



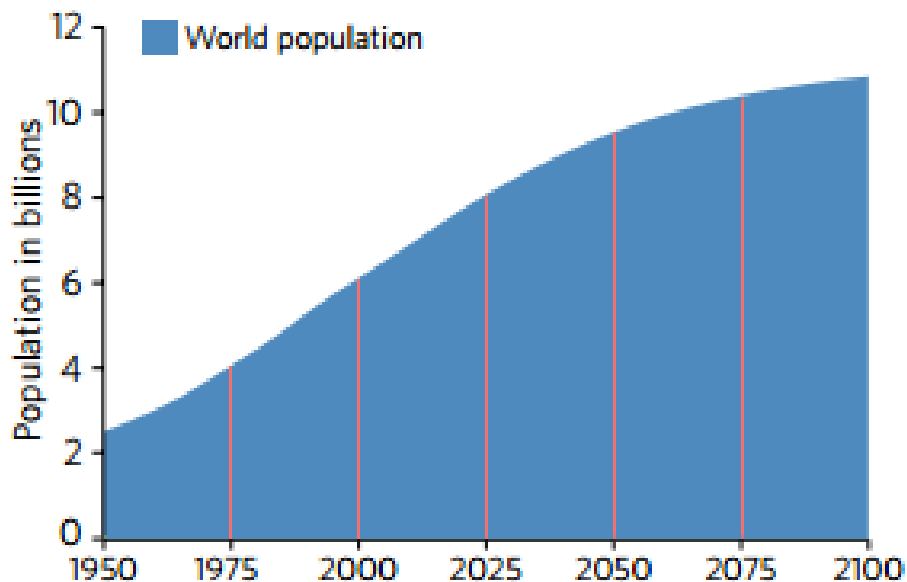
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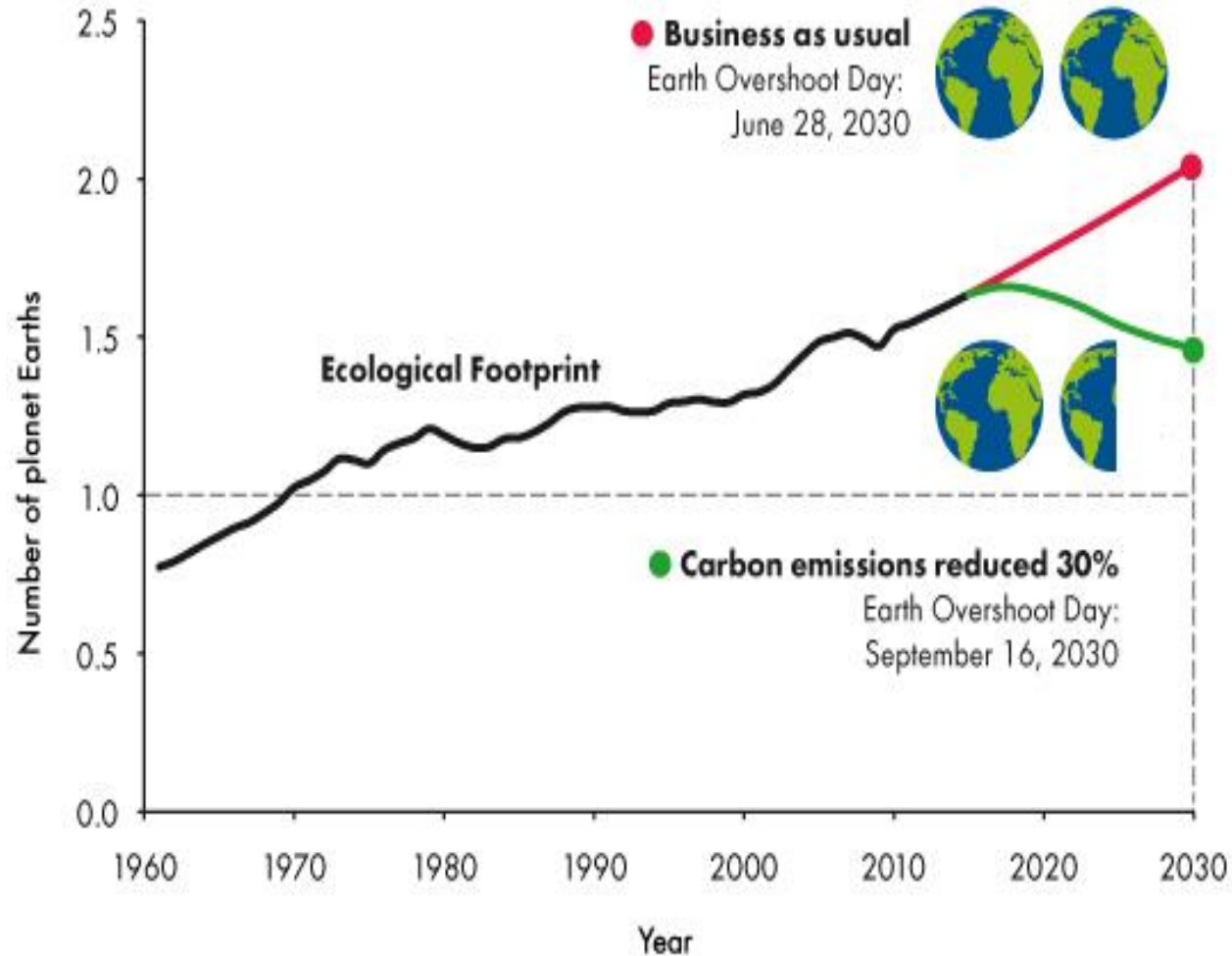
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## The world population is growing...



