


HOW DO WE SOLVE OUR PLASTIC PROBLEM?

Susie Jahren

Research Manager, Polymer Chemistry SINTEF

We throw away
\$80-120 Billion
Dollars of plastic
packging each year



An underwater photograph showing a large amount of plastic waste floating in clear blue water. The waste includes several large, crumpled clear plastic bags, a blue plastic bag, and many smaller pieces of white and clear plastic. Sunlight filters through the water from the top right, creating bright reflections and illuminating the scene.

32% of all plastic ends
up in the environment

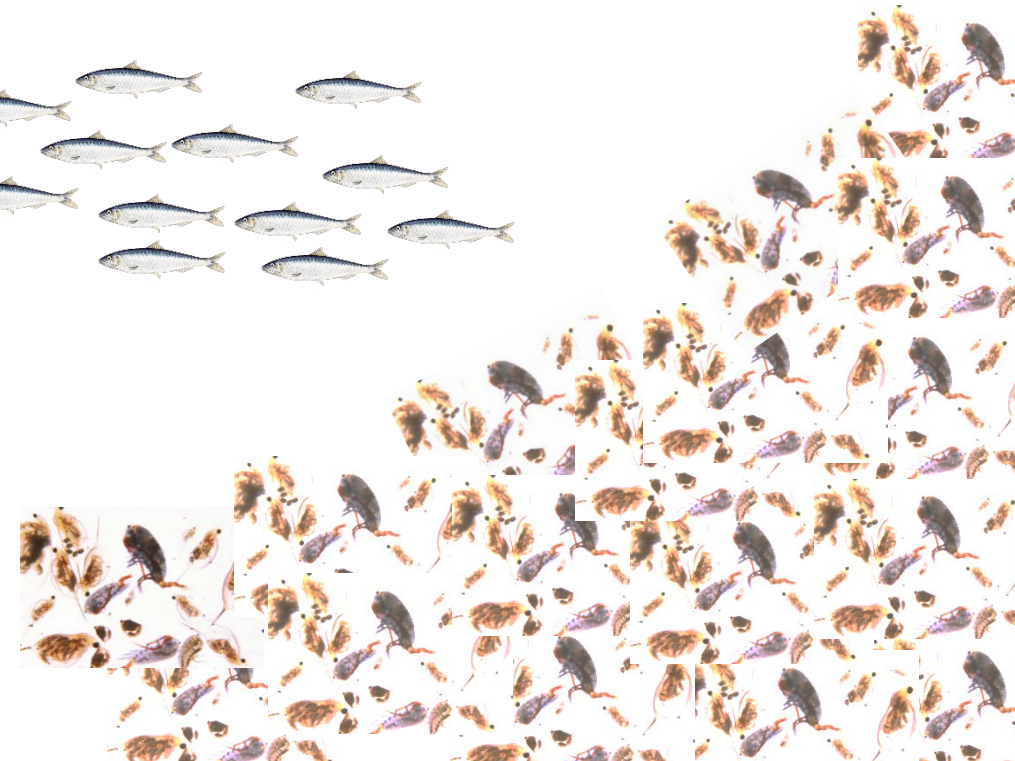
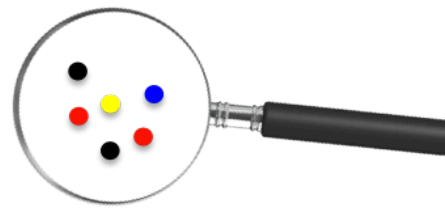
Macroplastic



