

Thoughts about RRR-Communication – How well meant intentions in Reduce-Reuse-Recycle are an inadequate basis for a successful development of international waste management

7th International Conference on Sustainable Solid Waste Management 2019
Heraklion 26 - 29 June 2019
Session VI

What means a
**... successful development of
international waste management?**

**Let us start the talk with some
thoughts about climate change ...**

It seems to be funny, that in this very moment the temperature in Germany is much higher than here in Greece.

Wetter Deutschland

Der Hitzehöhepunkt naht

Heiß, heißer, Rhein-Neckar-Gebiet! Dort werden am Mittwoch mit an die 40 Grad die höchsten Werte erwartet. Am Himmel nur ein paar Schönwetterwolken. Kühler und wolkiger wird es mit bis zu 19 Grad an der Nordsee.

Wetterbericht für Deutschland
(26.06.)



This was 14 days ago - not so funny!!!

*So climate change seems to be more a **climate crisis** ...*

*...
with many faces!*



Is this really related to Waste Management?

Yes it is!

Because dumps and open landfills cause lots of Greenhouse Gas!

Especially when the waste is burning in open fires...



This is not to read here but in the article:

Dumps and open landfills cause Greenhouse Gas ...
because:

See the study from August 2005 regarding the “contribution of waste management to climate protection and possible potentialities”.

In the report’s summary there are three remarkable sentences which, in my opinion, are distinct enough to reevaluate the significance of recycling from a global viewpoint.

- 1) “In total, the disposal procedures of the waste incineration plants and the coincineration contain the highest potential for reducing greenhouse gases...”
- 2) “All energetic procedures, considering the general conditions, have a 90% share of the achievable reduction potential.”
- 3) “Instead of producing a carbon dioxide equivalent of presently (2005) 87 m with waste management, a credit of 47 m carbon dioxide equivalent could be depicted in the future. As a result, a reduction potential of 134 m t carbon dioxide equivalent could be achieved from 2000 to 2020 for the municipal waste management of EU-15. The major portion stems from the almost 100 m t of carbon dioxide equivalents from

