

Jeju International
Environment Plus Forum
2025

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Plastic Pollution, A Global Challenge & Responses

How Serious is Plastic Pollution?: The Scientific Truth

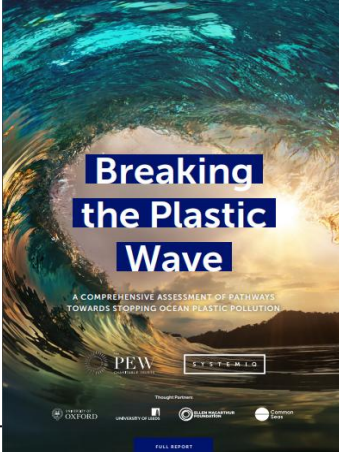
- The international and scientific community repeatedly warn of the severity and dangers of plastic pollution

▷ Plastic Pollution, Climate Change & Biodiversity Loss

The three greatest threats to human survival (the Triple Planetary Crisis)

Pew Research Center

A Comprehensive Assessment
On Ocean Plastic Pollution
(July 2020)



Science Journal

Special Issues on
Plastic Pollution
(Sept. 2020, July 2021, etc)



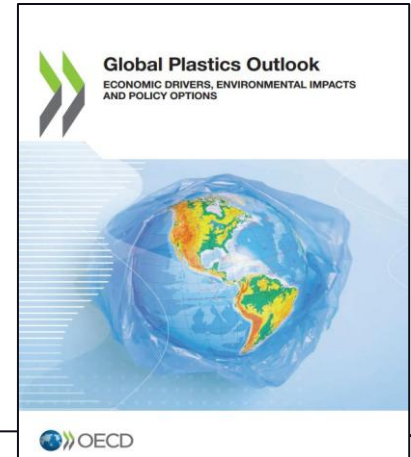
UNEP

A Global Assessment of
Marine Litter and
Plastic Pollution (Oct. 2021)



OECD

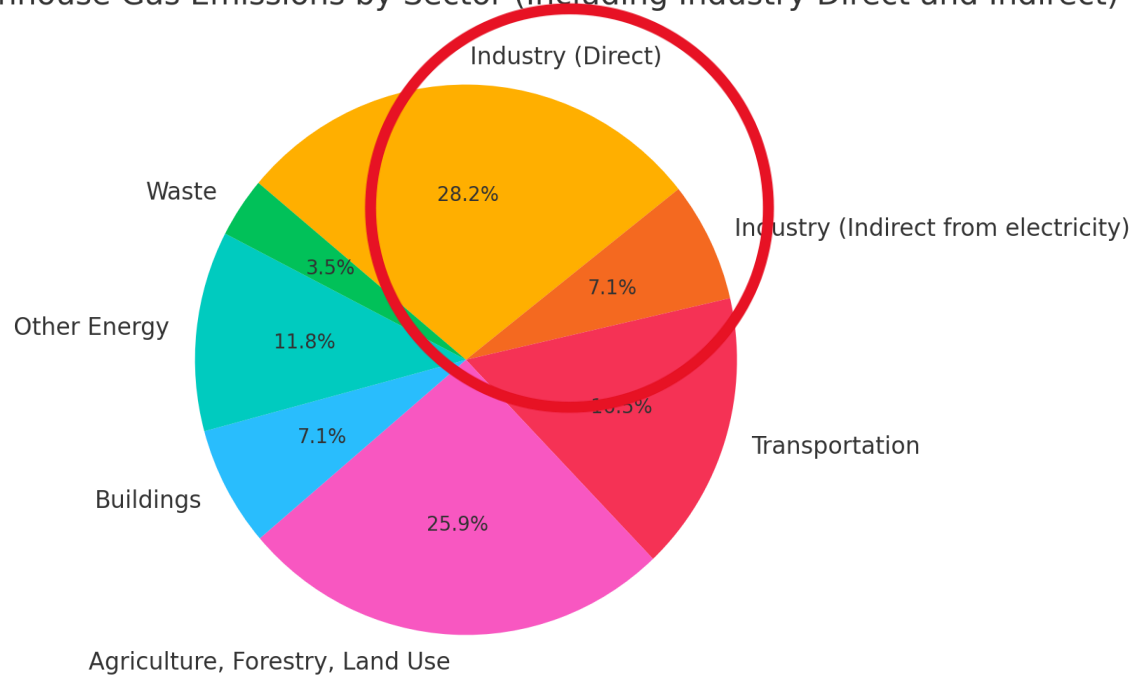
Economic Drivers,
Environmental Impacts
And Policy Options (May. 2022)



