HS 200
Environmental Studies

Environmental Economics

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Overview

- Course objectives and motivation
- Course outline
  - **Microeconomic theory**
    - Externalities and market failure; Economic instruments
    - Public goods and common resources
  - **Macroeconomic theory**
    - Economic growth and environment
    - Natural resources accounting
    - Introduction to tools of analysis
  - Sustainable development; Climate change
  - Current scenario – (i) Global (ii) Indian
  - **Main reference**: Mankiw, G. (2012): Principles of Economics, 6th edn.
  - Additional references will be mentioned in class and on the slides

Rationale

- Why is it important?
  - Scarcity of natural resources
  - Excessive degradation of the environment – pollution, deforestation, etc.
- In formulating strategies for achieving sustainable development, the interrelationship between the economy and the environment needs to be understood.
- UN defines sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- For sustainable development to be achieved, it is crucial to harmonize three core elements**: economic growth, social inclusion and environmental protection**. These elements are interconnected and all are crucial for the well-being of individuals and societies.

Rationale

- The United Nations Conference on Sustainable Development - or Rio+20 – took place in Rio de Janeiro, Brazil in June 2012. It resulted in a focused political outcome document which contains clear and practical measures for implementing sustainable development.
- Rio+20 focused on two themes:
  - A Green economy in the context of sustainable development and poverty eradication
  - The institutional framework for sustainable development
- In Rio, the Member States decided to launch a process to develop a set of Sustainable Development Goals (SDGs), which would build upon the Millennium Development Goals and converge with the post-2015 development agenda.
- Growing recognition of the need to formulate strategies for achieving the 17 Sustainable Development Goals or SDGs (or Global Goals)

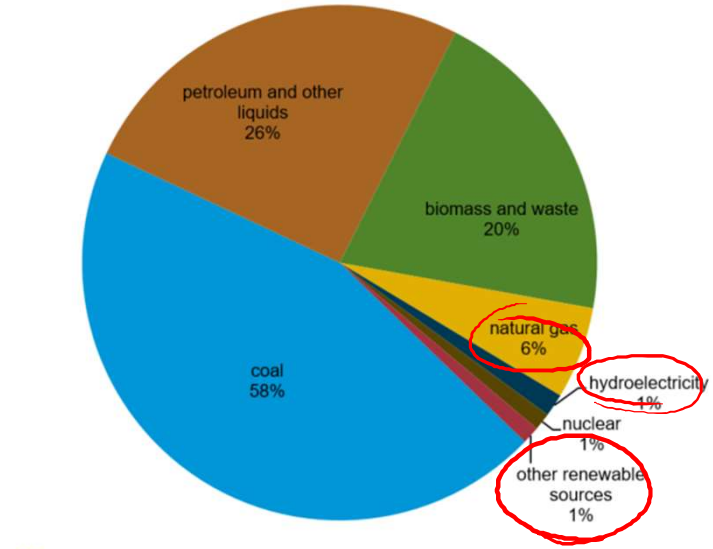
Rationale

- On 1 January 2016, the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development – adopted by world leaders in September 2015 at an historic UN Summit – officially came into force. Over the next fifteen years, with these new Goals that universally apply to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind.
- Focus of SDGs –
  - Eradicate poverty – associated goals (4)
  - Sustainable growth and development – climate action, clean energy (7)
  - Shared prosperity and economic growth (6)
- Developed vs. developing countries
  - Should developed or developing countries bear the burden of reducing emissions?
  - Developing countries can benefit being late starters, with proper planning and perspective about "ideal" mix of the use of resources, preservation of their environment and achieve economic development

India – Some facts

- India was the third-largest energy consumer in the world after China and the United States in 2018 (Ref: *BP Statistical Review of 2019).*
- Primary energy consumption in India has nearly tripled between 1990 and 2018, reaching an estimated 916 million tons of oil equivalent.
- Coal continued to supply most (45%) of India's total energy consumption in 2018, followed by petroleum and other liquids (26%), and traditional biomass and waste (20%).
- Although natural gas accounts for 6% of the country's energy consumption, India plans to boost the natural gas market share to 15% by 2030 as part of the country's plan to reduce air pollution and use cleaner-burning fuels.