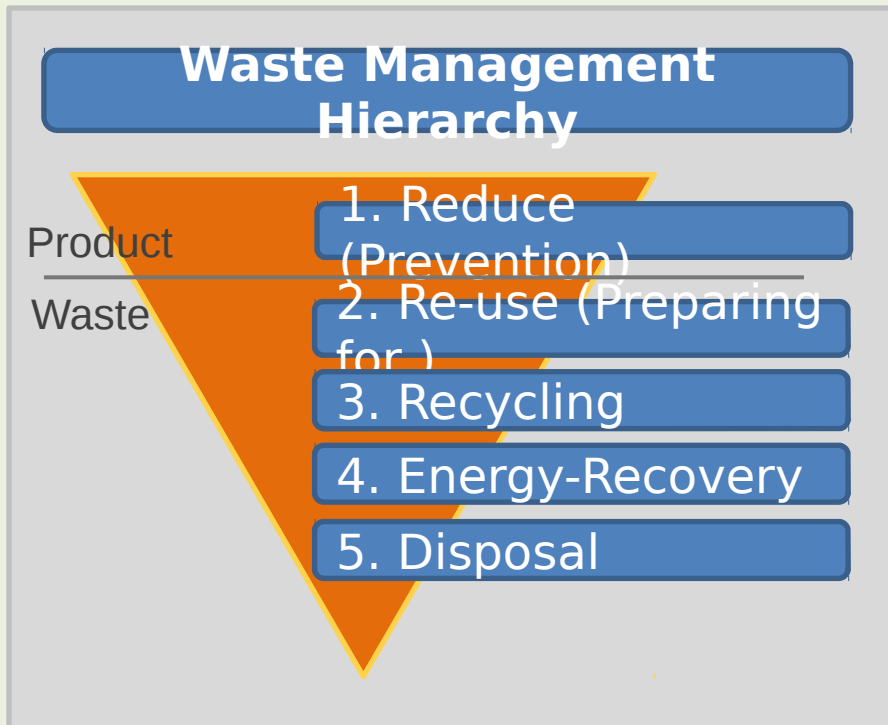
**... successful
waste management ...**

**... means the impact of waste
management to GHG is reduced
to **Zero****

***Zero Waste*) starts when all
Dumps are closed !***

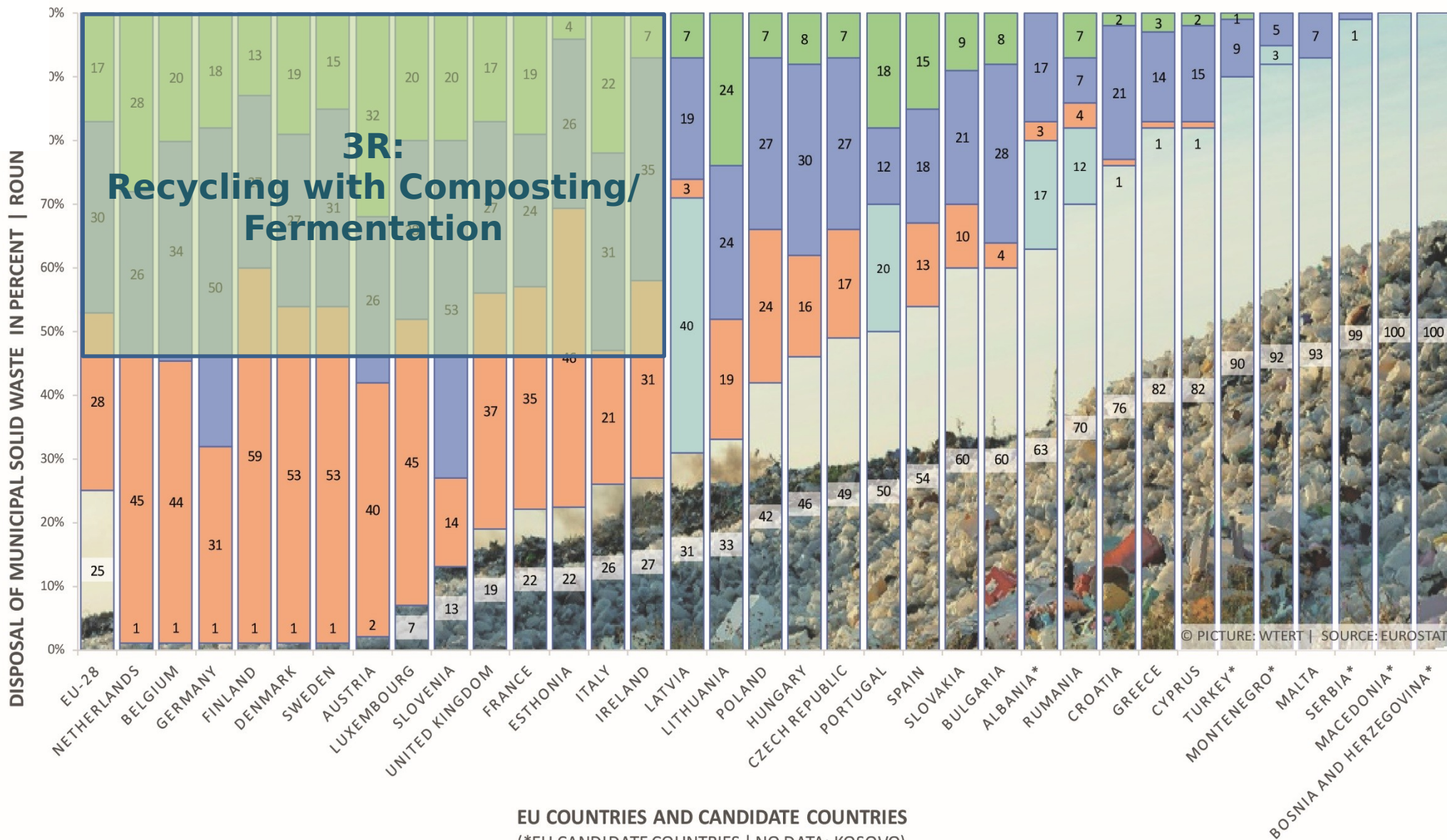
****) Zero Waste for me
- is not “no waste”
- It is “no impact to climate crisis”***

What tools do we need for GHG mitigation



MUNICIPAL SOLID WASTE OF THE EU AND CANDIDATE COUNTRIES IN 2017

landfilling missing data to fulfill 100% incineration mechanical recycling composting | fermentation



