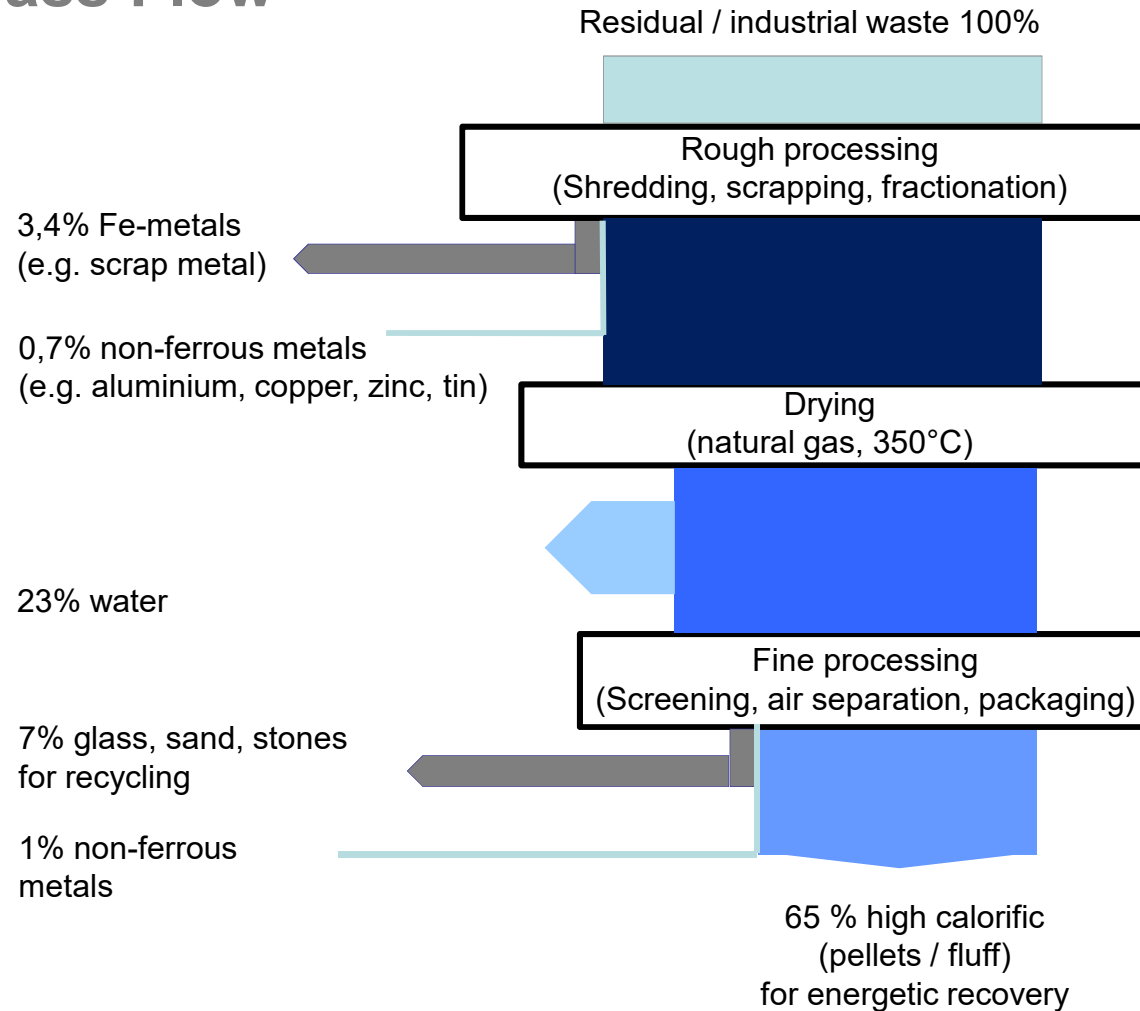


Today both MPS facilities operate with throughput volume of 180,000 Mg waste per year each