- The world population is growing by **1.18 percent per year**, or approximately an additional **83 million people** annually. The current global population stands at **7.6 billion**, projected to reach **8.5 billion** in 2030 and **9.7 billion** in 2050.
- Of the **additional 2.4 billion people** projected to be added to the global population between 2015 and 2050, 1.3 billion will be added in Africa and 0.9 billion in Asia.
- There is a downward trend in the fertility rate in low and middle-income countries. In 2015, the fertility rate in Kenya was 3.9 live births per woman, down from 7.9 in 1960.
- In 2015, the number of young people (under the age of 25 years) was **3.1 billion**, representing about 42 percent of the world's total population. Africa, Asia, and Latin America and the Caribbean are home to **90 percent** of the world's young people.

How many Earths does it take to support humanity?



- In 2012, the Earth's total biocapacity was **12.2 billion global hectares (gha)**, or **1.7 gha per person**, while humanity's Ecological Footprint was **20.1 billion gha**, or **2.8 gha per person**.
- This leads to an ecological deficit of **7.9 gha** or **1.1 gha per person**.

*(Source: World Wildlife Fund)*

## Consumption &amp; Production



- Global meat consumption per capita is expected to stagnate at 34.6 kg retail weight equivalent (r.w.e.) by 2026, an increase of less than half a kg r.w.e. compared to the base period (2014-2016)
- Nonetheless given high population growth rates in much of the developing world, total consumption is still **expected to increase by nearly 1.5% per annum**
- More than **9 billion tons** of plastic have been made since the 1950s and **only 9 percent** of plastic waste produced ended up recycled
- Between **10 -20 million metric tons** of plastic end up in the ocean every year, damaging species and ecosystems