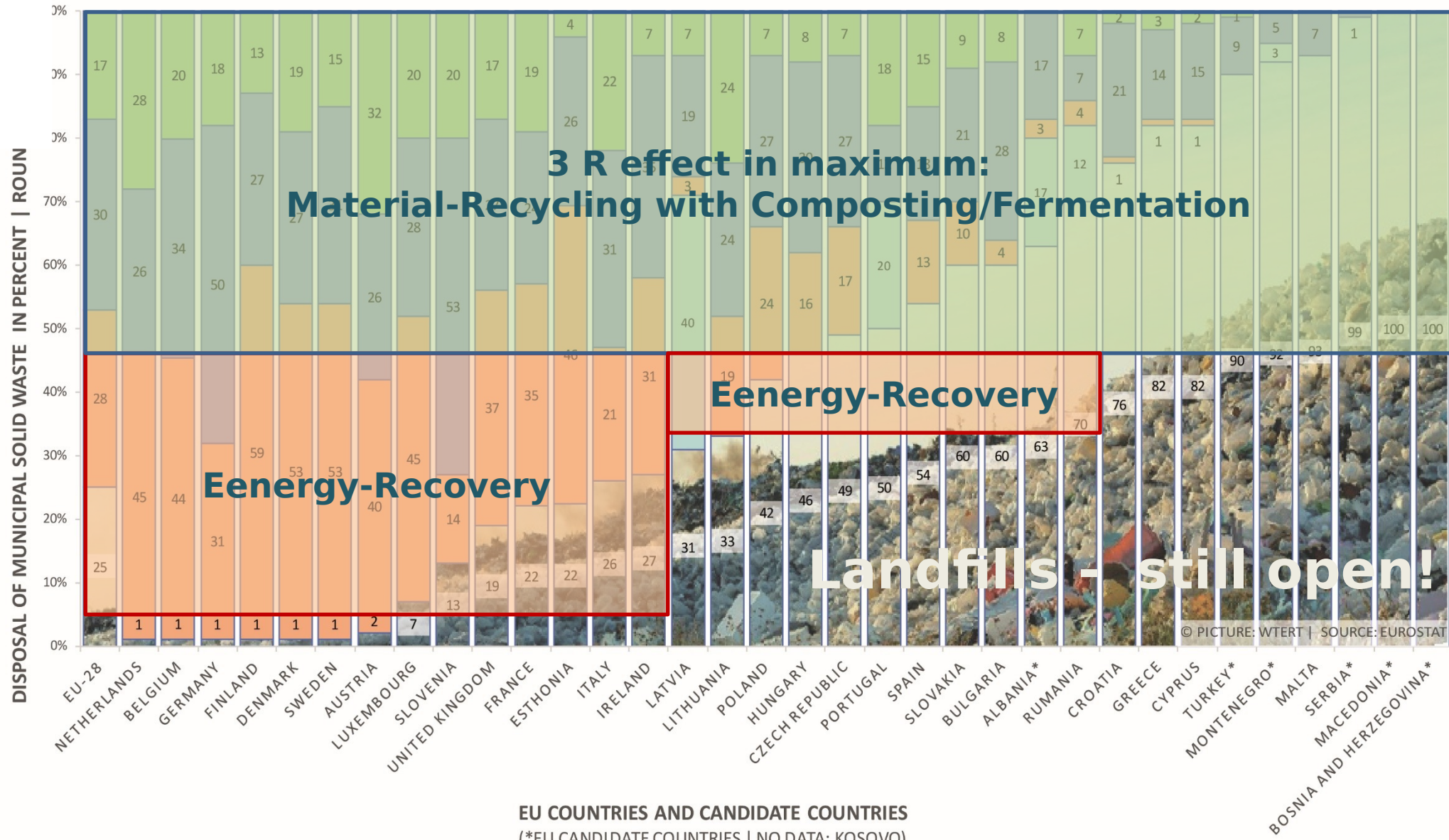
© PICTURE: WTERT | SOURCE: EUROSTAT

EU COUNTRIES AND CANDIDATE COUNTRIES

(*EU CANDIDATE COUNTRIES | NO DATA: KOSOVO)

