

Στέφανος

Καρυωτάκης

τάξη Γ '6

3ο Γυμνάσιο

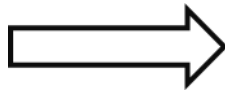
Ηρακλείου

AFFORDABLE
AND CLEAN
ENERGY

Renewable energy solutions



**energy solutions are becoming cheaper,
more reliable and more efficient every day**



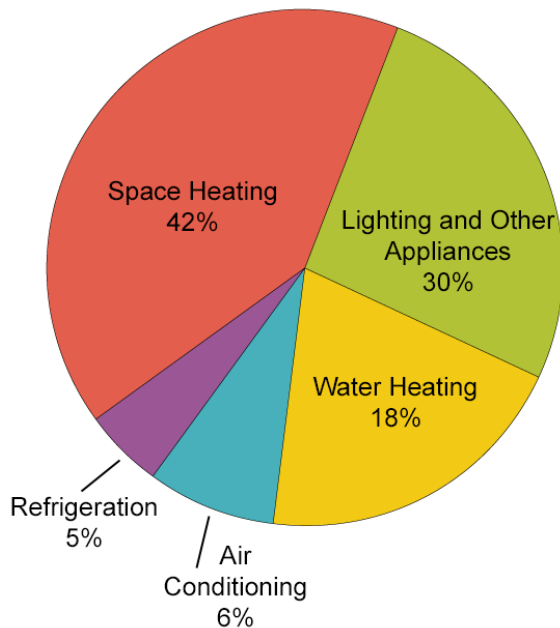
Our current reliance on fossil fuels is unsustainable and harmful to the planet



we have to change the way we produce and consume energy!



How Energy Is Used in Homes (2009)*



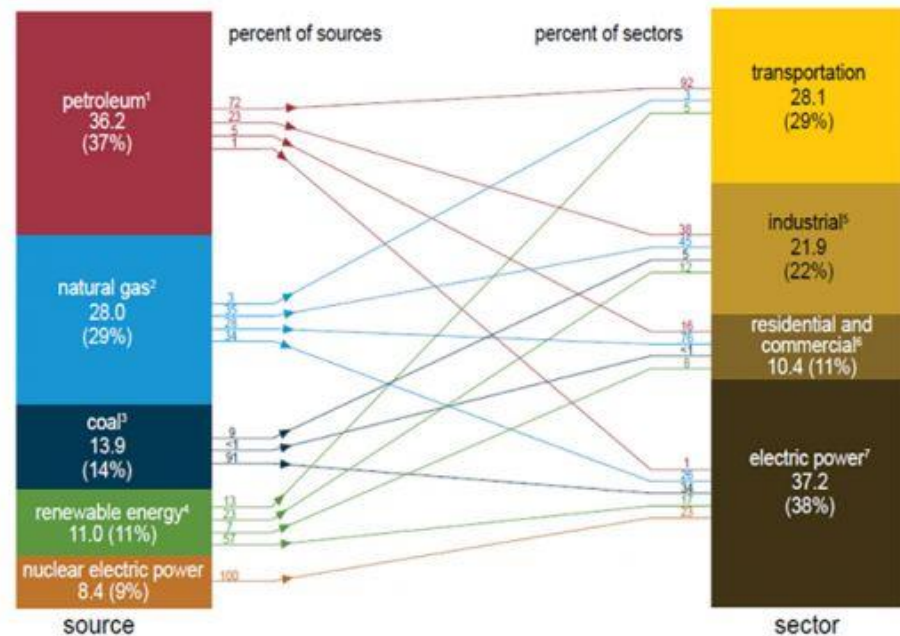
* 2009 is the most recent year for which data are available.

Source: U.S. Energy Information Administration, *Residential Energy Consumption Survey (RECS) 2009*.