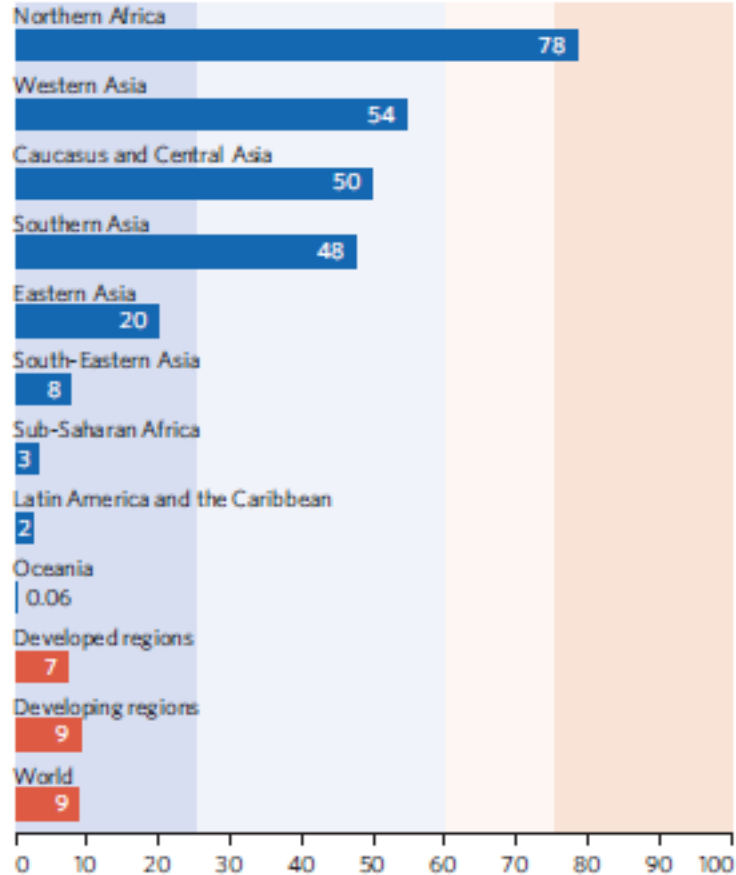
# Water scarcity is increasing



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Water scarcity affects more than 40 percent of the global population and is projected to rise

Proportion of renewable water resources withdrawn, around 2011 (percentage)



■ At 25 per cent: Abundant water resources  
 ■ 25 per cent to 60 per cent: Water stressed  
 ■ 60 per cent to 75 per cent: Water scarcity  
 ■ Above 75 per cent: Severe water scarcity



Projected increase by 2050 in demand for water as countries grow and urbanize



Number of people who live in river basins where water use exceeds recharge



Global groundwater sources already overexploited



Estimated percentage of the world population that could be living in water-stressed countries by 2025

Ocean Goods & Services are at significant risk

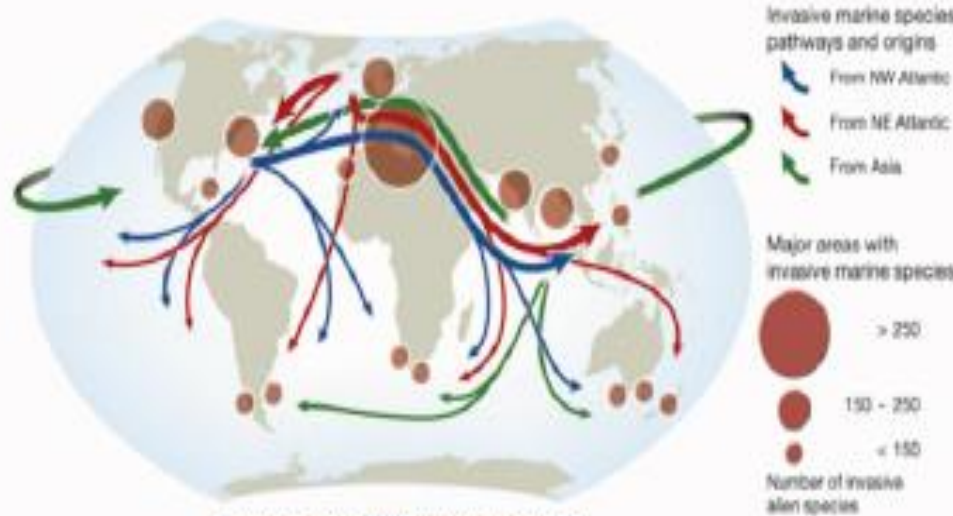


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**80%**  
of global fish stocks are fully exploited, overexploited or collapsed

**30%**  
increase in ocean acidity over the last 50 years is negatively impacting ocean ecosystems

**10-20 million mt**  
of plastics produced is entering the oceans every year, damaging species and ecosystems



Explosion of invasive marine species due to rapid growth of the shipping industry

