Under Embargo until 1600 GMT 20th July 2016

Worldwide Extraction of Materials Triples in Four Decades, Intensifying Climate Change and Air Pollution

- *Richest countries consume on average 10 times as many materials as world's poorest*
- *Planet will need 180 billion tonnes of material every year by 2050 if trends continue*

20 July 2016 – Rising consumption fuelled by a growing middle class has seen the amount of primary materials extracted from the Earth triple in the last four decades, according to a new report by the United Nations Environment Programme-hosted International Resource Panel (IRP).

The dramatic increase in the use of fossil fuels, metals and other materials will intensify climate change, increase air pollution, reduce biodiversity and ultimately lead to the depletion of natural resources, causing worrying shortages of critical materials and heightening the risk of local conflicts, warns the report.

"The alarming rate at which materials are now being extracted is already having a severe impact on human health and people's quality of life," said IRP Co-Chair Alicia Bárcena Ibarra. "It shows that the prevailing patterns of production and consumption are unsustainable.

"We urgently need to address this problem before we have irreversibly depleted the resources that power our economies and lift people out of poverty. This deeply complex problem, one of humanity's biggest tests yet, calls for a rethink of the governance of natural resource extraction to maximize its contribution to sustainable development at all levels."

The information on material flows contained in the new report complements economic statistics, identifies the scale and urgency of global environmental issues and supports the monitoring of the progress countries are making towards achieving the Sustainable Development Goals (SDGs).

The amount of primary materials extracted from the Earth rose from 22 billion tonnes in 1970 to a staggering 70 billion tonnes in 2010, with the richest countries consuming on average 10 times as many materials as the poorest countries and twice as much as the world average.

If the world continues to provide housing, mobility, food, energy and water in the same way as today, by 2050 the planet's nine billion people would require 180 billion tonnes of material every year to meet demand. This is almost three times today's amount and will likely raise the acidification and eutrophication of the world's soils and water bodies, increase soil erosion and lead to greater amounts of waste and pollution.

The report also ranks countries by the size of their per-capita material footprints – the amount of material required for final demand in a country, an indicator that sheds light on the true impact of a country on the global natural resource base. It is also a good proxy for the material standard of living in a country.

Europe and North America, which had annual per capita material footprints of 20 and 25 tonnes in 2010, are at the top of the table. By comparison, China had a material footprint of 14 tonnes per capita and Brazil 13 tonnes.

The annual per-capita material footprint for Asia-Pacific, Latin America and the Caribbean, and West Asia is between 9 and 10 tonnes. Africa's footprint is below 3 tonnes per capita.

Global material use has rapidly accelerated since 2000 as emerging economies like China undergo industrial and urban transformations that require unprecedented amounts of iron, steel, cement, energy and construction materials.

Since 1990, there has been little improvement in global material efficiency. In fact, efficiency started to decline around 2000. The global economy now needs more material per unit of GDP than it did at the turn of the century because production has shifted from material-efficient economies such as Japan, South Korea and Europe to far less material-efficient economies like China, India and South East Asia. This has led to an increase in environmental pressure for every unit of economic activity.

The report, *Global Material Flows and Resource Productivity*, presents various ways the world can maintain economic growth and increase human development while reducing the amount of primary materials it uses to achieve this.

Decoupling escalating material use from economic growth is the "imperative of modern environmental policy and essential for the prosperity of human society and a healthy natural environment", states the IRP, which is a consortium of 34 internationally renowned scientists, over 30 national governments and other groups.

Decoupling, which will be necessary for countries to achieve the SDGs, requires well-designed policies. Investments in research and development, combined with better public policy and financing, will be essential. This will create significant economic opportunities for inclusive and sustained economic growth and job creation.

But increasing material efficiency alone is not enough. By lowering costs, greater efficiency will allow for higher economic growth and perhaps hamper efforts to reduce overall material demand. The IRP recommends putting a price on primary materials at extraction in order to reflect the social and environmental costs of resource extraction and use while reducing the consumption of materials. The extra funds generated could then be invested in R&D in resource intensive sectors of the economy.

Looking to the future, the IRP warns that low-income countries will require increasing quantities of materials to achieve the same level of development experienced by high-income countries. This expanding demand for materials will possibly contribute to local conflicts like those seen in areas where mining competes with agriculture and urban development.

NOTES TO EDITORS

Download a copy of the report here
Download a summary of the report for policymakers here

For more information and to arrange interviews, please contact:

Moira O'Brien-Malone, Head, Communications, UNEP Division of Technology, Industry and Economics, +33 1 44 37 76 12, mobile +33 6 82 26 93 73, moira.obrien-malone@unep.org

UNEP Newsdesk (Nairobi), +254 715 876 185, unepnewsdesk@unep.org