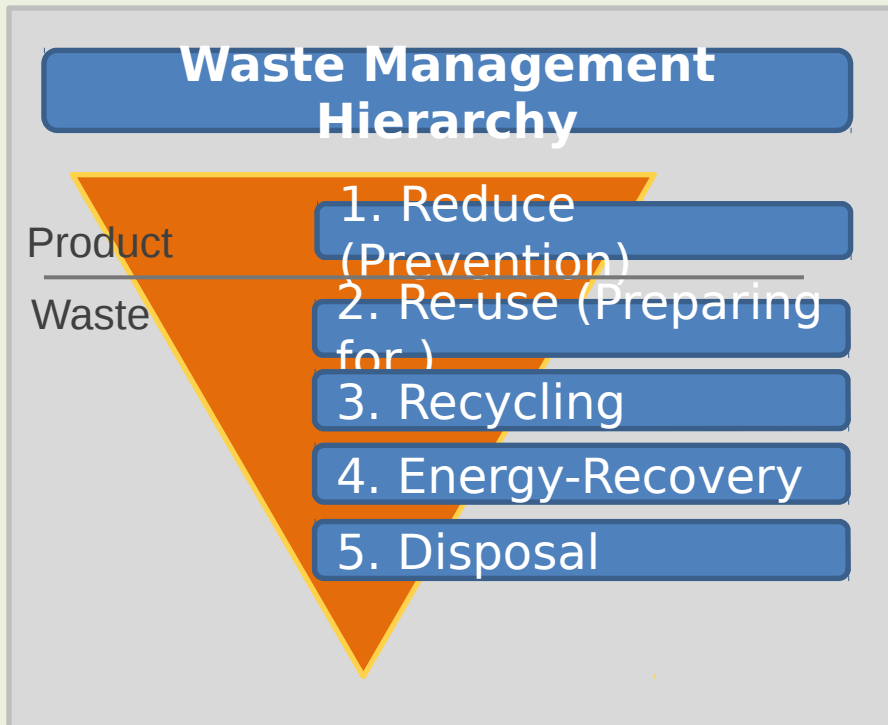
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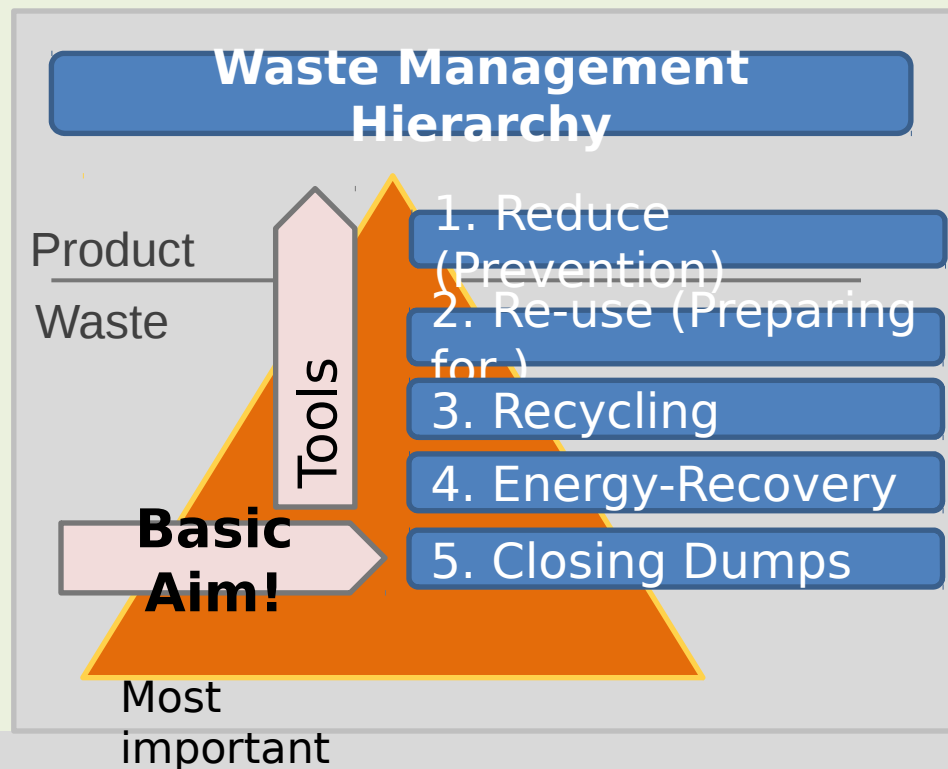