U.S. primary energy consumption by source and sector, 2017

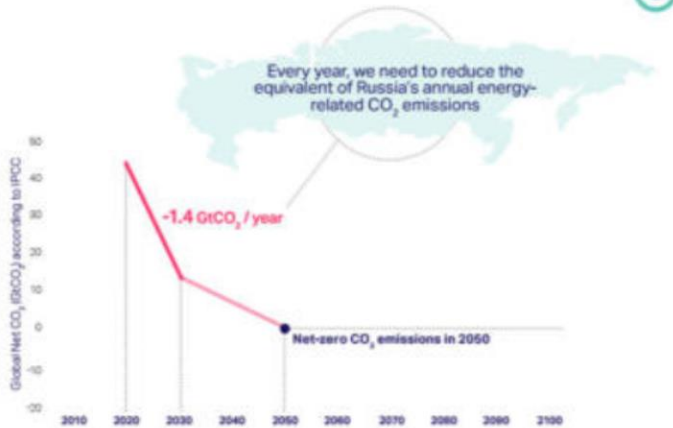
Total = 97.7 quadrillion British thermal units (Btu)



Implementing new energy solutions

NEW ENERGY SOLUTIONS FOR 1.5°C

TO LIMIT GLOBAL WARMING TO 1.5°C, WE NEED TO SHARPLY REDUCE EMISSIONS



As an example, we can reduce 1.4GtCO₂/year by



~ 80% of global CO₂ emissions **COME FROM THE ENERGY SYSTEM**

Mitigation options are:

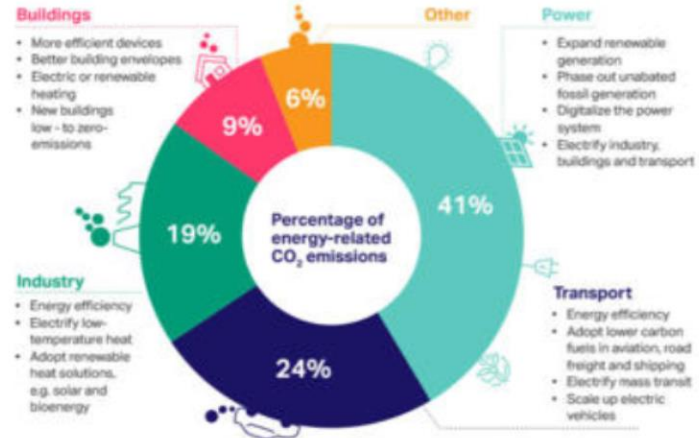
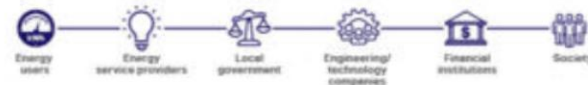
Buildings

- More efficient devices
- Better building envelopes
- Electric or renewable heating
- New buildings low - to zero-emissions

Industry

- Energy efficiency
- Electrify low-temperature heat
- Adopt renewable heat solutions, e.g. solar and bioenergy

TO BE SUCCESSFUL...



Power

- Expand renewable generation
- Phase out unabated fossil generation
- Digitalize the power system
- Electrify industry, buildings and transport

Transport

- Energy efficiency
- Adopt lower carbon fuels in aviation, road freight and shipping
- Electrify mass transit
- Scale up electric vehicles

as fast as possible is essential to counter climate change

climate change, one of the biggest threats to our own survival

Rising Temperatures

U.S. average temperature has increased by 1.3°F to 1.9°F since record keeping began in 1895. Warming has been the greatest in North and West while some parts of the Southeast have experienced little change.



Wildfires

Wildfires in the West start earlier in the spring, last later into the fall, and burn more acreage.

Heat Waves

Heat waves have become more frequent and intense, especially in the West.



Drought

Drought has increased in the West. Over the last decade, the Southwest has experienced the most persistent droughts on record.

Cold Waves and Winter Storms

Cold waves have become less frequent and intense across the Nation. Winter storms have increased in frequency and intensity since the 1950s and their tracks have shifted northward.



Sea Level

Sea levels along the Mid-Atlantic and parts of the Gulf Coast have risen by about 8 inches over the last half century.

Extreme Precipitation

Heavy downpours are increasing nationally, especially over the last three to five decades. The largest increases are in the Midwest and Northeast.