marketing by A2E



## Mass Flow

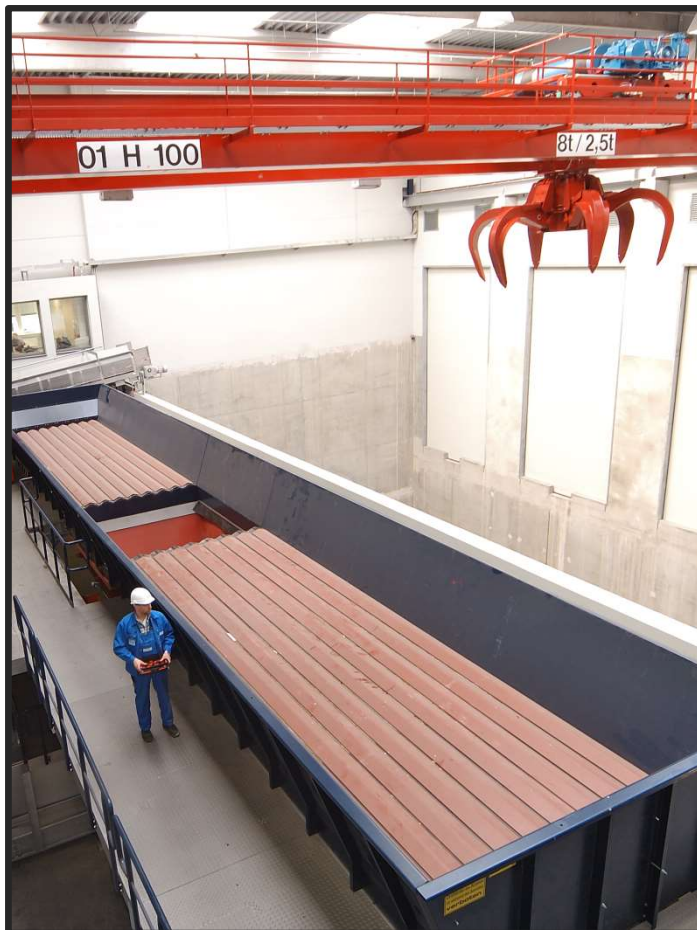
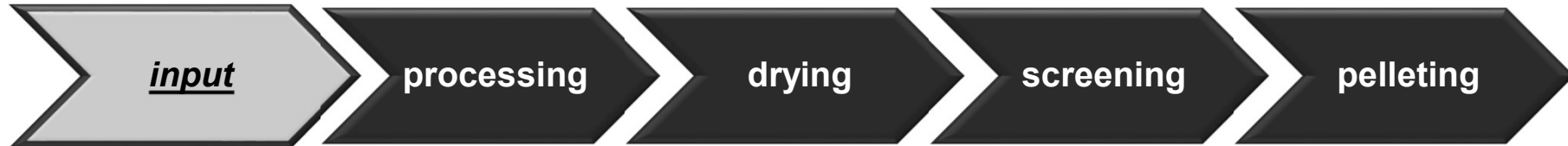




1. Background - Organisation

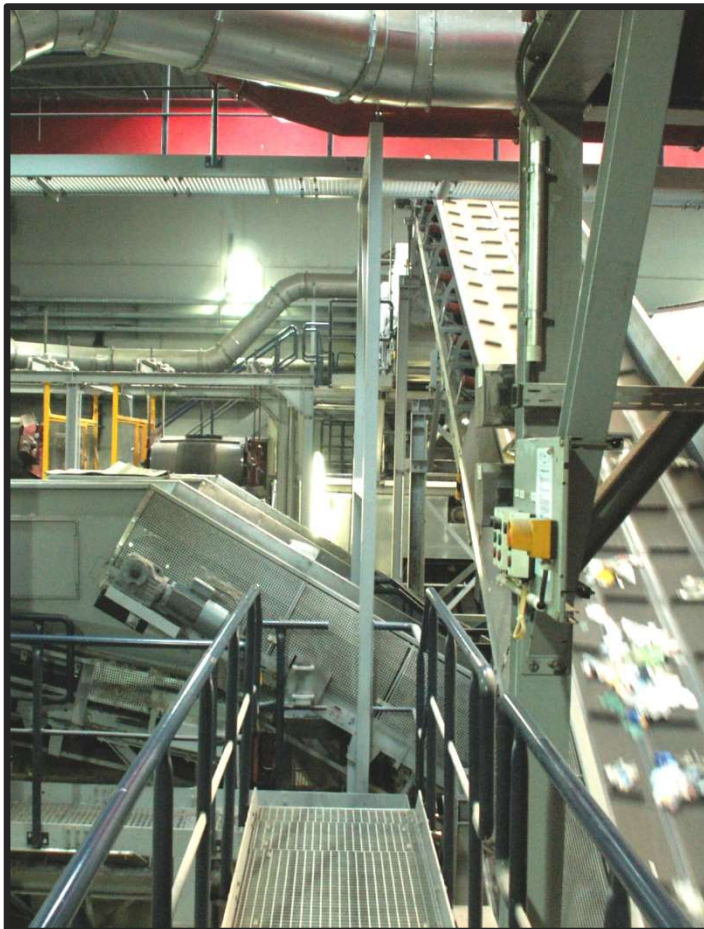
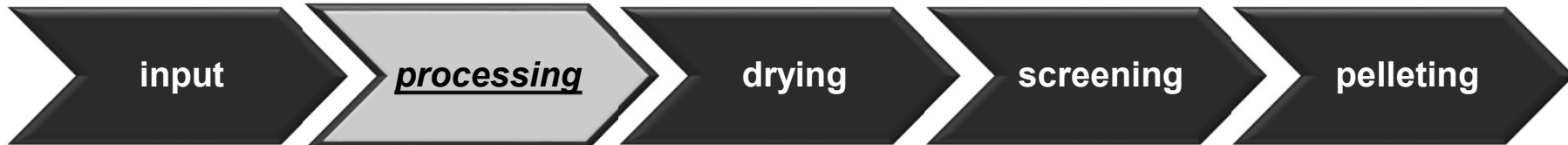
2. Prozess Flow of MPS Technology