Microplastic



Nanoplastic



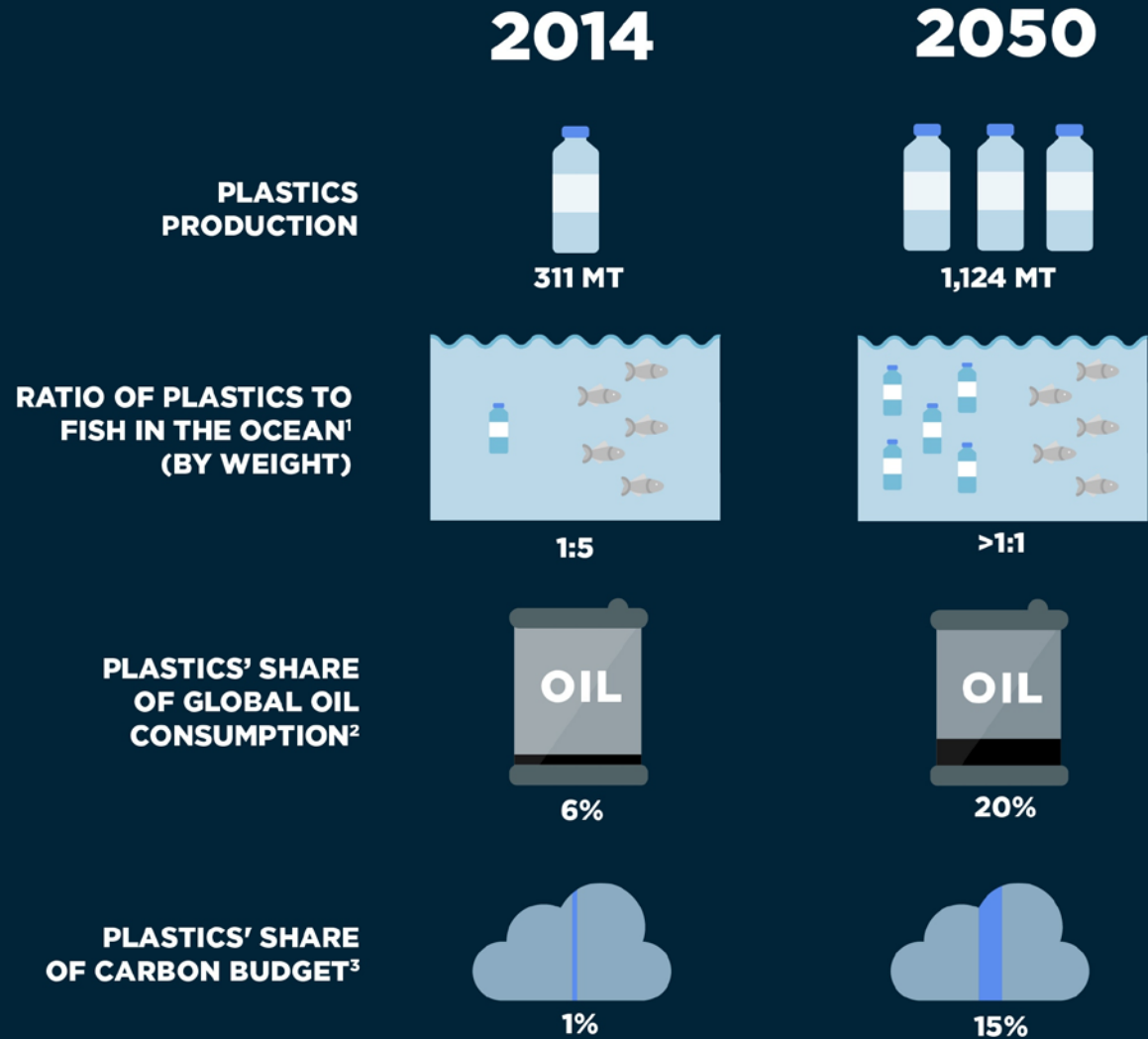
A translucent shrimp is shown from a dorsal view, oriented vertically. Its gut is filled with a bright, glowing green substance, indicating it has ingested fluorescently labeled microplastics. The shrimp's body is semi-transparent, revealing internal structures like the digestive tract. The background is a uniform brown color, with several small, bright green fluorescent particles scattered throughout, representing the microplastic 'junk food' mentioned in the text.