**20%**  
of the world's coral reefs have already been lost and another 20% degraded

**500**  
coastal hypoxic areas have been identified, which result from an increase in nutrient loads to the oceans



# Current models of urbanization are unsustainable



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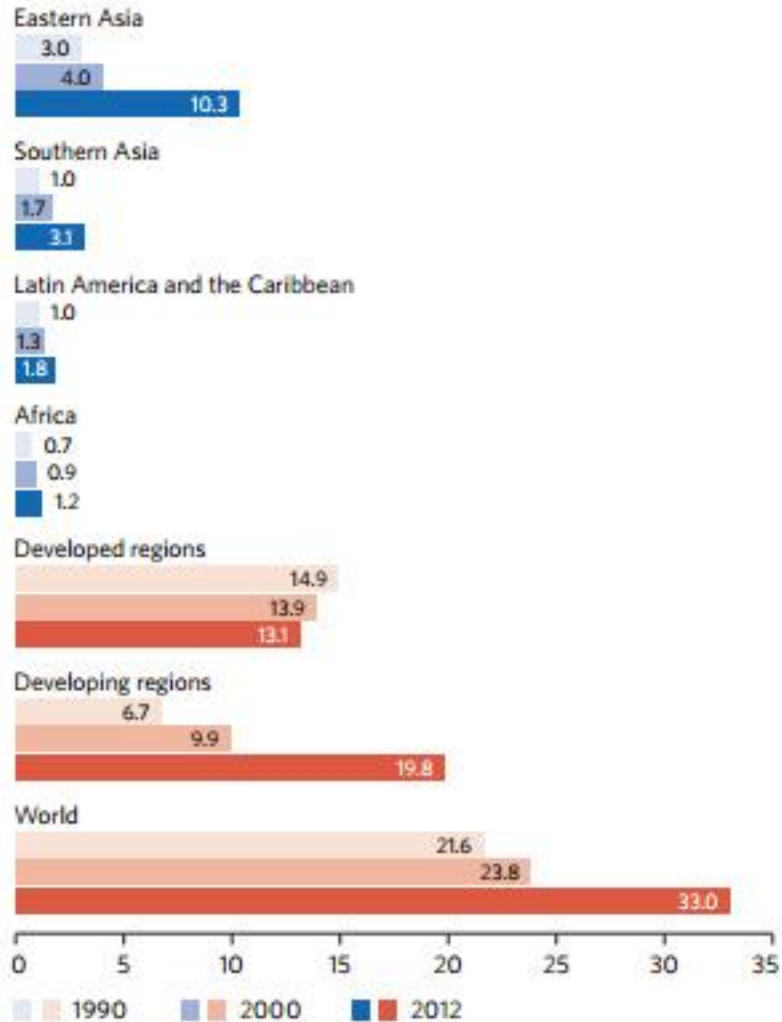
Persistent issues and emerging urban challenges include:

- Increased residency in slums and informal settlements (**880 million people** lived in slums in 2014)
- Challenges in providing urban services
- Exclusion and rising inequality
- Climate change
- Rising insecurity

**Failure to create appropriate institutional and legal structures to promote sustainable urbanization further exacerbates these challenges**



Emissions of carbon dioxide, 1990, 2000 and 2012\*  
(billions of metric tons)



\* Data for 2012 are preliminary estimates and the breakdown for some MDG regions is not available. Therefore, the regional estimates do not add up to the total.

- Continual increase in greenhouse gas emissions is projected to cause long-lasting changes in the climate system, threatening **severe and irreversible consequences** for people and ecosystems
- Between 1990 and 2012, global emissions of carbon dioxide increased by over **50 per cent**
- Impacts on natural and human systems: altered ecosystems and habitats; detrimental impacts on agriculture, potentially leading to food shortages; and more and longer lasting weather extremes and natural disasters, along with numerous risks (livelihoods, health) to society
- People living in poverty and those just barely above the poverty line are already the **most at risk** from climate change. They have the fewest resources to adapt or recover quickly from shocks