3. RDF Quality

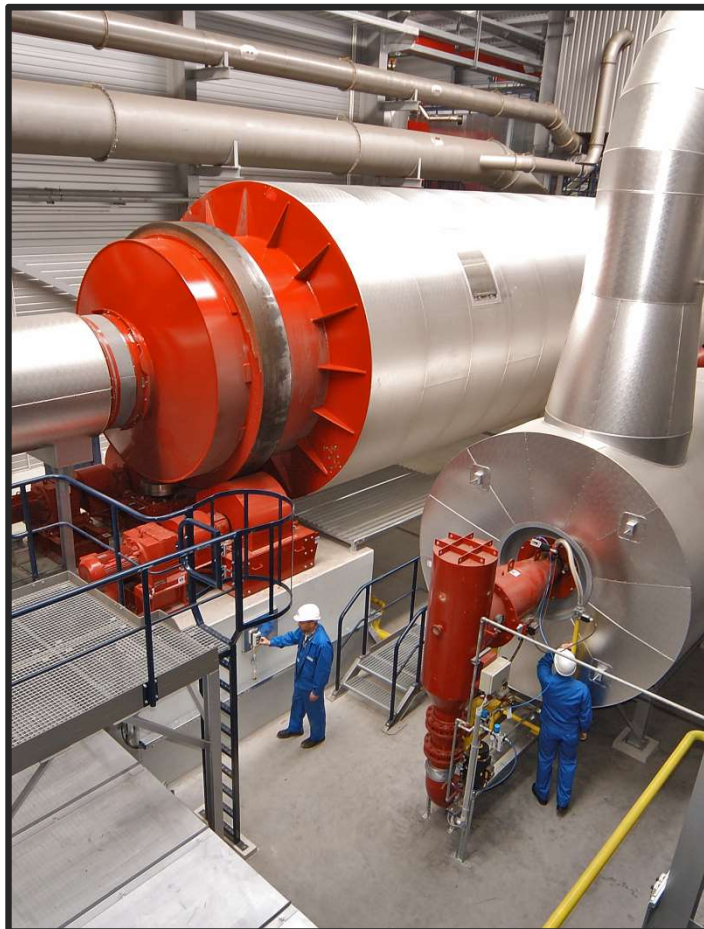


- delivery of waste via 5 gates
- bunker capacity 2000 Mg
- computer controlled bridge crane
- walking floor to pre-shreddering