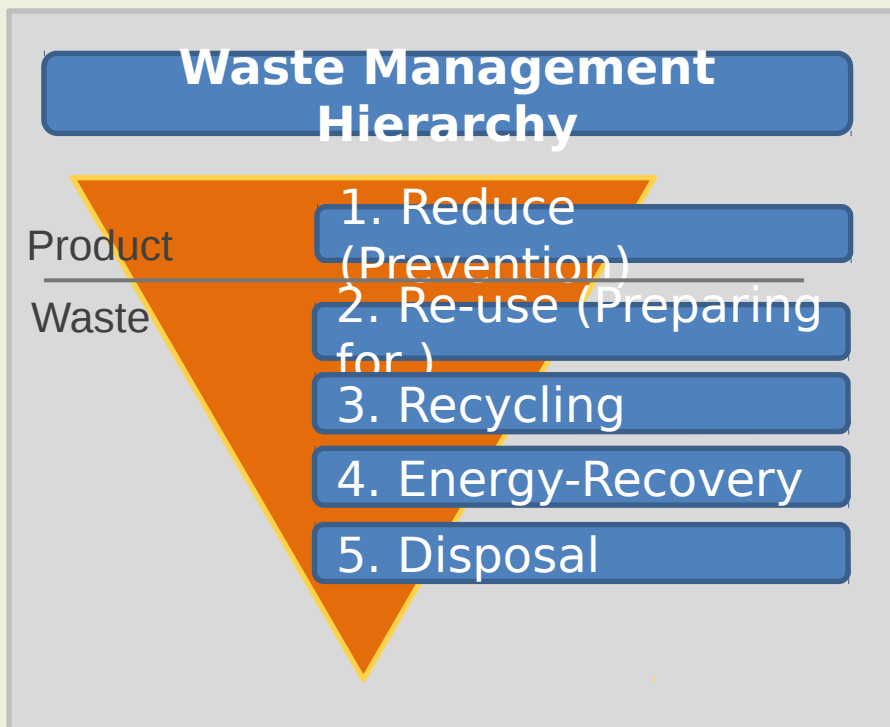
EU COUNTRIES AND CANDIDATE COUNTRIES
(*EU CANDIDATE COUNTRIES | NO DATA: KOSOVO)