**Microplastic -junk food for
microorganisms!**

**Poor management of
waste is the cause of 80-
90% of all marine pollution**



WITH AN EXPECTED SURGE IN CONSUMPTION, NEGATIVE EXTERNALITIES RELATED TO PLASTICS WILL MULTIPLY





Food waste is responsible
for 14% of global GHG
emissions



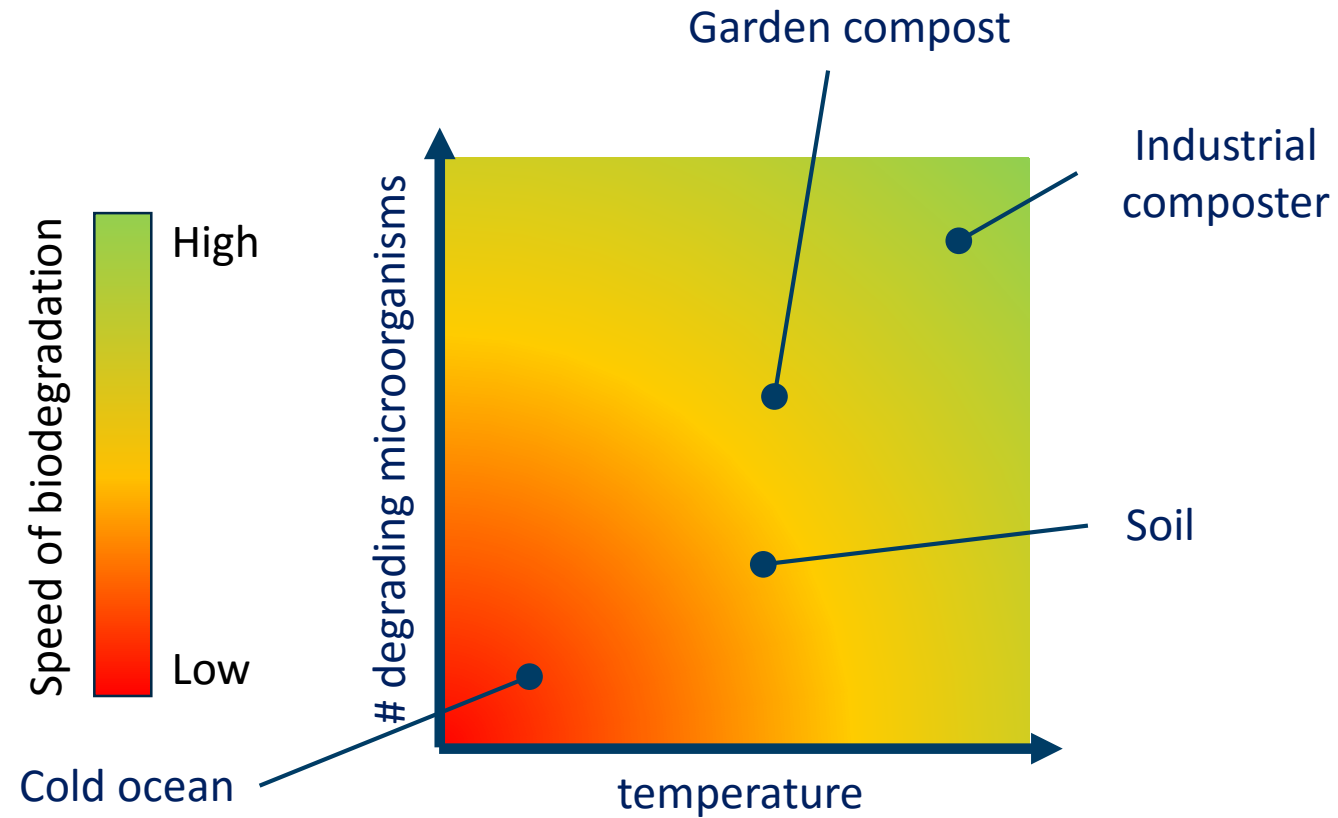


Are Biopolymers
the answer?