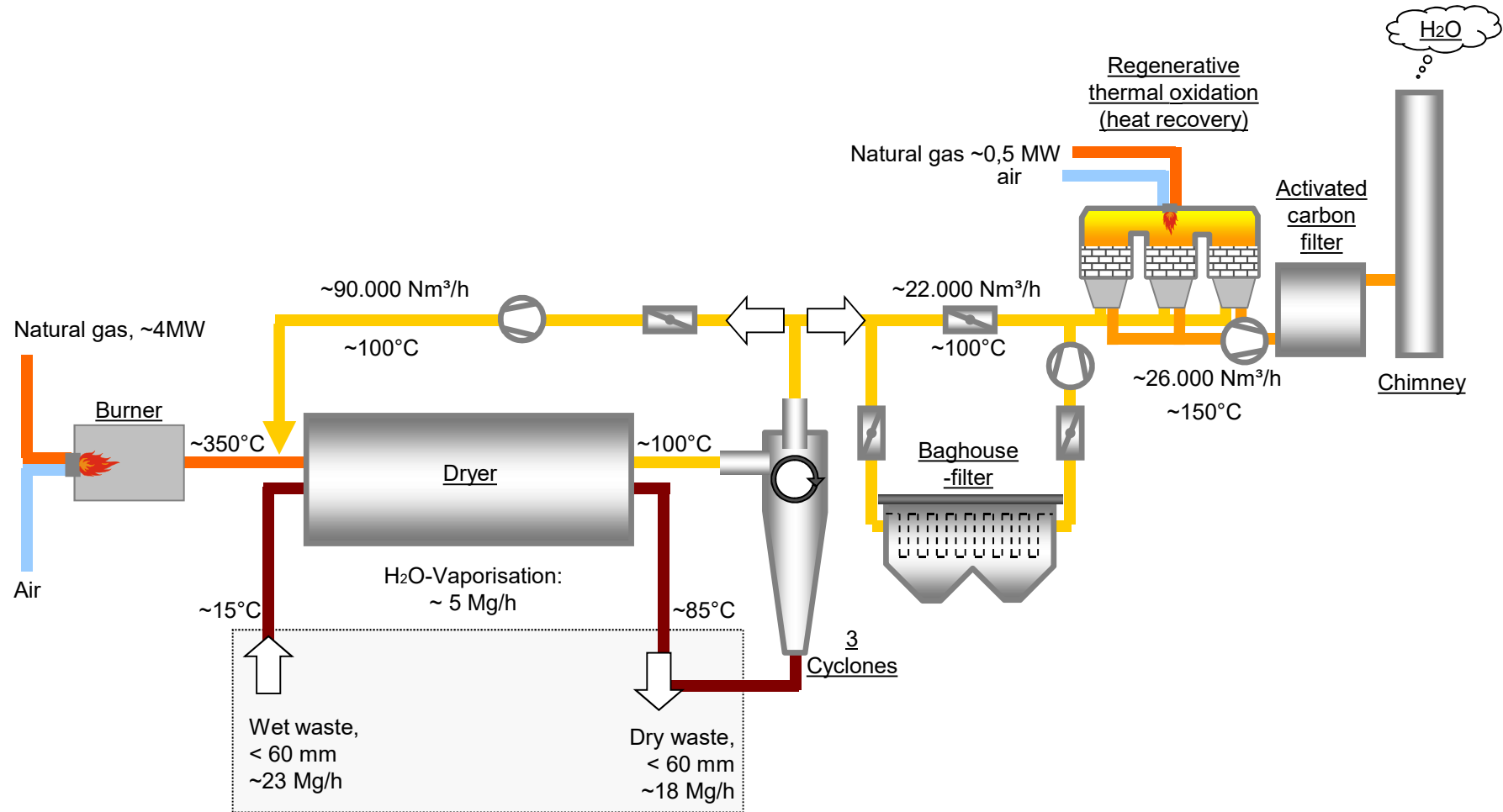
- drum screen
- non-ferrous / ferrous metal separation
- wind screening & near-infrared separation
- separation of high-calorific fraction:
  - grain size > 60 mm
  - capacity 50 Mg / h

