



Molecules Are Forever

**WASTEWISE  
GROUP**

Muovijätteen hyödyntäminen pyrolyysillä

Kaisa Suvilampi, Wastewise Group Oy

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# Global waste problems – Our driving force

Millions of tons Rubber waste, mainly tyres, is disposed globally every year. There's no use to burn them, but to REUSE is a smart solution.



The massive explode in plastic consumption has caused a serious global waste problem. There is a huge need in plastic recycling technologies, both mechanical and chemical!

**With Our Pyrolysis technology we turn waste  
back to sustainable circular raw materials!**

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## Wastewise Oy

MECHANICAL TREATMENT OF  
RUBBER WASTE AND PLASTIC  
WASTE PREPARATION FOR PYROLYSIS

Sorting | Crushing

# Wastewise Production Processes

@ Eco Industrial Park,  
Nokia <https://eco3.fi/>

## Wastewise Group Oy

PYROLYSIS PROCESS  
FOR PRE-TREATED PLASTIC WASTE

Thermochemical treatment in high  
temperature and in the absence of oxygen.



ELT-Recycling

Field coatings



Plastic waste  
550 kg/h,  
4000 tn/a per line

Pyrolysis Oil



75...90 % of production  
3000...3600tn/a  
For recycled plastic  
production

Pyrolysis Charcoal



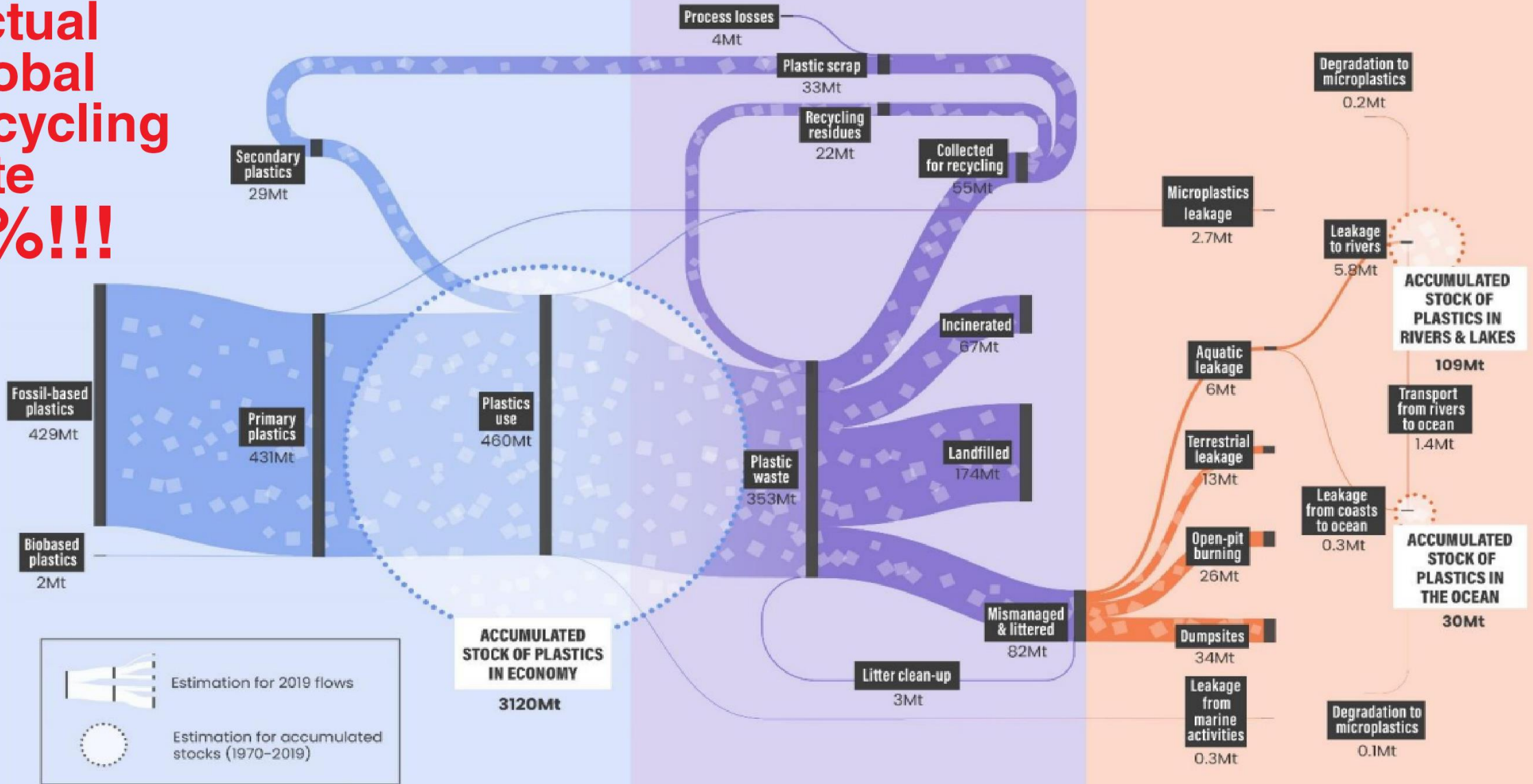
<1...10% of production  
40...600tn/a  
Product development  
for rCB / tarmac /  
filtration purposes