What tools do we need for GHG mitigation?



EU`s well known hierarchy is very helpful

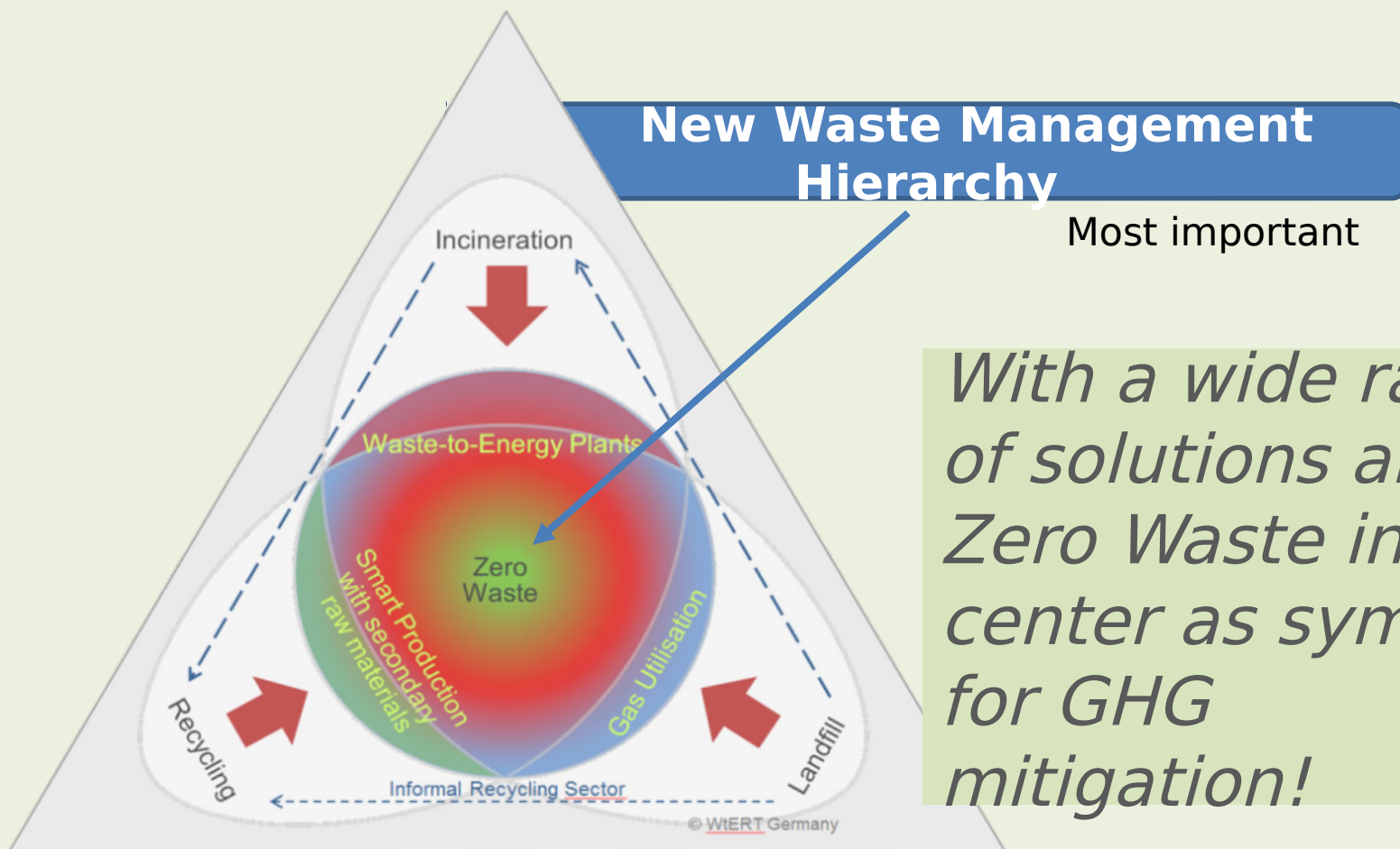
What tools do we need for GHG mitigation?



For I am are excited about the enormous potential for mitigation of GHG emissions **when a sustainable Waste Management is established** ... I am convinced that ... the international communication in waste management has to concentrate more on those solutions **with high impact to GHG mitigation.**



Be aware of labels and stay open for good solutions



With a wide range of solutions and Zero Waste in the center as symbol for GHG mitigation!

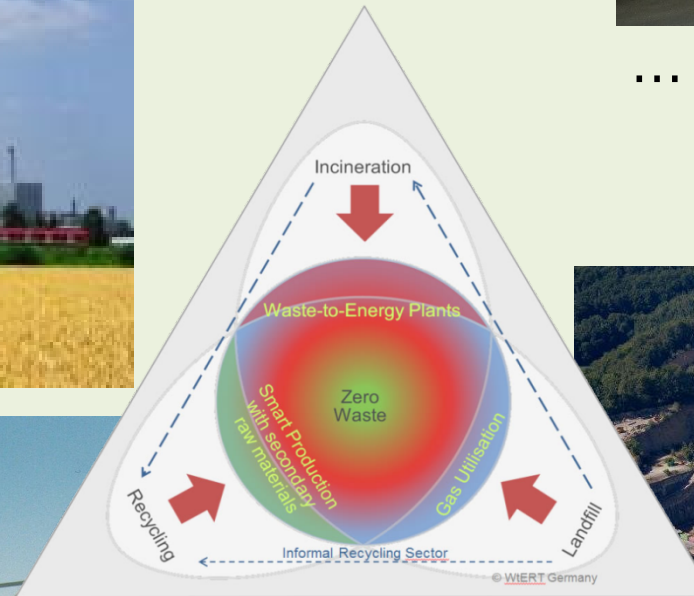
We promote:



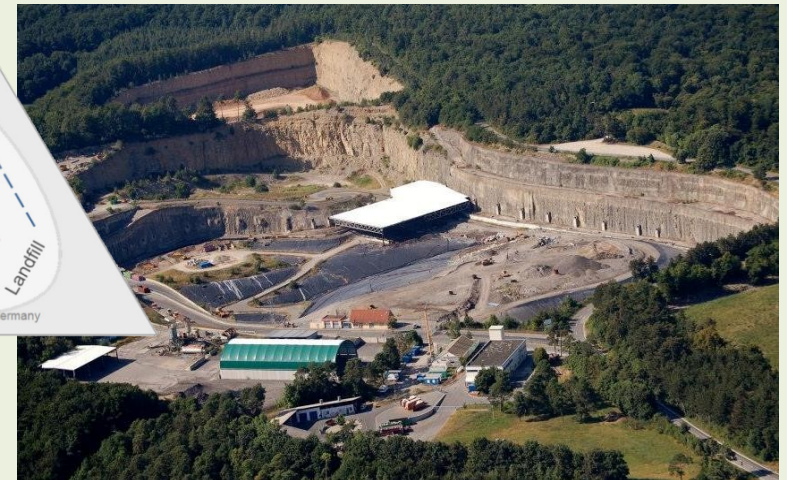
energy
recovery...



... the benefit of recycling, e.g.
fermentation.....



... reduce and reuse strategies



... and the need for
good landfill
operation.

A warm welcome to the global WERT-Family

Our aim is to identify the best available technologies for the treatment of various waste materials, conduct academic research and share this information by means of its publications, case studies and recommendations.

Be part of a global community of experts who share their knowledge to convert ever decreasing volumes of waste into greater and greater sources of energy.

Become inspired by us!

Thank you for contributing your excellence

**And welcome to the
WTE - Support for
Decision System!**

- Recommendations
- Best Practices
- Case Studies
- Experts
- Papers
- News



Collection and Logistics
Waste Disposal on Islands - a difficult task >>>



Dr. Manfred Kriek
AWA Service GmbH

...for your request to topic.



Best Practice

Pollution Prevention in a Tunisian Hotel

Hotel Caravane Serail is a 50-



Case Study

W. L. Gore & Associates GmbH

Composting of Sewage Sludge in Kirchbichl, Austria

The ARAB Kirchbichl plant in Tyrol



Case Study

VIVO Kommunalunternehmen für Abfall-Vermeidung, Information und Verwertung im Oberland

The Waste Reloading Station of the District Miesbach,

Experts to topic



Tobias Stang
Stang GmbH & Co. KG



Professor Dr. Athanasios Bourtsalas
Imperial College London/
Columbia University



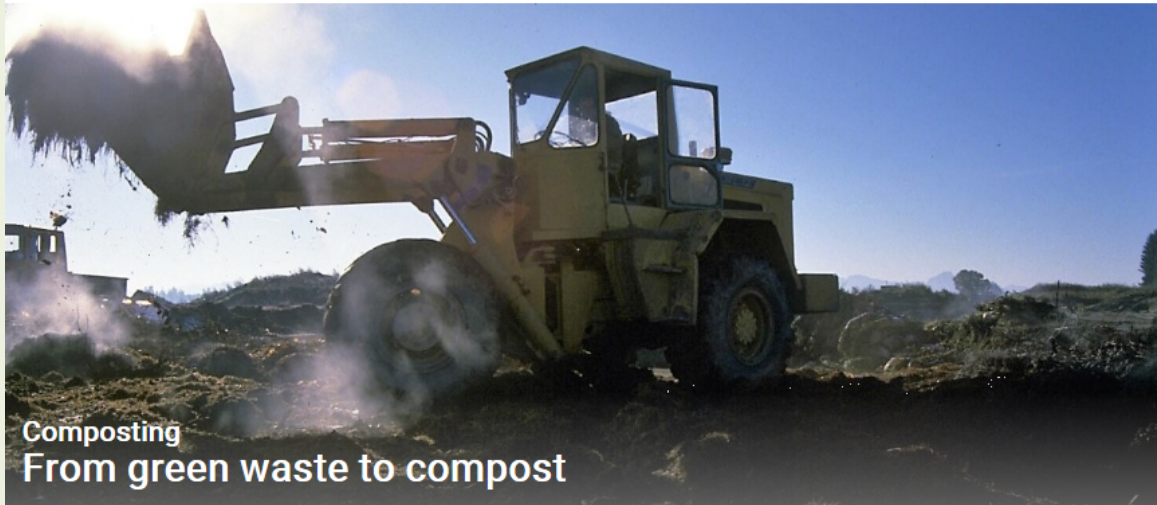
Prof. Stefano Consonni
Department of Energy Engineering, Politecnico di Milano

[View all Experts...](#)

Klick here >>> to get the issue more in detail.