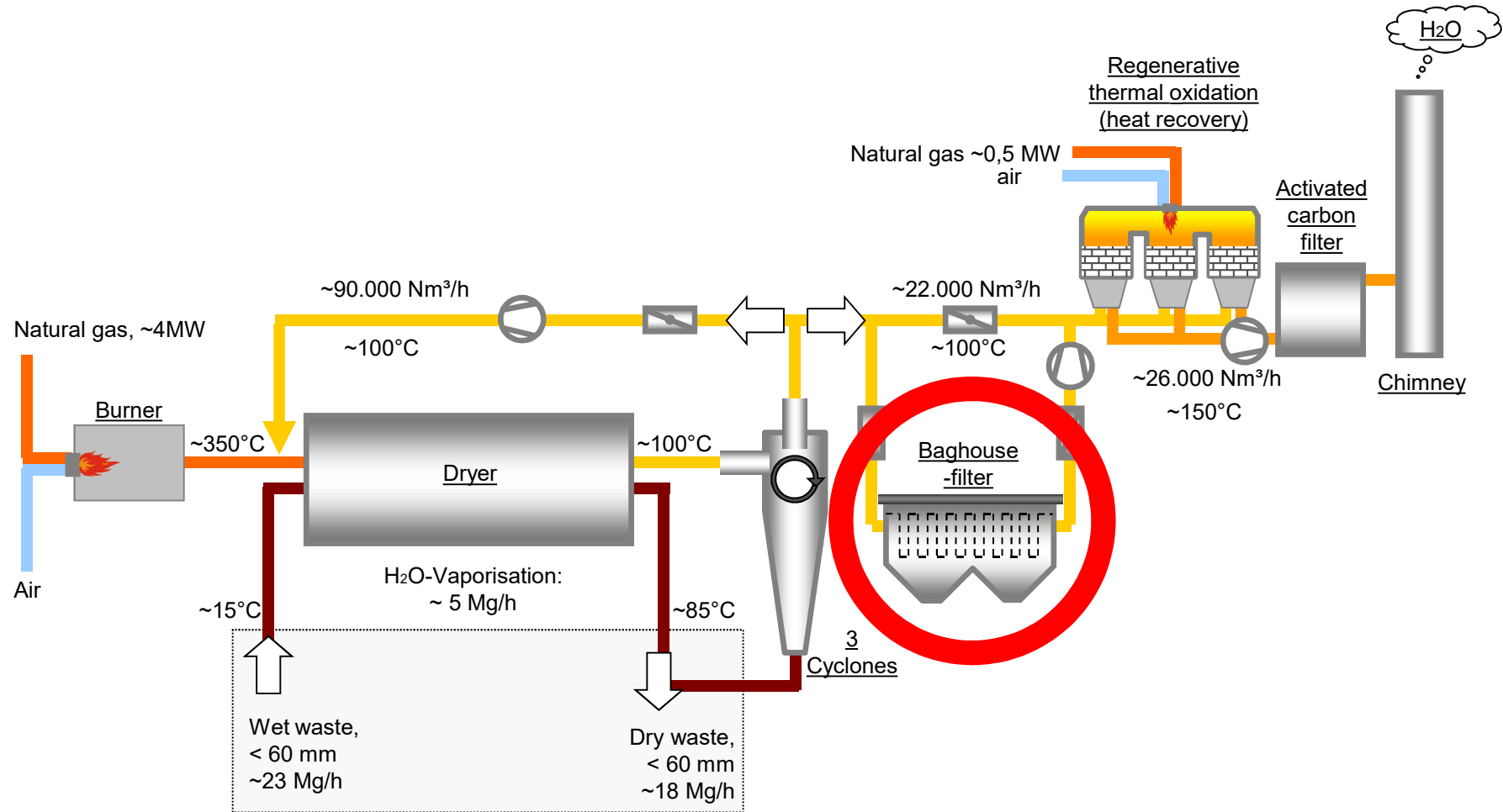


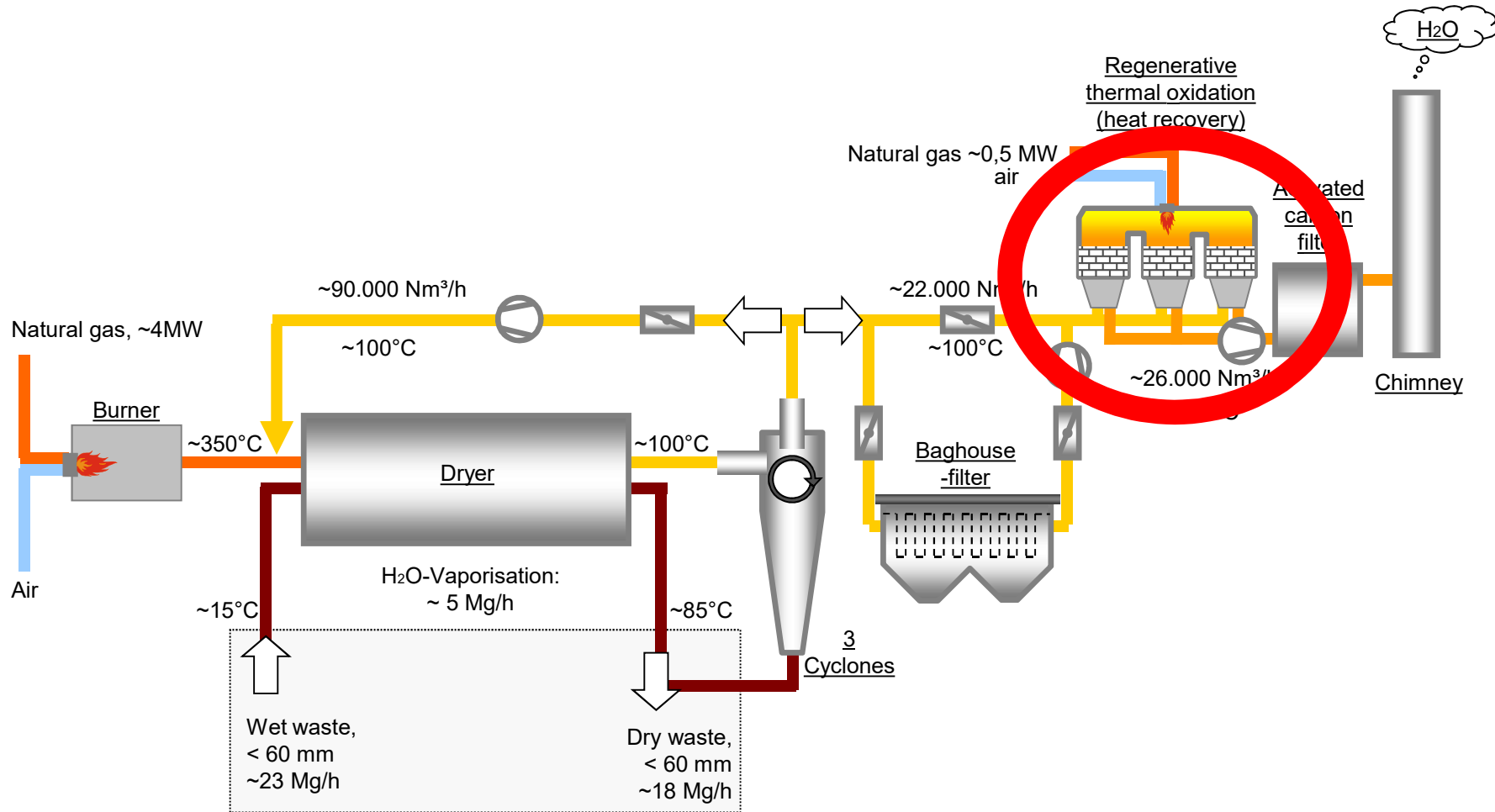
- Material inlet temperature 375°C
- Input moisture ca. 40%
- residual moisture ca. 15%
- Material outlet temperature 100°C
- Throughput 23 Mg per hour

