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## CAETS Meeting 2021 Buenos Aires

### The Future of Energy

#### Lectures

##### The renewables energies: Their evolution in the future

Solar energy: Heat; Photovoltaic

Wind Power Generation

Waste energy; Biomass

Hydroelectricity

Tidal and wave

Geothermal

##### The future of Nuclear energy

Compare nuclear vs combined cycle gas plants

Safety conditions for nuclear power plants.

New developments and research.

##### Biofuel: The use for feed versus energy applications

Ethanol

Biodiesel

##### Coal

Reserves; costs; countries. Environmental restrictions.

##### Oil & Gas

Conventional and unconventional perspective

Gas to power

LNG: Liquefaction & Regasification

Operations, maintenance & integrity management in Oil & Gas

##### Changes in energy demand and modes of use

Energy saving. Programs. Results

Electric cars

Demand Response, Distributed Energy Resources

Environmental restrictions

Grid-wide Renewable Energy Integration (Large Scale and Distributed Resources). Smart Grids

##### Ensure access to affordable, reliable, sustainable and modern energy for all (SDG 7-Sustainable Development Goals –UN).

Competition among Energy sources, impact on climate change.

International agreements of responsibility and commitment to reduce CO2 emissions, present and past contribution to environmental damage

Energy transition that secures the benefits of sustainable energy for all. Environmental impact of energy transition

Energy access and affordability, security and reliability, sustainability and cost.

Synergies across power, gas, transport, heating/cooling, and new energy carriers, in order to optimize overall decarbonisation efficiency whilst supporting local development.

Energy conversion and storage, technical and economic sector interfaces. Lithium

##### Training of human resources for new energy challenges and for the next energy revolution

Workforce Engagement

Youth and Talent Development

Leadership & Career Development