Floods

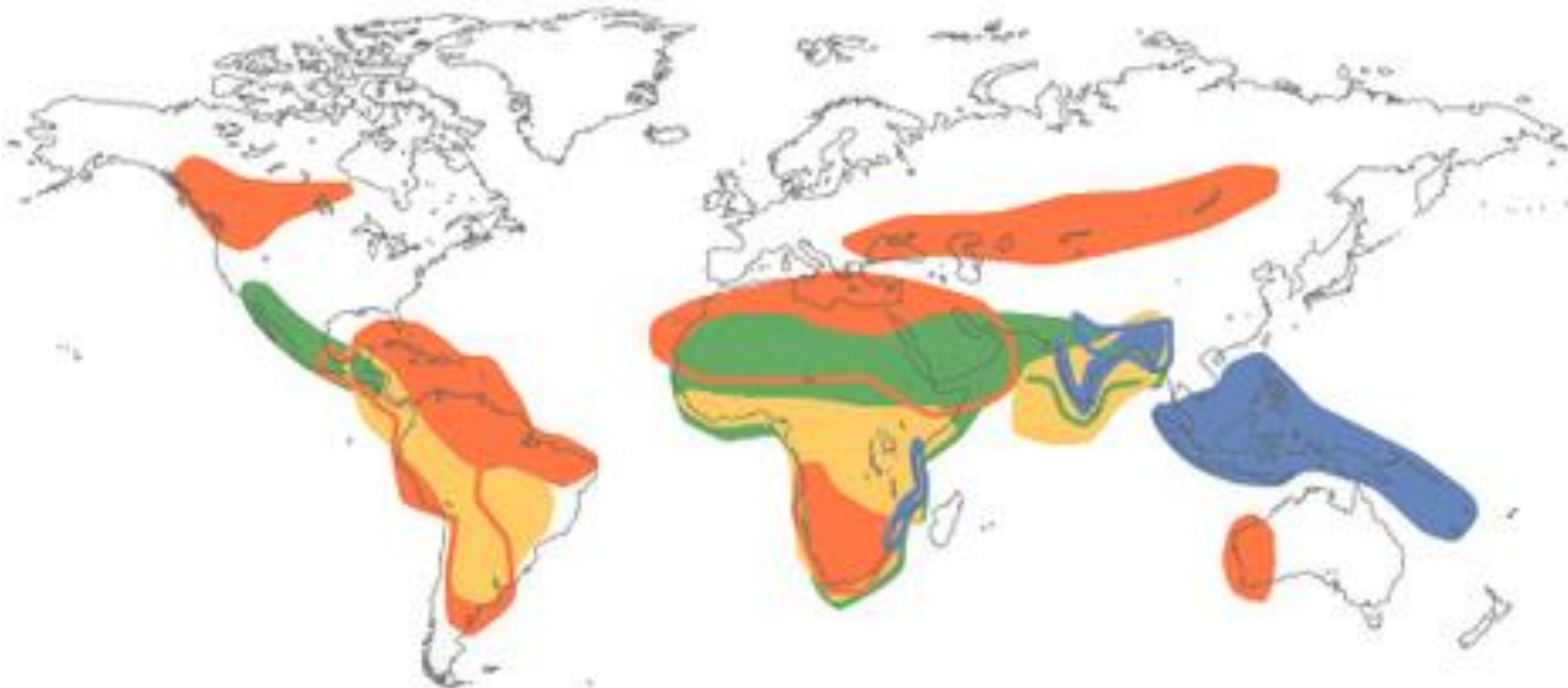
Floods have been increasing in parts of the Midwest and Northeast.



Hurricanes

The intensity, frequency, and duration of North Atlantic hurricanes, as well as the frequency of the strongest (category 4 and 5) hurricanes, have all increased since the early 1980s.

