



ERASMUS+

ACTIVITY P6: Find information in power
supplier companies about economics cost
of clean energy
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WHAT ARE THE ECONOMIC BENEFITS OF CLEAN ENERGY

- Clean energy initiatives, including those that advance energy efficiency, renewable energy and clean distributed generation can:
 - Lower energy costs.
 - Increase personal disposable income.
 - Increase revenue for businesses.
 - Increase income, employment, and output.
 - Reduce fuel costs and new electric power plant construction costs.
 - Reduce health care costs as a result of better air quality and
 - public health.

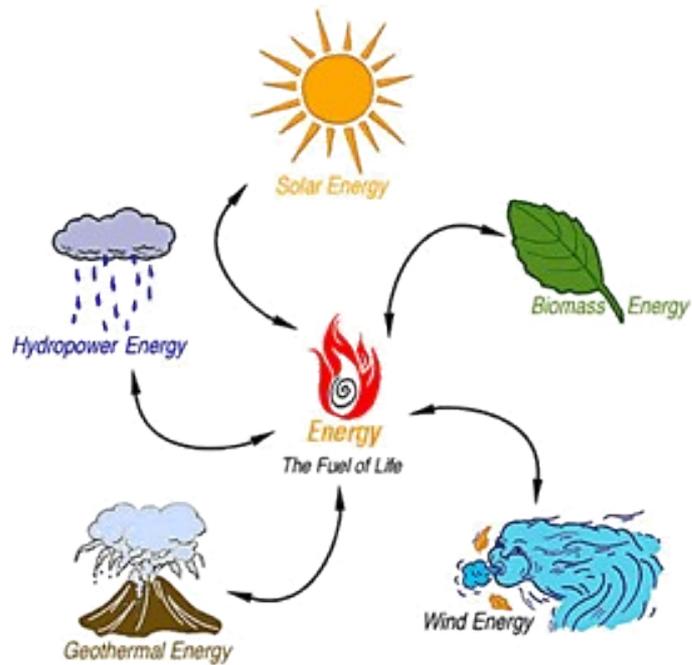
HOW DO CLEAN ENERGY INITIATIVES BENEFIT THE ECONOMY

- **Direct Economic Benefits:** Companies that provide the equipment, technologies, and services needed to implement an initiative benefit from increased demand, which increases their revenue and their ability to hire more people. In the case of energy efficiency, consumers and companies both benefit by spending less money on electricity.
- **Indirect Economic Benefits:** Suppliers to clean energy equipment and service providers benefit as demand for their inputs and revenues increase. With higher demand, these suppliers may also hire more workers.
- **Induced Economic Benefits:** Income generated from the direct and indirect effects is spent in the regional economy, such as when employees use their paychecks to buy groceries, eat out, and entertain themselves, all of which support jobs in those sectors.

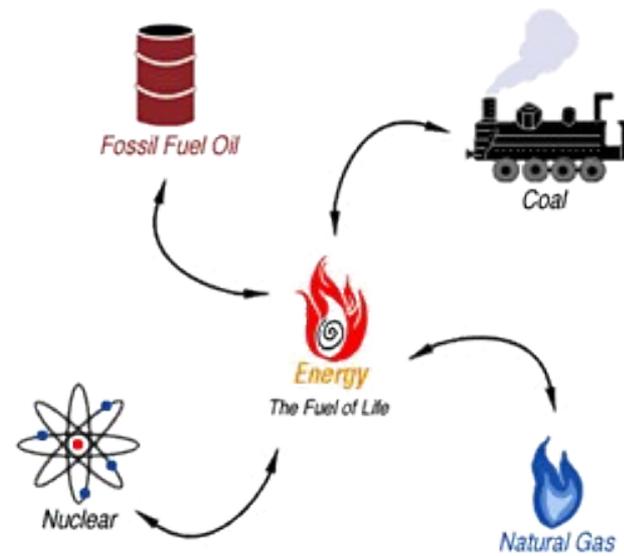
MOST USUALL ENERGIES POWER

- Fossil fuels, namely crude oil, natural gas and coal, are the world's number one source of energy. Despite being a non-renewable source, there is still a high demand for fossil fuels due to their affordability and reliability. From heating and lighting homes to fueling vehicles, fossil fuels play an integral role in energy production and the global economy.

Renewable Energy



Non-Renewable Energy



THE ECONOMICS OF SOLAR POWER

- Currently, only two types of solar technology exist that are capable of converting the sun's energy into a source of power: solar thermal and photovoltaic. Solar thermal collectors absorb the sun's radiation in order to heat a home or water. Photovoltaic devices use sunlight to replace or supplement the electricity provided on the utility grid.

SOLAR ENERGY

- Until recently, solar energy systems were only accessible to the wealthy or fanatical. However, due to sharply declining costs, universal access to solar paneling systems is becoming a reality. In the early 2000s, the average U.S. solar system cost \$10 per watt; in 2013, the price per watt was just below \$4. As a result, the number of photovoltaic systems installed in the U.S. has drastically increased among residential and commercial spaces. Over the past decade, it is estimated that the global output from photovoltaics has increased 40% each year.

TAX CREDITS

- Even though solar energy systems are more cost-effective today, residential and commercial usage still receive government subsidies. In the U.S., the Renewable Energy Tax Credit decreases the tax liability of solar energy users. A taxpayer can claim a credit of 30% of qualified expenditures for systems that serve an occupied space. The U.S. government applies the same credit to wind and geothermal systems.
- Many European countries impose a Feed-In-Tariff scheme to increase the appeal of renewable energy systems. Under a feed-in-tariff scheme, renewable energy system owners can collect money from the government. Costs are based on per kilowatt-hour (kWh), with prices varying between countries.

DEMAND FOR CLEAN ENERGY

- Sun, wind, waves, rivers, tides and the heat from radioactive decay in the earth's mantle as well as biomass are all abundant and ongoing, hence the term "renewables". Only one, the power of falling water in rivers, has been significantly tapped for electricity for many years, though utilization of wind is increasing rapidly and it is now acknowledged as a mainstream energy source. Solar energy's main human application has been in agriculture and forestry, via photosynthesis, and increasingly it is harnessed for heat. Until recently electricity has been a niche application for solar. Biomass (eg sugar cane residue) is burned where it can be utilised, but there are serious questions regarding wider usage. The others are little used as yet.

HYDRO ELECTRICITY

- Hydropower using large storage reservoirs on rivers is not a major option for the future in the developed countries because most major sites in these countries having potential for harnessing gravity in this way are either being exploited already or are unavailable for other reasons such as environmental considerations. Growth to 2030 is expected mostly in China and Latin America. China has commissioned the \$26 billion Three Gorges dam, which produces 22.5 GWe and has a major role in flood control, but it has displaced over 1.2 million people. Brazil is planning to have 25 GWe of new hydro capacity by 2025, involving considerable environmental impact.

WIND ENERGY

- In Germany, with high dependence on wind, there is corresponding high uncertainty of supply. Winter load factors averaged about 25% over 2013-17, and ranged from 12% to 35%, both figures monthly. Summer monthly load factors averaged only 14% however. Annual capacity factors were 17-20% over 2014-16. Daily average wind load factors have ranged from 2% to 68%.

BIOGRAPHY

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THANK YOU FOR YOUR
ATTENTION