Plastics (especially single-use) Will Be A Growing Issue

Seattle Public Utilities

Influential Reports and Work Groups

http://www.oceanconservancy.org/

The New Plastics Economy: Rethinking the future of plastics

ELLEN MACARTHUR FOUNDATION

The Ellen MacArthur Foundation works in Education & Training, Business & Government, Insight & Analysis, and Communications to accelerate the transition to a circular economy.

Non-Governmental Organizations Targeting Plastic Pollution

UPSTREAM

Real Change Starts at the Source

Media Attention Will Increase

Photo by Seattle Photographer
Chris Jordan

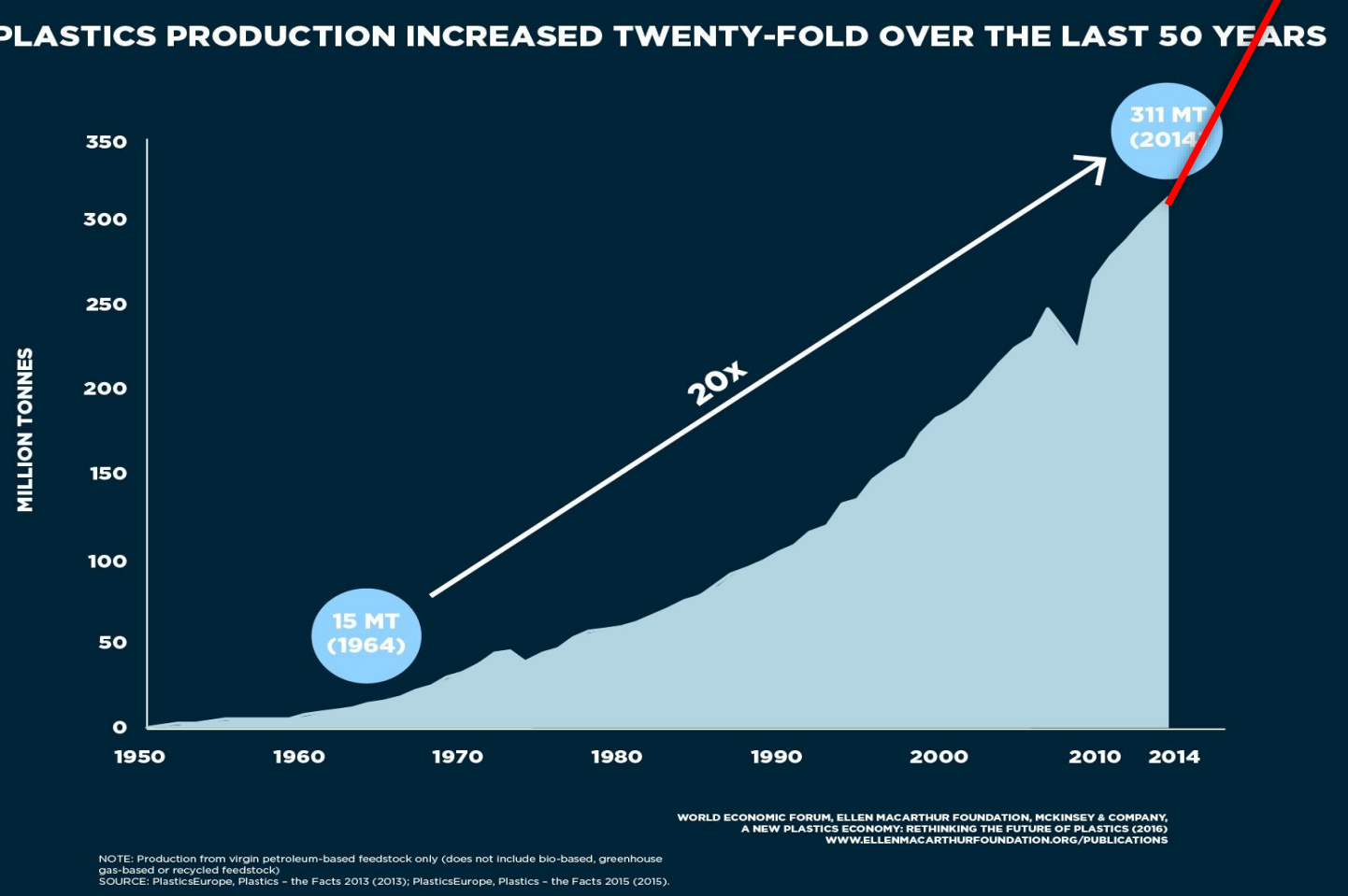
The Oceans Will Contain More Plastic Than Fish By 2050