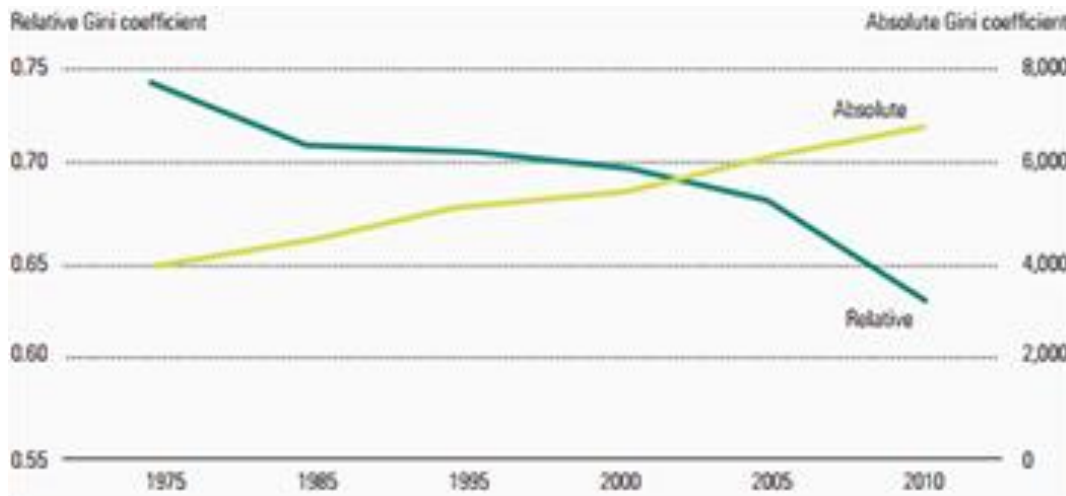
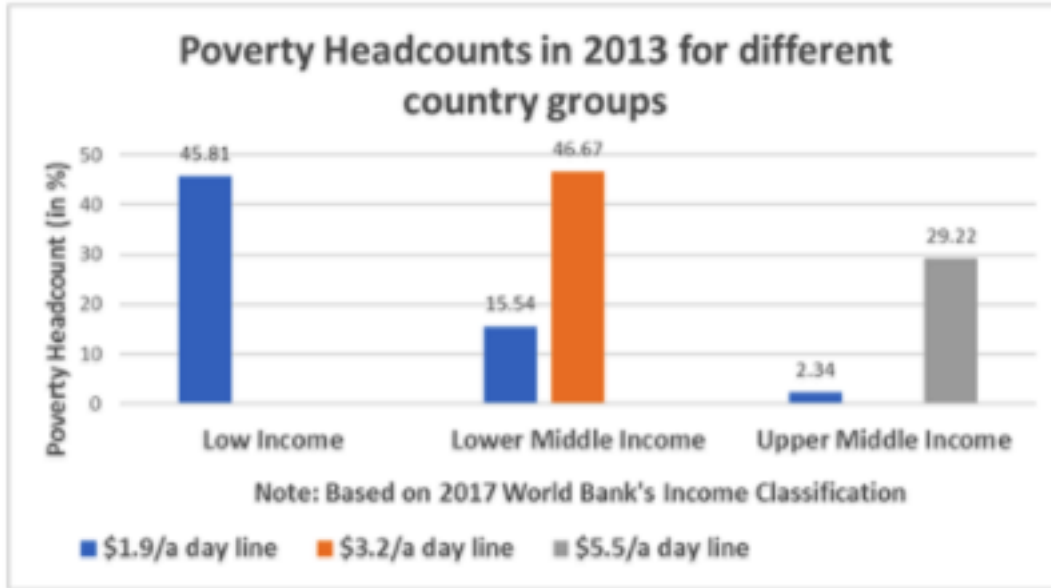


- The number of people without access to electricity fell to **below 1.1 billion** people for the first time in 2016, with nearly 1.2 billion people having gained access since 2000, 500 million of which were in India
- **New investments in renewables** totaled US\$241.6 billion in 2016 (excluding large hydro). Total energy investment worldwide in 2016 was just over \$1.7 trillion
- An estimated **2.8 billion** do not have access to clean cooking facilities. A third of the world's population – **2.5 billion people** – rely on the traditional use of solid biomass to cook their meals. Around **120 million** people use kerosene and **170 million** use coal