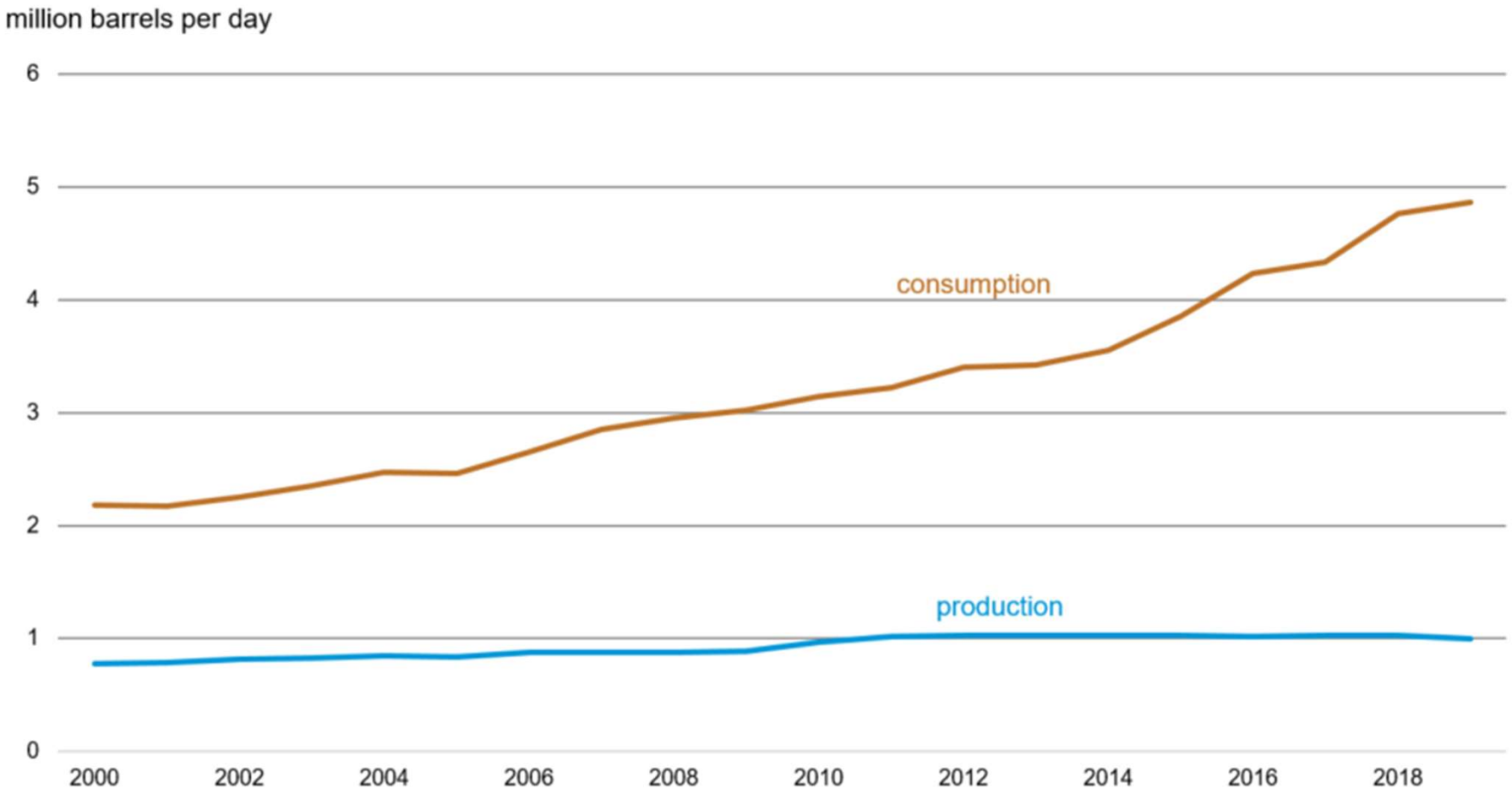
Figure 1. India total primary energy consumption by fuel type, 2019



eia Source: International Energy Agency, World Energy Outlook 2019

India – Some facts

Figure 2. India's petroleum and other liquids production and consumption, 2000-2019



eia Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, September 2020

Thank you