According to a new report from the World Economic form and the Ellen MacArthur Foundation.

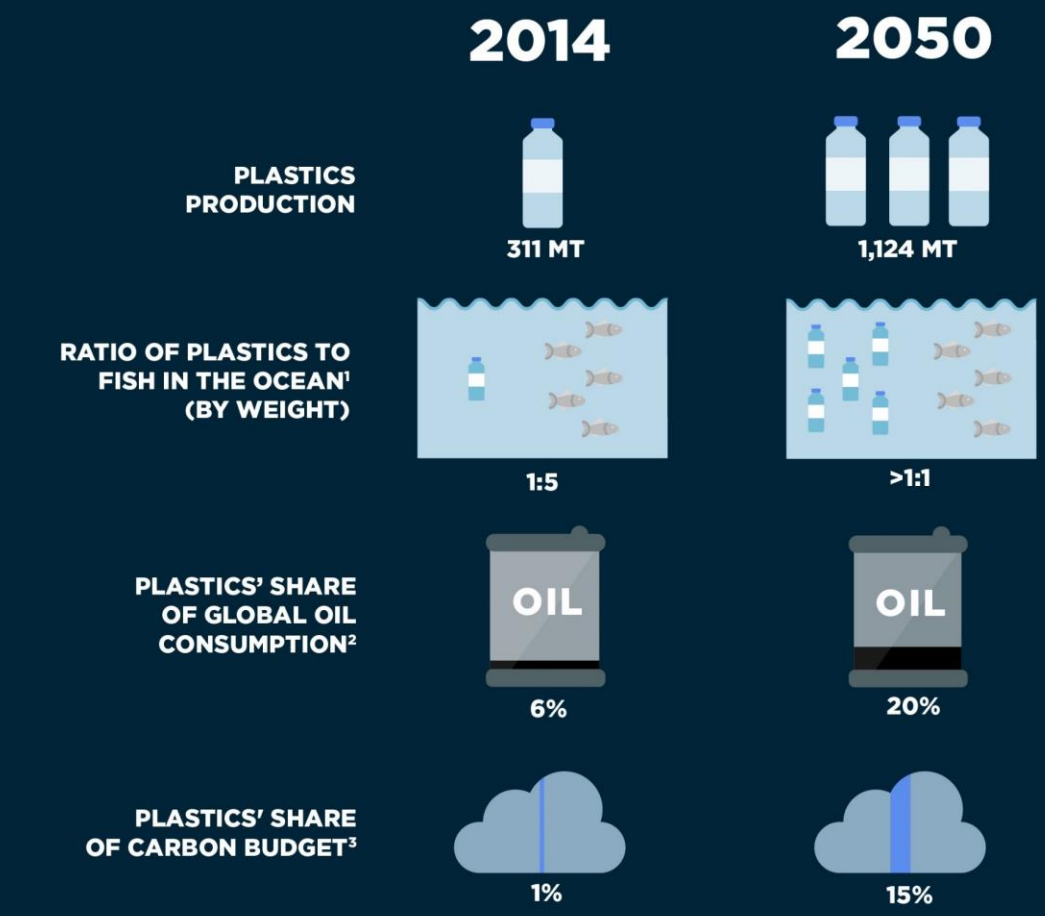
- **2050 = projected 400% increase in plastics production**
- **Half of all plastics go to single-use disposable applications**
- **1/3 wind up in the environment**