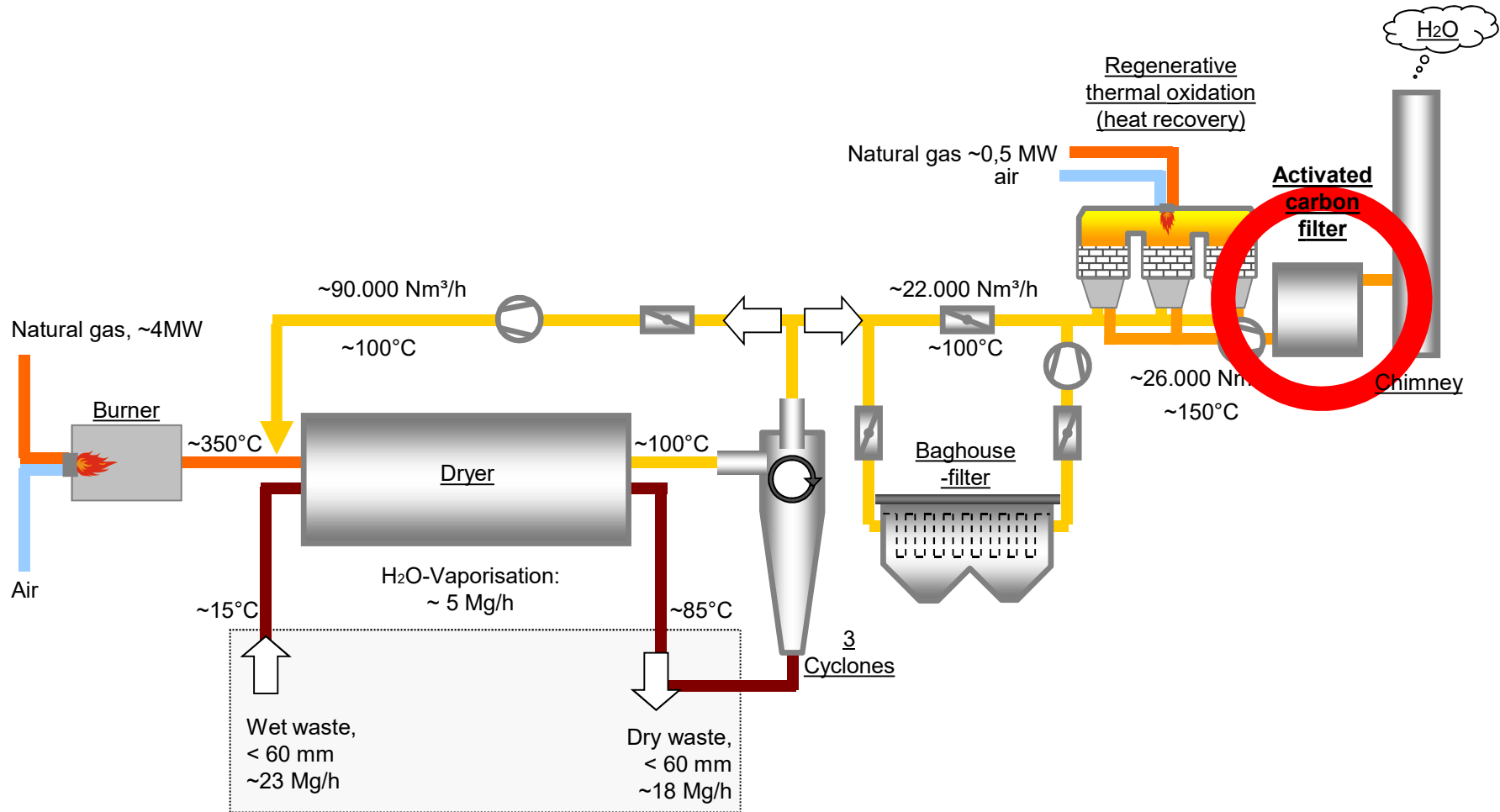
#### Exhaust air treatment:

- regenerative thermal oxidation
- activated carbon
- biofilter



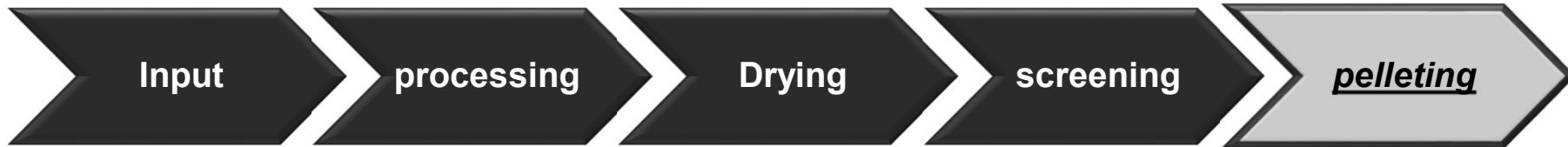








- screening: separation of fine / coarse fraction
- wind classification
- optical sorting
- x-ray screens
  
- metal separator
- Buffer tank with 200 Mg capacity



- production of pellets and fluff
- Direct loading with just-in-time logistics for fluff
- Silo storage for pellets





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## Main products of the MPS facilities are RDF and inert materials