Pyrolysis Gas



10...15% of production  
400...600 tn/a  
(~6400...9400 MWh/a)  
For internal energy  
production

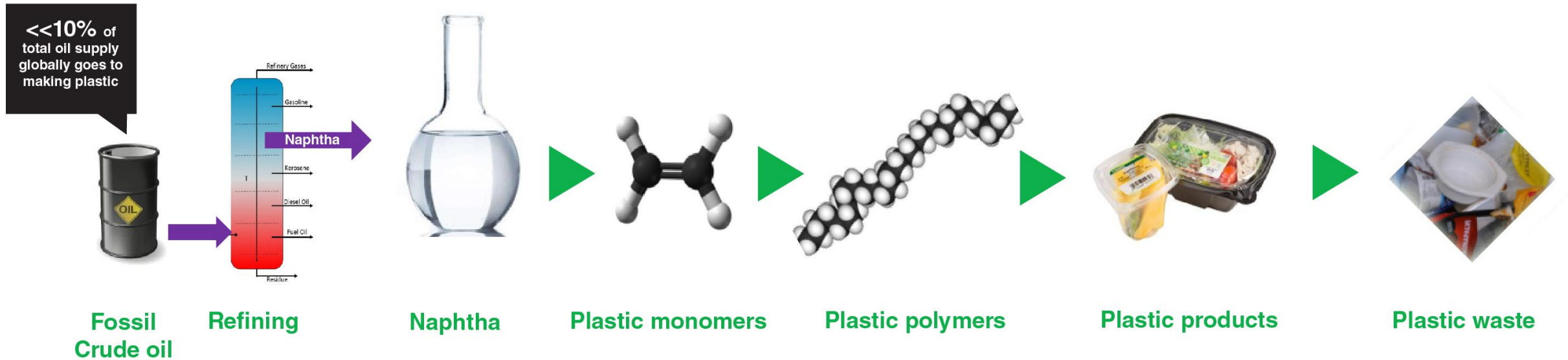
**Actual global recycling rate 6%!!!**





# Plastic Industry needs a green transition!

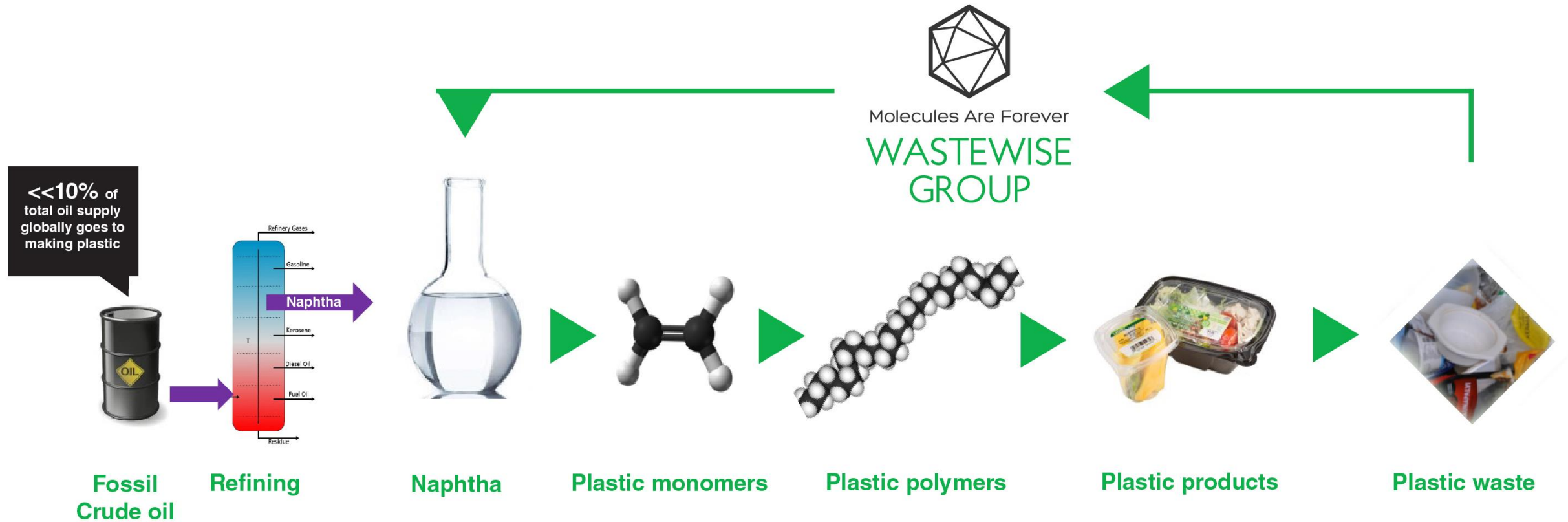
- From linear to circular
- Mechanical and chemical recycling needed