# Over half of the extreme poor live in middle-income countries



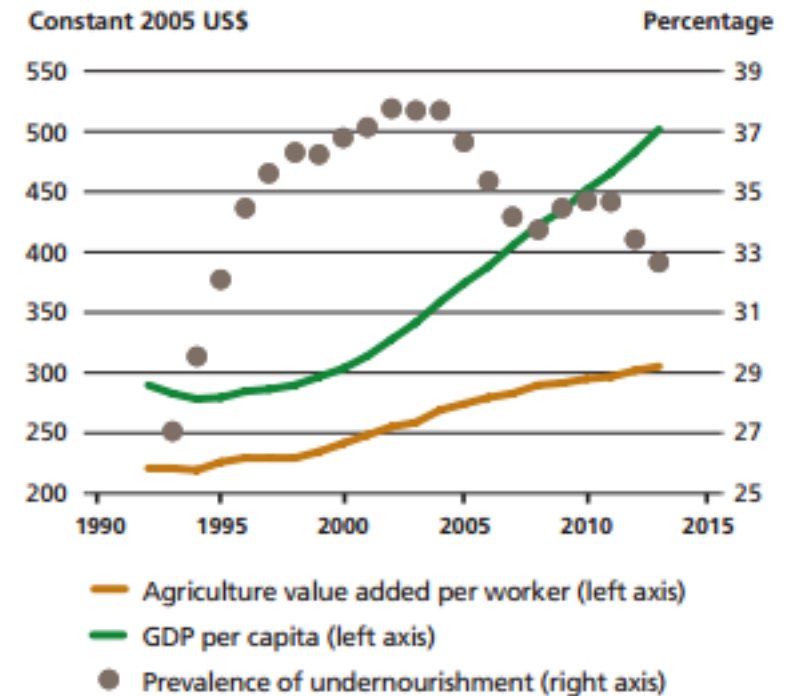
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- Using the International Poverty Line (\$1.90/day), the incidence of poverty in **low-income countries is 45.8%**. Using the \$3.20 line, the incidence in **lower middle-income countries is 46.7%**. For **upper middle-income countries, the incidence at \$5.50 is 29.2%**.
- 900 million people** live close to the threshold of **multidimensional poverty** and risk falling into poverty after even a minor setback in health, education or livelihood.
- Absolute inequality**, measured by the absolute Gini coefficient, **has increased dramatically** since the mid-1970s. Since 2000, 50 percent of the increase in global wealth benefited only the wealthiest 1 percent of the world's population. Conversely, the poorest 50 percent of the world's population received only 1 percent of the increase.

- Food insecurity persists with the number of chronically undernourished people in the world estimated to have increased to **815 million** in 2016, up from 777 million in 2015
- Stunting still affected one out of four children under the age of five years, or **155 million** children in 2016.
- Two regions account for nearly 90 percent of all underweight children in 2015—half live in **Southern Asia** and one third in **sub-Saharan Africa**
- Vulnerability to natural disasters and civil conflict, seasonal or volatile changes in food prices, and climate change exacerbate food insecurity

Agricultural productivity, GDP per capita and prevalence of undernourishment, United Republic of Tanzania, 1992–2013



Sources: FAO and World Bank.

# Unemployment is increasing



- The number of unemployed persons globally in 2017 is forecast to stand at just over **201 million** – with an additional rise of 2.7 million expected in 2018 – as the pace of labour force growth outstrips job creation
- The number of workers in vulnerable employment stands at **1.4 billion** worldwide and is projected to grow by 11 million per year, with Southern Asia and sub-Saharan Africa being the most affected
- The number of global unemployed youth stood at **71 million** in 2016 and is expected to remain at this level in 2017. In the next 15 years young people worldwide will need **600 million jobs**.
- A **transition to a greener economy could create 15–60 million additional jobs** over the next two decades, which would lift millions of workers out of poverty (ILO, 2012)