Biopolymer \neq Biodegradable



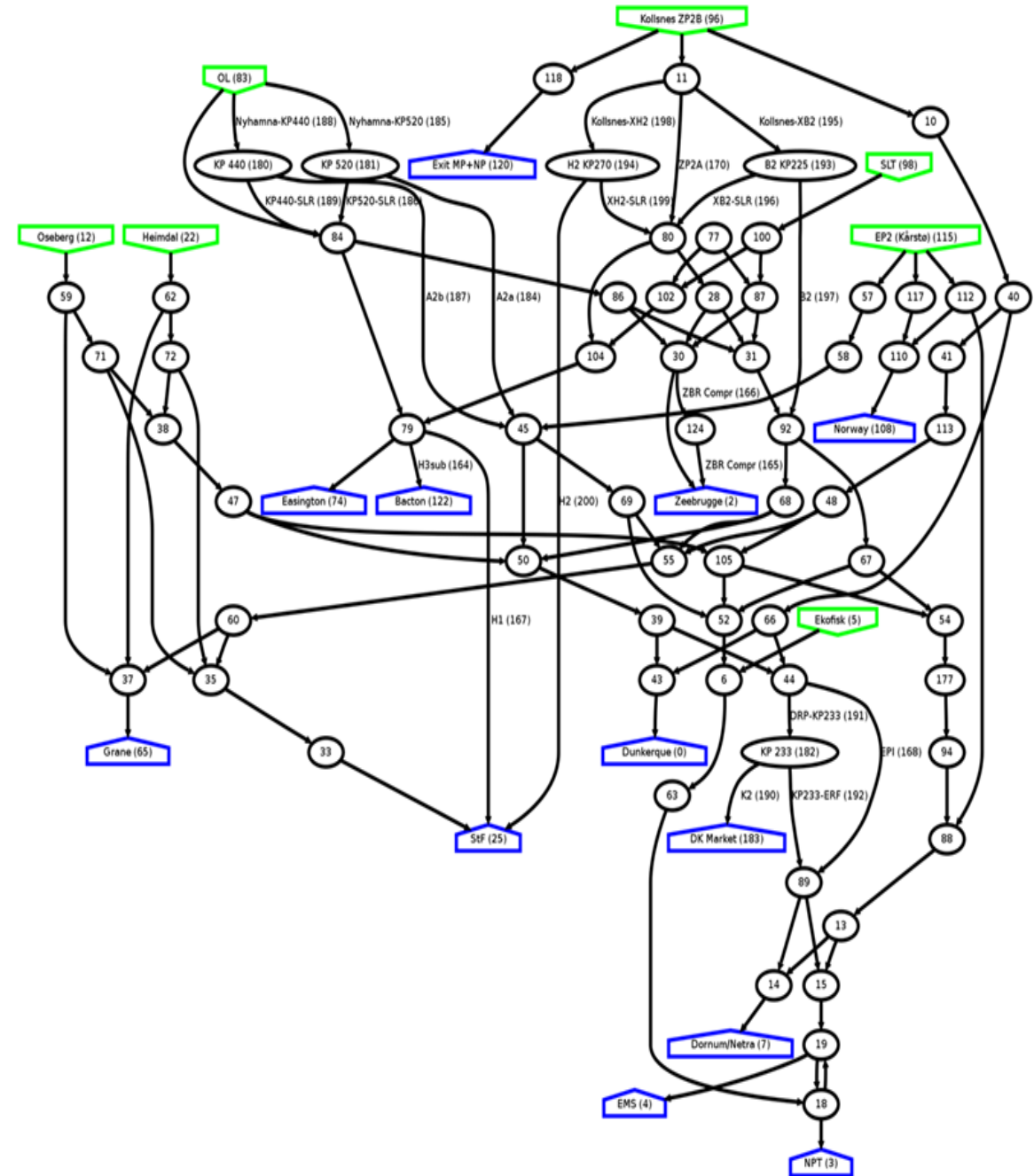
Biodegradable products are still an unwanted pollutant in the environment

Biodegradable products also represent a 'lost' resource

Increased recycling can
create an effective
after-use plastics
economy



Optimizing material flow, could create an income of \$700 Billion in extended FMCG value chains



Packaging and recycling technologies need to move towards a circular model



Creating a robust value chain of secondary use plastics is essential for the circular economy



A Global Plastic Protocol calls for harmonization across all producers of plastic goods





Thank you

Susie.Jahren@sintef.no



Teknologi for et bedre samfunn