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# Plastic Industry needs a green transition!

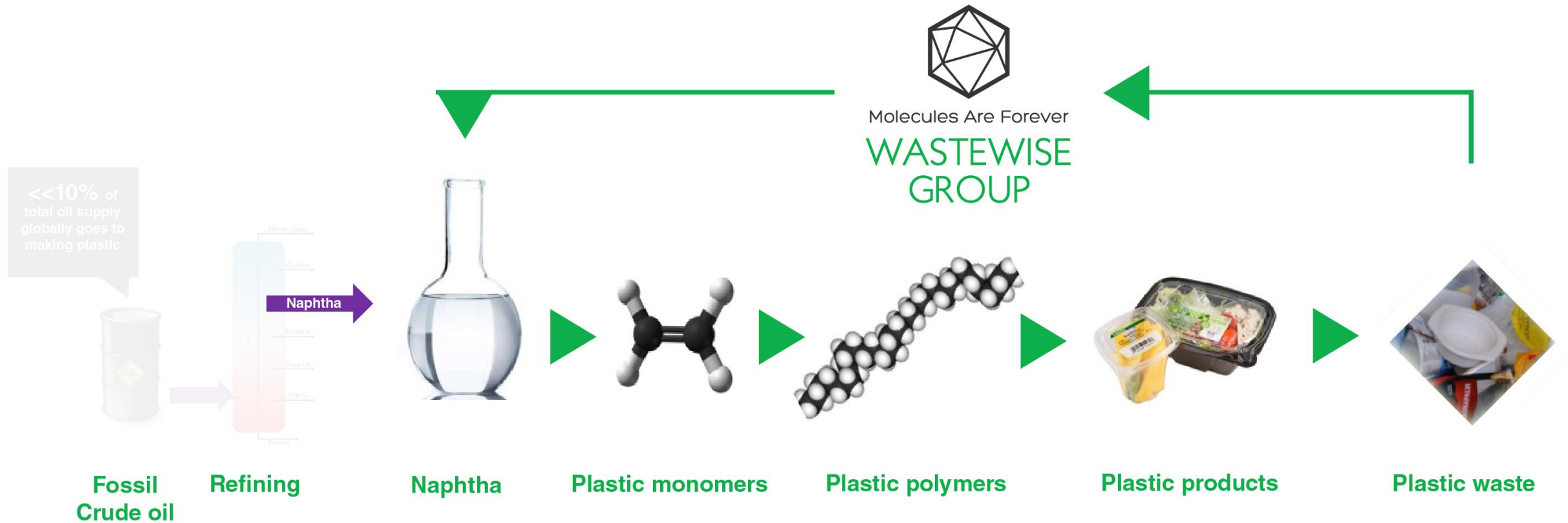
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# Plastic Industry needs a green transition!

- From linear to circular
- Mechanical and chemical recycling needed



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# Wastewise Turns Plastic waste To Raw Material Of Plastic

- Liquefying Mixed plastic waste to high quality naphtha like pyrolysis oil
- Our circular pyrolysis oil replaces fossil crude oil as a refinery feed in production of new plastic raw material
- By replacing plastic waste incineration with our process, we save > 1,7 ton CO<sub>2</sub>eq per ton of waste chemically recycled
- Our Production is ISCC Plus certified (scopes: collection point, processing Unit)