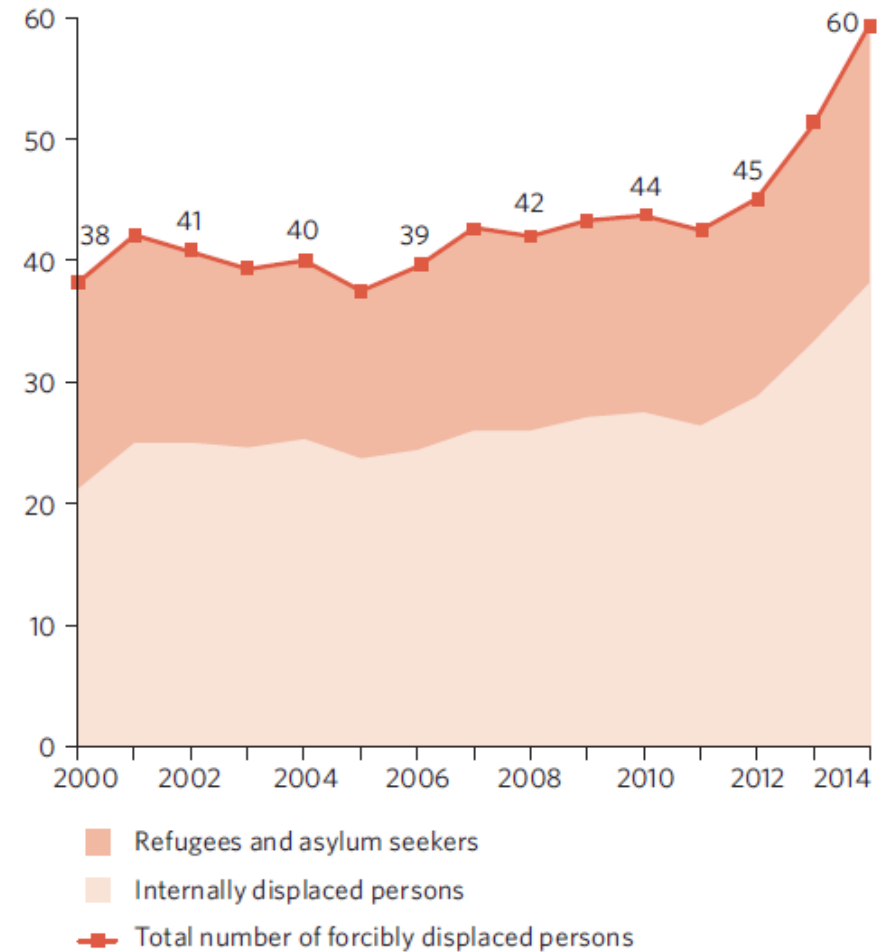


- A number of environmental factors influence the spread of communicable diseases that are prone to cause epidemics, including water supply, sanitation facilities, food and climate.
- Unsafe water, unsafe sanitation and lack of hygiene also remain important causes of death, with an estimated **871,000** associated deaths occurring in 2012
- In 2015, there were an estimated **212 million malaria cases** globally, translating into an incidence rate of **94 per 1000 persons** at risk. The estimated malaria deaths globally stood at 429,000



- In 2015, there were **244 million** international migrants globally
- By the end of 2014, almost **60 million people** had been forcibly displaced worldwide, the highest level recorded since the Second World War
- Currently, **65 million people** worldwide are forcibly displaced people, of whom 21.3 million are refugees, 40.8 million are IDPs and more than 3 million are asylum seekers
- The average length of displacement is **17 years**
- Drivers of migration are multiple and complex. They can be **economic, social, political** and/or **environmental**
- Average yearly displacement by climate change, disasters and environmental degradation: **22.5 million**

Number of forcibly displaced persons, 2000–2014 (millions)



Source: UN Millennium Development Goals Report 2015

# Plummeting costs for renewable energy technologies



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- **Plummeting costs for renewable energy technologies** are making a global energy transition not only possible, but actually less expensive than the alternative.

Examples:

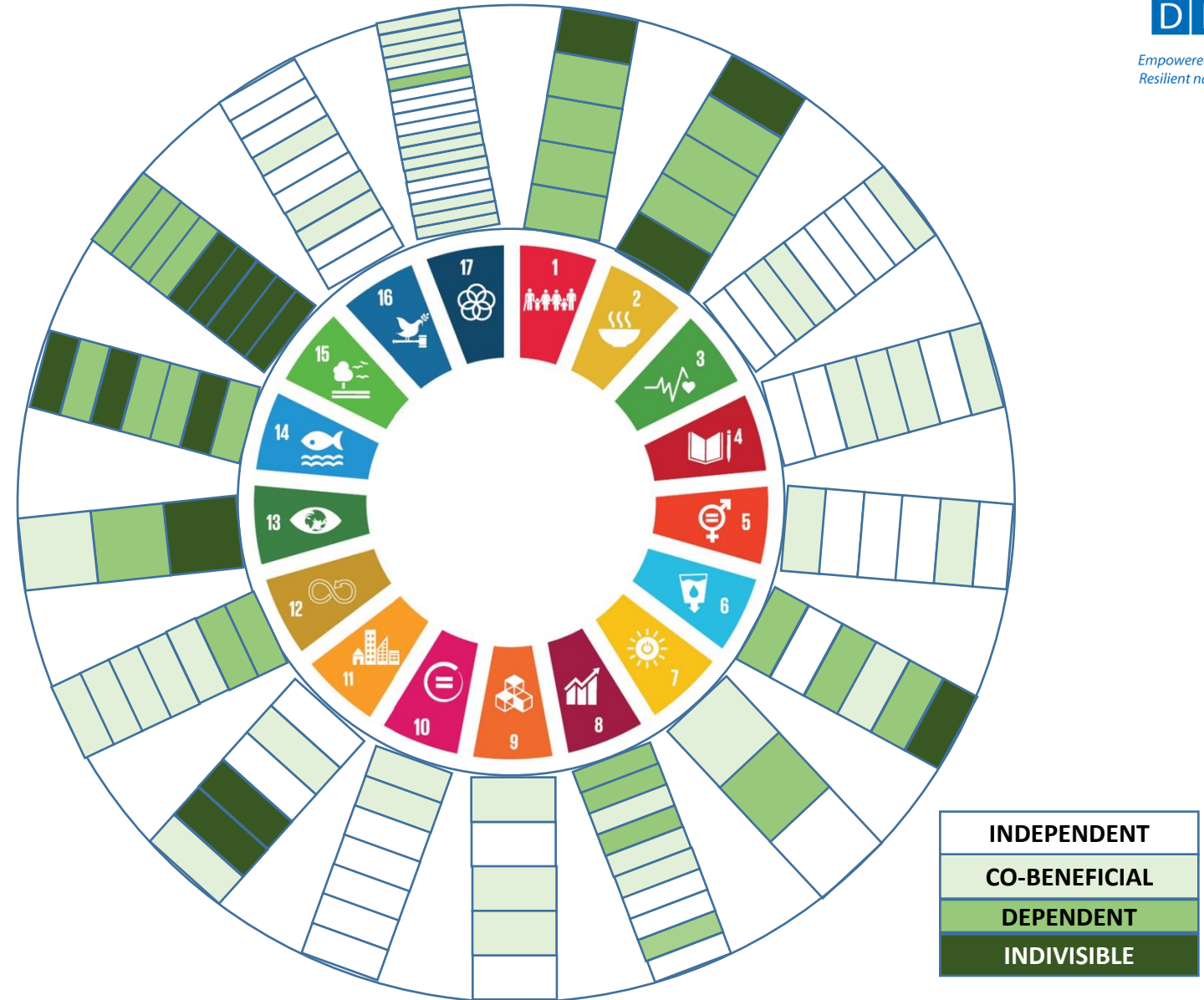
- In Australia, a country with the world's fourth largest coal reserves, producing onshore wind energy was **14 percent** cheaper than new coal and **18 percent** cheaper than new gas in 2013.
- In Egypt, a tender for onshore wind generated electricity resulted in bids as low as USD 4 cents per kilowatt hour, compared to USD 7-19 cents for fossil power plants, including externalities

- **Wealth:** Total global wealth as measured by Credit Swiss is US\$256 trillion.
- **Global infrastructure investment** needs to reach \$94 trillion by 2040 to keep pace with profound economic and demographic changes across the globe. Add the SDGs of universal provision of clean water, sanitation, and electricity, and the total cost rises to \$97 trillion
- **Green bonds** have reached US\$180 billion in outstanding issuances (labelled) by year-end 2016. Unlabeled green bonds stand at US\$694 billion





- **Nature underpins development:** Goals on poverty, food, water, sustainable consumption, climate, health and cities cannot be met without biodiversity.
- **Climate:** Forests sequester up to a third of carbon emissions
- **Health:** 3 out of 5 people depend on forest medicinal plants, and 50,000 pharmaceuticals are forest-derived
- **Water:** more than 3200 cities could improve their water security through forest protection
- **Livelihoods:** fisheries employs one out of eight people on the planet, and forests sustain 1.8 billion livelihoods





**THANK YOU!**



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