Sources: 1) New Plastics Economy. Ellen MacArthur Foundation; 2) Plastics recycling: challenges and opportunities. Hopewell, et Al. Royal Society Biological Sciences

Plastics Use Will Continue to Increase Rapidly



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



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WORLD ECONOMIC FORUM, ELLEN MACARTHUR FOUNDATION, MCKINSEY & COMPANY,
A NEW PLASTICS ECONOMY: RETHINKING THE FUTURE OF PLASTICS (2016)
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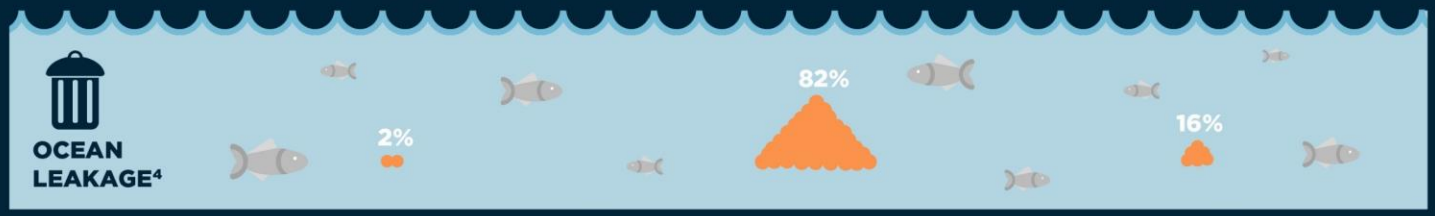
1 Fish stocks are assumed to be constant (conservative assumption)
2 Total oil consumption expected to grow slower (0.5% p.a.) than plastics production (3.8% until 2030 then 3.5% to 2050)
3 Carbon from plastics includes energy used in production and carbon released through incineration and/or energy recovery after-use. The latter is based on 14% incinerated and/or energy recovery in 2014 and 20% in 2050. Carbon budget based on 2 degrees scenario

Source: PlasticsEurope; ICIS Supply and Demand; IEA, World Energy Outlook (2015) (Global GDP projection 2013–2040 and Central 'New Policies' scenario oil demand projection 2014-2040, both assumed to continue to 2050); Ocean Conservancy and McKinsey Center for Business and Environment, Stemming the Tide: Land-based strategies for a plastic-free ocean (2015); J. R. Jambeck et al., Plastic waste inputs from land into the ocean (Science, 13 February 2015); J. Hopewell et al., Plastics recycling: Challenges and opportunities (Philosophical Transactions of the Royal Society B, 2009); IEA, CO2 emissions from fuel combustion (2014); IEA, World Energy Outlook Special Report: Energy and Climate Change (2015); Carbon Tracker Initiative, Unburnable Carbon (2013).

GLOBAL ACTION IS REQUIRED TO TRANSITION TO A NEW PLASTICS ECONOMY

	UNITED STATES & EUROPE	ASIA	REST OF WORLD
FMCG TOP 20 HQ[1]	85%	10%	5%
PLASTICS TOP 20 HQ[2]	95%		5%
PLASTICS PRODUCTION[3]	40%	45%	15%



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1 Headquarters of the global top 20 FMCG (Fast Moving Consumer Goods) companies (measured by 2014 global net sales)
2 Headquarters of the top 20 plastics and resin manufacturers (measured by 2015 global capacity)
3 Production of plastics material volumes (excluding thermoplastics and polyurethanes)
4 Source of plastics leaked into the oceans (proportion of the total global leakage measured in million tonnes of plastic marine debris leaked per year)

Source: PlasticsEurope, Plastics – the Facts 2015 (2015); Statista; ICIS Supply and Demand; J. R. Jambeck et al., Plastic waste inputs from land into the ocean (Science, 13 February 2015)