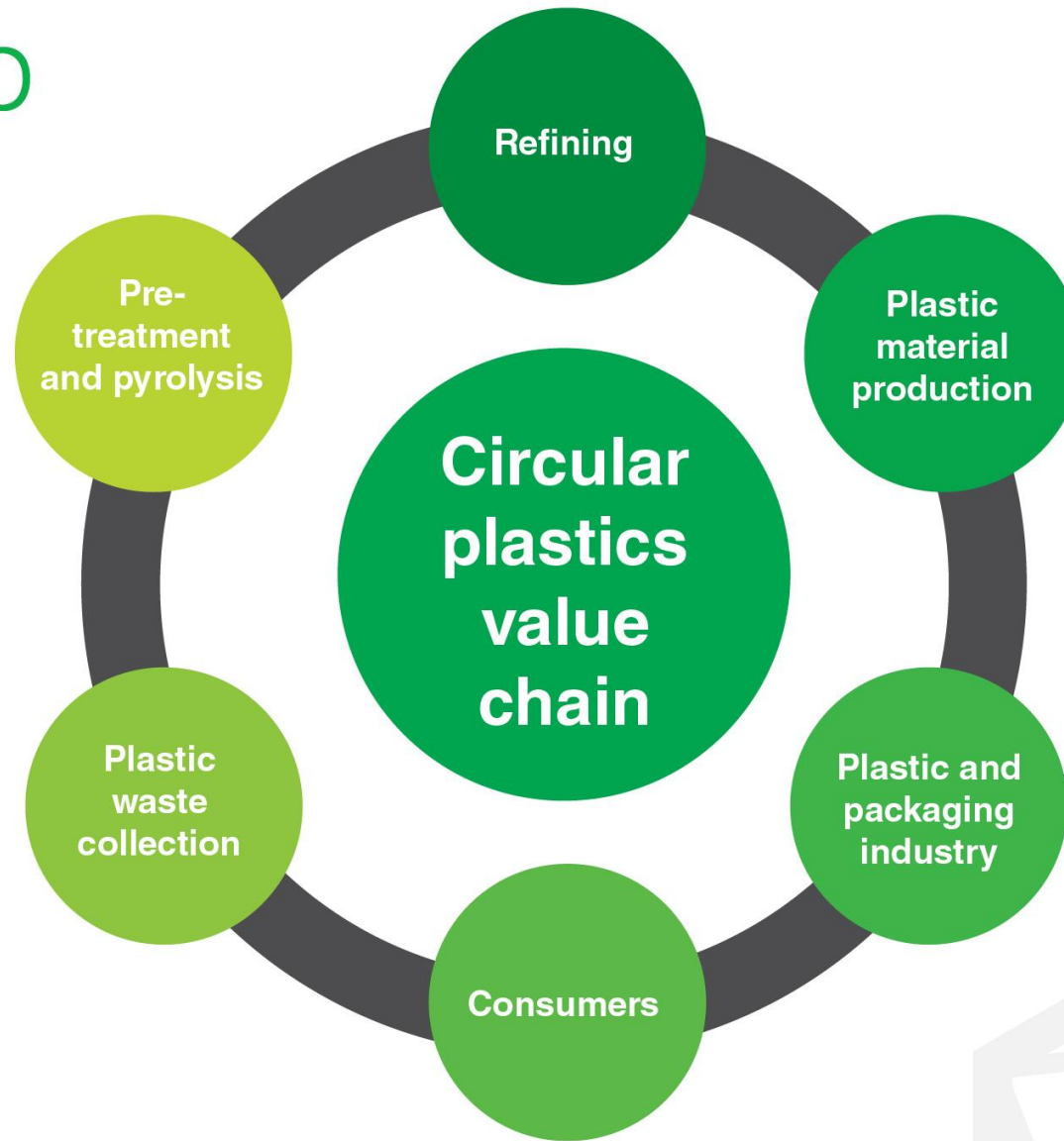


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# Closing the loop together with our partners

- enabling plastic industry to take their jump from fossil economy to a circular economy!



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## Chemical recycling of hard-to-recycle polymers: Turning PEX production waste into PEX pipes

**Neste, Uponor, Wastewise and Borealis have successfully produced pipes made of cross-linked polyethylene (PEX) which was based on feedstock gained from chemically recycled post-industrial waste plastic from PEX pipe production.**

Project among the first implementations of chemical recycling of PEX.

Little more than six months passed between project start and production of first pipes.

Partners will evaluate further opportunities for cooperation, including higher recycled volumes.

“We are very excited about this collaboration as it gives us a head start on our transition to circular materials. PEX is by far the material that has the most versatile application uses, thanks to its superior properties for the construction industry.”

**THOMAS FUHR**, Chief Technology Officer at Uponor





*Thank You!*

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