

Dutch EfW- market: past – present - future

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Dutch Efw-market: past – present - future

AVR.

- Established in early '70's
- Market leader by 23%
- Part of Cki, Hong Kong based
- Efw-plants in Rotterdam and Duiven
- MSW separation plant in Rotterdam
- Biomass plant in Rotterdam
- Waste water treatment plant in Rotterdam
- Carbon capture (CO₂-plant) in Duiven
- Paper-pulp plant in Duiven
- Transfer stations across the country



Dutch Efw-market: past – present - future

AVR.

- 1.600k tons incinerated non haz. waste
- 100k tons of hazardous waste
- 400k tons pre-treated waste
- 150k tons biomass
- 170k tons paper residu

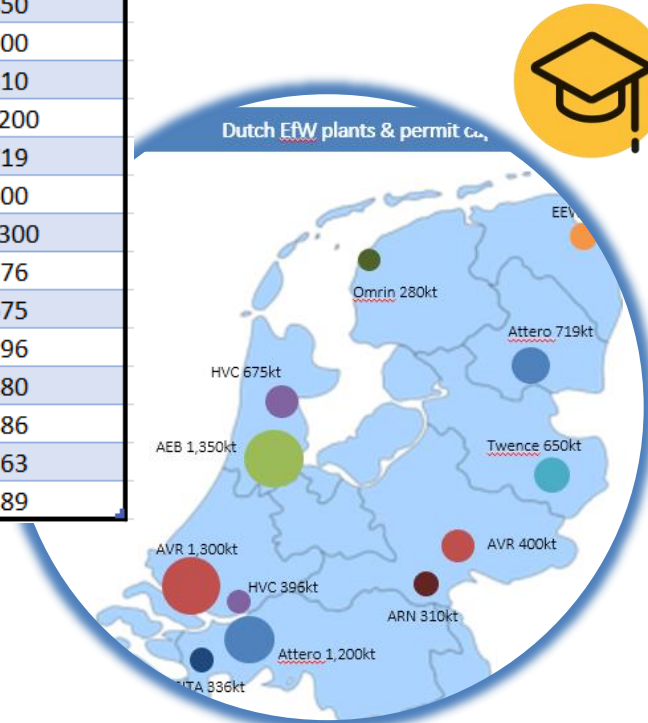
- Dirstrict heating 160.000 households
- Electricity 200.000 households

- CO2-capture 13kT min.



EfW capacity The Netherlands as from 2021: 8,2 mln ton permit

EfW operator	2021	Status	capacity (permit)
AEB AEC, Amsterdam	0,88	R1	850
AEB HRC, Amsterdam	1,01	R1	500
ARN, Nijmegen	0,99	R1	310
Attero, Moerdijk	0,99	R1	1.200
Attero, Wijster	0,83	R1	719
AVR, Duiven	0,74	R1	400
AVR, Rozenburg	0,93	R1	1.300
EEW, Delfzijl	1,06	R1	576
HVC, Alkmaar	0,85	R1	675
HVC, Dordrecht	0,76	R1	396
REC, Harlingen	1,32	R1	280
PreZero, Roosendaal (former Suez)	0,84	R1	386
Twence, Hengelo (1 and 2)	0,78	R1	363
Twence, Hengelo (3)	0,99	R1	289



Dutch waste market: past challenges

- 8,2 MLN TONS EFW PERMIT
 - 7,7 MLN TONS INCINERATED
 - 6 MLN TONS OF DOMESTIC “EFW-WASTE”
 - 1,7 MLN TONS TO BE IMPORTED (UK, ITALY,)
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- INTRO OF WASTE TAKS (€ 13,21/T IN 2018)
 - INCREASE IN WASTE TAKS (€ 39,23/T IN 2024)
-
- BREXIT
 - COVID



Dutch waste market : current challenges



**21-09-2023:
Fire incident AVR
Rotterdam**

**-/- 1300k tons:
How to treat Dutch
waste?**

Current challenges 2024

- RE-START OF PRODUCTION FACILITY ROTTERDAM
- HOW TO COMPENSATE PRODUCTION LOSS AVR ROTTERDAM IN THE MEANTIME
 - External storage 3rd party landfill sites (loose)
 - Internal storage baled and wrapped waste
 - Import stop AVR, reduction import NL
 - Export to 3rd. parties
- NITROUS OXIDE/"LAUGHING GAS" CILINDERS
 - Several explosions every single week
 - Loss of capacity, increase in costs



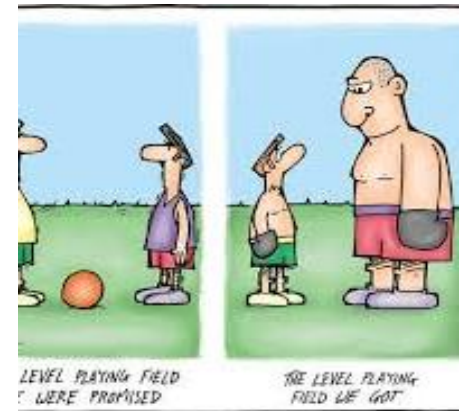
Future challenges

- IMPACT CO2-TAKS AS FROM YEAR 2025
- IMPACT FURTHER INCREASE WASTE INCINERATION TAKS
- POLITICAL CLIMATE
 - Just 30kg/year/Inhabitant → 600kT ton vs 6.000kT
 - CO2-reduction
 - Nitrogen (Nox)-reduction
 - obligation 30% plastic recyclate in virgin plastic
- ALTERNATIVES LIKE CHEMICAL RECYCLING, SUCCESSFUL OR NOT?



Future challenges – outcome?

- WILL DUTCH EFW-CAPACITY REMAIN THE SAME ?
- HOW TO REACH THE GOALS VS. POLITICAL SITUATION?
- WILL ALTERNATIVE SOLUTIONS BE SUCCESSFUL?
- WILL THERE BE A EUROPEAN ONE LEVEL PLAYING FIELD?



Future challenges – outcome?

SAMEN SLIMMER

AVR.
ACADE
MIE

WHATEVER IT IS, IT WILL BE CHALLENGING !