Plastic Pollution

Through the Lens of Carbon Neutrality and the Chemical Industry

Global Greenhouse Gas Emissions by Sector (Including Industry Direct and Indirect)



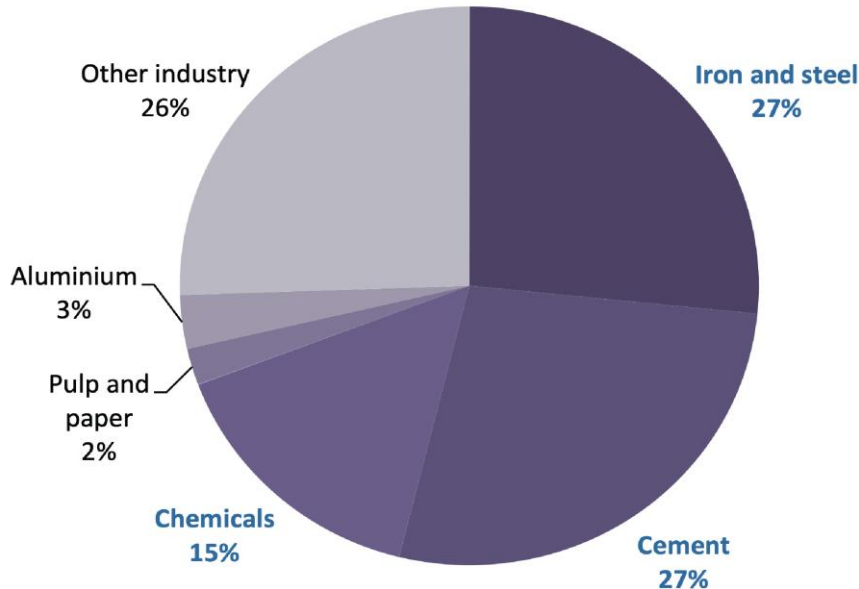
Industrial greenhouse gas emissions: over 1/3 of global greenhouse gas emissions



Net-zero by 2050: urgent effort is required to accelerate industrial decarbonization

Top Three Emitters of Greenhouse Gases: Steel, Cement and Chemicals

Share of Global Direct CO₂ Emissions by Industry Subsector



Steel: the backbone of construction, automotive, shipbuilding, machinery, and infrastructure industries since the industrial era

Cement: the foundation of cities, including buildings, roads and other facilities

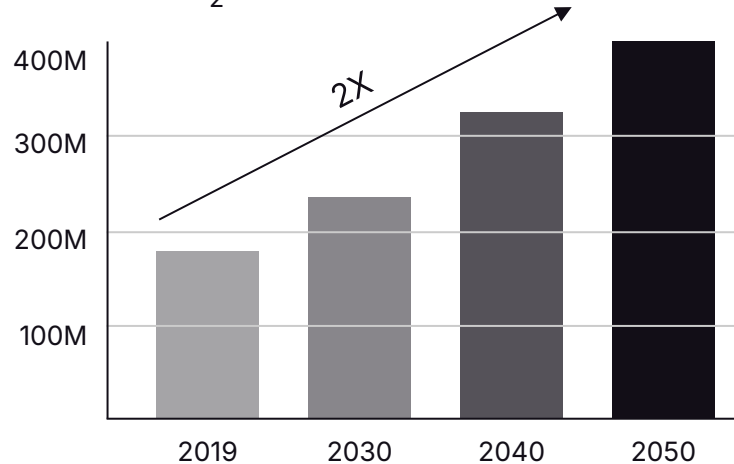
Chemicals: plastics, clothing, fertilizer, and various chemicals