RDF: Pellets



RDF: Fluff



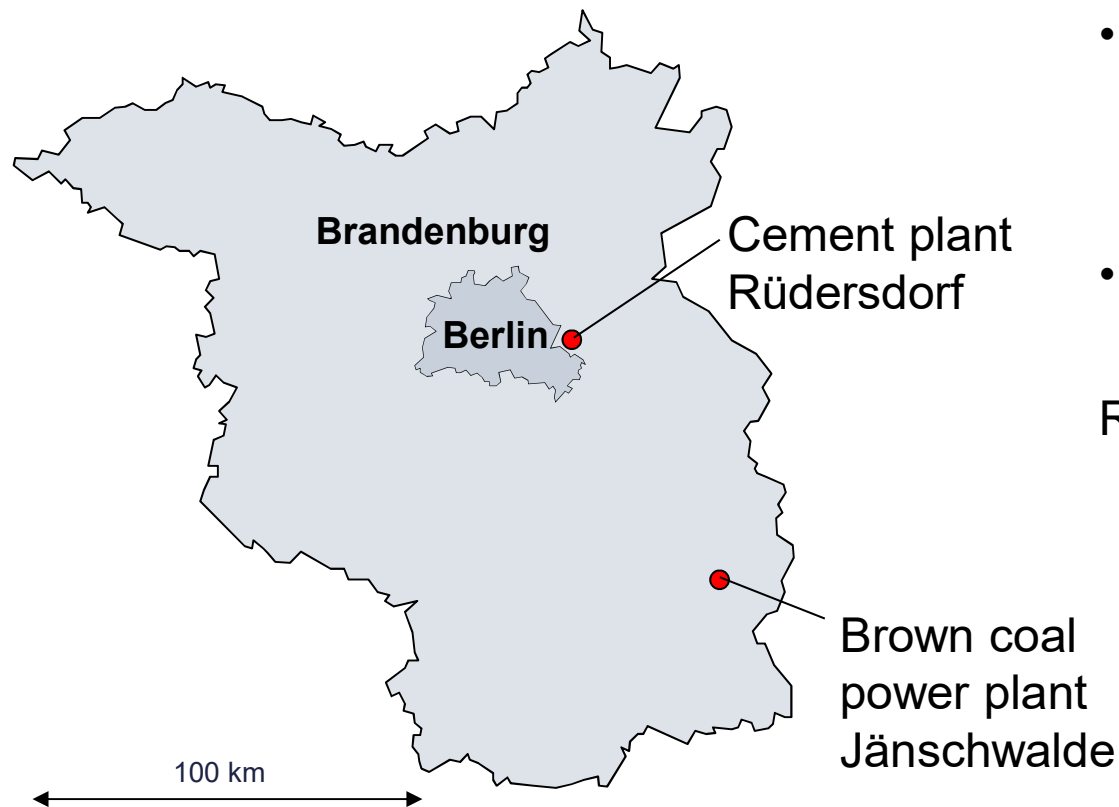
Inert material: 0 – 6 mm



Inert material: 6 – 60 mm



## The two main RDF-customers of the MPS-Plants are located in Brandenburg



### RDF customers

- Brown coal power plant Jänschwalde:  
~ 140.000 Mg/a, mainly pellets
- Cement plant Rüdersdorf:  
~ 20.000 Mg/a fluff

Remaining balance: spot market

## The quality of the RDF meets the specific demands of our customers



Wassergehalt 105°C	% OS	21,3
Trockenrückstand 105°C	% OS	78,7
Heizwert Ho,roh N,S-korrigiert	kJ/kg OS	16340
Heizwert Hu,roh	kJ/kg OS	14610
<b>Analyse bez. auf den Trockenrückstand 105°C</b>		
Aschegehalt 550°C, wf	% TS	18,7
Heizwert Ho,wf N,S-korrigiert	kJ/kg TS	20760
Heizwert Hu,wf	kJ/kg TS	19220
Wasserstoff, wf	% TS	7,2
Kohlenstoff (TC), wf	% TS	52,6
Schwefel gesamt, wf	% TS	0,32
Fluor gesamt, wf	% TS	< 0,1
Chlor gesamt, wf	% TS	0,80
Antimon	mg/kg TS	11,8
Arsen	mg/kg TS	1,1
Beryllium	mg/kg TS	< 1
Blei	mg/kg TS	37,0
Cadmium	mg/kg TS	2,1
Chrom gesamt	mg/kg TS	95,5
Cobalt	mg/kg TS	12,0
Kupfer	mg/kg TS	106
Mangan	mg/kg TS	100
Nickel	mg/kg TS	19,4
Quecksilber	mg/kg TS	0,33
Thallium	mg/kg TS	< 0,1
Vanadium	mg/kg TS	5,4
Zinn	mg/kg TS	17,0

## Why MPS...



- ✓ High and constant product quality
- ✓ high recycling quota
- ✓ Fast process
- ✓ Compact construction
- ✓ Production of different qualities at the same time



# Thank you for your attention!

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