RISKS OF CLIMATE CHANGE



Key

Water stress and drought risk

Crop yield reduction risk

Flooding risk

Human health risk

The Targets of affordable and clean energy

Universal Access to Modern Energy

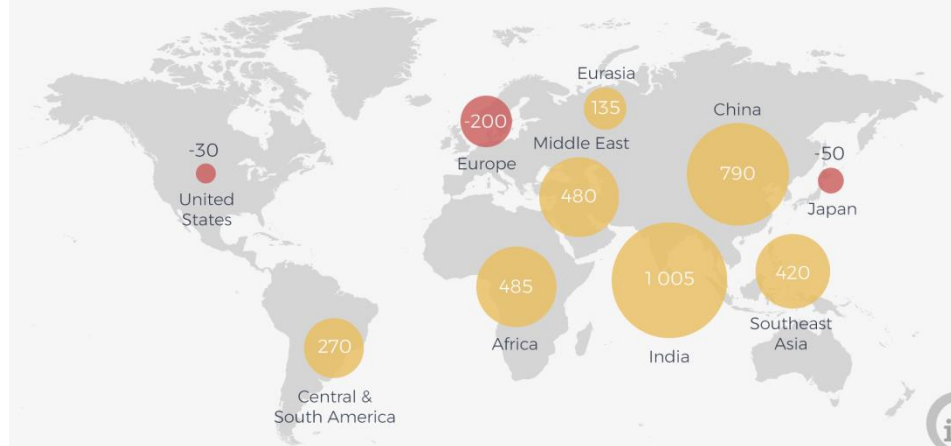
By 2030, ensure universal access to affordable, reliable and modern energy services.

Increase Global Percentage of Renewable Energy

By 2030, increase substantially the share of renewable energy in the global energy mix.



Change in primary energy demand, 2016-40 (Mtoe)
World Energy Outlook 2017



Double the Improvement in Energy Efficiency

By 2030, double the global rate of improvement in energy efficiency.

ENERGY EFFICIENCY

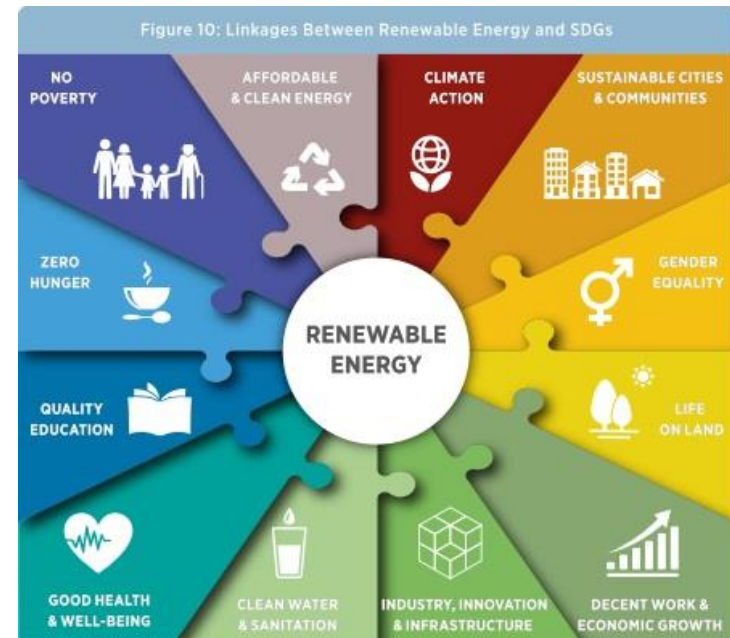
GLOBAL ENERGY CONSUMPTION
COULD GROW **33%** FROM 2010-2035

Global energy-related carbon dioxide
emissions could rise **20%**
by 2035.



Promote Access to Research, Technology and Investments in Clean Energy

By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.



* **Expand and Upgrade Energy Services for Developing Countries**

By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support.



THINGS TO DO

Don't use multiple devices at the same time. Be mindful about this and only several devices when absolutely necessary.



Use solar energy sources. Install solar panels in your home for your heating and electricity. Use solar technology – radio, charger, lights etc...



THINGS TO DO

Find a Goal 7 charity you want to support. Any donation, big or small, can make a difference!.



CHARITY &
DONATION

[LEARN MORE](#)

Switch off your appliances at the socket. Turn off the lights when you're not using them.



Turn off your air conditioning, especially for sleeping – open a window or use a fan.



Buy rechargeable electronics. Don't buy or use one-use batteries.



INTERNET **SOURCES**



● <https://www.globalgoals.org/>

● <https://gr.pinterest.com/pin/486459197234322983/>

● <https://www.ceh.org/news-events/blog/fossil-fuel-dependence-pollutes-planet-bodies/>

● <https://health2016.globalchange.gov/climate-change-and-human-health>

● <https://legendpower.com/uncategorized/energy-efficiency-infographic/>

● https://www.researchgate.net/post/What_literature_exists_on_the_benefits_of_renewable_energies_towards_reaching_the_Sustainable_Development_Goals_SDGs

Στέφανος
Καρυωτάκης
τάξη Γ'6
3ο Γυμνάσιο
Ηρακλείου