➤ Recommendations from Associations

WTE - Solutions -> Recycling -> Biological Treatment -> Composting



Dr. Stefanie Siebert
European Compost Network ECN e.V.

...for your request to topic.

WERT - Solutions -> Incineration -> Heat and Electricity from Waste, Energetic Utilization



Dr. Ella Stengler
CEWEP Confederation of European
Waste to Energy Plants

...for your request to topic.

➤ Recommendations from Associations



www.wert.net/

➤ Recommendations from Municipalities



Prof. Dr.-Ing. Johannes Weing
University of Applied Sciences of
Bielefeld

...for your request to topic.



Stadtdirektor a.D. Helmut Schmidt
Nachhaltige Abfallwirtschaft

...for your request to topic.

➤ Recommendations from Municipalities

WEERT - Solutions -> Complementary -> Collection and Logistics -> Transfer Station



Gangolf Wasmeier
ZAW Straubing

...for your request to topic.

Recommendation for sampling and selling paper/cardboard from waste:

The benefit of separate tendering of paper/cardboard collection and selling is about 25 %. So bring the paper together and use a transfer station as a starting point for selling.

We guess that it is better to transfer mixed paper, because private companies are much better in separating the different types of paper.

**cost differential
> 7,50 EUR/Inh. and
year**

➤ ... and science



It is possible to process mixed waste streams in individual aggregates and in process chains.



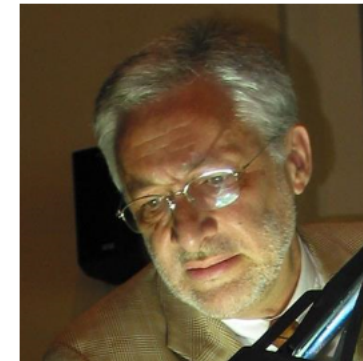
Prof. Dr.-Ing. Thomas Pretz
RWTH Aachen University - Department
of Processing and Recycling

...for your request to topic.

WERT - Solutions -> Landfill -> Landfill Construction -> Landfill Gas



In landfills the gas is in most cases a mixture with air – but you really won't smell it...



Prof. Dr.-Ing. Gerhard Rettenberger
Ingenieurgruppe RUK GmbH

...for your request to topic.

➤ Recommendations from Science



Prof. Dr.-Ing. Peter Quicker
RWTH Aachen University

...for your request to topic.

Final Sink

Waste management needs an option for final treatment of waste that cannot (and in some cases should not) be recycled. For this purpose only two options exist: Landfilling and waste-to-energy.

by Prof. Dr.-Ing. Peter Quicker

The best way to treat waste that cannot be prevented, is recycling. But unfortunately not all wastes can be recycled: The residual waste in the dustbin in front of the house for example, has not the quality for a high grade recycling. Other examples are contaminated waste streams. These fractions shouldn't be recycled. Otherwise all the pollutants are brought back to the product cycle and will poison the society over the years. >>>

To communicate in the WtERT network means ...
... to talk about 3 R's with
additionally emphasizing the issue of landfill
problems
and *to look for* better solutions of the entire
system.



To communicate in the WtERT network means ...

... to provide Recommendations and Case Studies in the WtERT - Decision Support System in open source.

Case Study



Unikom d.o.o. za komunalno gospodarstvo

Case Study: Recycle in Slippers - Innovative approach to recycling in high-rises

In general, people are lazy. If they have to make additional effort to separately collect waste (e.g. make a trip, assure additional bins, etc.) and are not...

Best Practice



The Ingolstadt Waste Utilization Plant

The Ingolstadt Waste Utilization Plant

Over the past 40 years, the Ingolstadt joint waste management authority has managed to develop its waste treatment plant from a simple waste incinerator to the largest municipal...

Case Study



STRABAG Umwelttechnik GmbH

MBT Ljubljana: In Slovenia arises one of the largest and most modern plants in Europe

The new MBT in Slovenia's capital gets ready to become one of the largest and most modern waste treatment...

Case Study



STADLER Anlagenbau GmbH

Mechanical-biological treatment plant (MBT) in Granada, Spain

The plant EcoCentral Granada was a renovation and an expansion of the old sorting and composting plant

www.wtert.net

You are welcome to join!