The Chemical Industry Paradox:

Expectations of Continued and Significant Growth

A significant source
of climate pollution

Tons of CO₂ emitted



19%

Share of Global Greenhouse Gas
Emissions from Plastic-Related
Industries in 2040

Transforming the chemical industry to reduce emissions today and build a climate-aligned industry for the future



Make Less:

- Recycling
- Reuse
- Circularity
- Design efficiency solutions



Make Better:

- Process efficiency
- Energy efficiency
- Electrification



Make New:

- Alternative feedstocks
- End products
- Alternative production methods

International Community Response: 5th Session of United Nations Environment Assembly (UNEA-5)

UNEA-5, March 2022: Adopted Resolution 5/14 to pursue an “international legally binding instrument” to end plastic pollution

유엔, 2024년까지 ‘플라스틱 규제 협약’ 만들기로 결의...논의 진행상황은?

사 김효진 editor | ④ 입력 2022.03.03 17:43 | ④ 수정 2022.03.04 18:07 | ④ 댓글 0



에스펜 바스 아이드(Espen Barth Eide) 노르웨이 기후환경부 장관이 UNEA 회장은 2024년까지 법적 구속력이 있는 플라스틱 규제 협약을 만든다는 결의안 채택을 2일(현지시간) 발표했다. / UNEA

제5차 유엔환경총회(UNEA-5.2)에서 유엔 회원국은 2024년까지 법적 구속력이 있는 플라스틱 규제 협약을 만들기 2일(현지시간) 합의했다.

‘자연을 위한 행동 강화를 통한 지속가능발전목표 달성(Strengthening Actions for Nature to Achieve the SDGs)’을 주제로, 지난달 28일부터 2일까지 케냐 나이로비 유엔환경계획(UNEP) 본부에서 개최된 UNEA-5.2에는 175개 회원국의 정부대표단과 국제기구, 이해관계자 등 5000여 명이 온·오프라인으로 모여 주요 글로벌 환경 현안을 논하고 모범사례를 공유했다.

- Five sessions of the Intergovernmental Negotiating Committee (INC) were held with the goal of reaching an agreement by 2024 but failed. Efforts are set to resume in August 2025
- Around 170 UN member states participated, including China and the U.S., 1st and 2nd largest producers of plastic polymers (raw materials) and generators of plastic waste.
- Given the severity of the plastic pollution and its profound socio-economic impacts, the instrument is considered among the most significant multilateral environmental agreements since the UNFCCC in 1992.

Key Issues in UN Plastic Treaty Negotiations

1

Production of Plastic Polymers

- Setting global reduction targets (arguing that plastic pollution cannot be addressed without limiting production) vs. opposing production cuts (advocating recycling and improved waste management, etc.)
- At the closing ceremony of INC-5.1, over 100 states support for setting a global target to reduce the production of primary plastic polymers

2

Chemicals and Plastics of Concern

- The EU, Switzerland, Latin America, Africa called for stronger regulation on chemicals of concern and problematic plastics vs. Russia, Iran, and Saudi Arabia opposed any regulations of chemicals
- At the closing ceremony of INC-5.1, Over 90 states support for including a provision mandating the phasing out of chemicals of concern

The Implications for Korea



- ❑ **Plastics: recognized as a key factor in addressing pollution and climate change**
- ❑ **Full lifecycle management of plastics is essential—from production and consumption to recycling**
 - The plastics industry requires a fundamental transformation through a comprehensive approach that includes the deployment of clean energy, development of new technologies, and establishment of financing mechanisms and policy frameworks
- ❑ **Make Less, Make Better, Make New—delivering this vision while enhancing Korea's chemical industry competitiveness will require innovative strategies**

The current situation of the Korean petrochemical industry

- ✓ 5th globally by production value
- ✓ Post-2022 downturn driving deficits
- ✓ Ethylene prices down, impacting profitability
- ✓ Major Korean petrochemical companies seeing profit declines





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