In most of the world, renewables are now the lowest cost option for new power generation
Renewables continue to dominate new capacity expansion

Renewables now account for one third of global power capacity today
CESEC members will benefit from embracing the Global Energy Transformation

- **Reduced Carbon Emissions**: 70% lower
- **Falling Energy Costs**: Renewables fully competitive
- **Improved Air Quality, Greater Economic Gain**: USD 3-8 payback for each USD 1 spent
- **Improved Energy Security**: -64% demand of fossil fuels
- **Job Creation**: 22 million more energy transition related jobs
- **Full Energy Access**: 100% energy access

GLOBAL RENEWABLES OUTLOOK 2050
On-going strategic dialogues and IRENA's roadmap for CESEC

This roadmap can support discussions regarding:

- The implementation of **European Green New Deal** and **post-COVID recovery**.

- **National Energy and Climate strategies** moving forward.

- **Nationally Determined Contributions** to align with goals of the Paris Agreement.

- **Energy planning discussions** such as those regarding natural gas infrastructure.
Aim and scope of the study

- Analyses cost–effective potential for renewables in the region by 2030.
- Impact on energy costs, investments, security of supply, GHG emissions, environmental and health externalities.
- Full energy system perspective.
Geographical coverage

The boundaries shown on this map do not imply any official endorsement or acceptance by IRENA.
IRENA’s REmap approach

1. What is the outlook of renewables with current / planned policies by 2030? (Reference Case)

2. What is the additional potential of renewables beyond the Reference Case? (REmap Options)

3. Reference Case + REmap Options = REmap Case

4. What are the costs and benefits (i.e. investments, energy costs, avoided externalities) and policy implications of the REmap Case?
Reference 2030 prospects for CESEC

- Demand to remain almost flat at CESEC level (+5% from 2015), with stronger increase in Energy Community parties (+26% from 2015).

- Slight reductions in fossil fuel consumption (-10%) and emissions (-14%) from 2015.

- Overall renewable share to show slow growth, from 16% in 2015 to 24% in 2030.
By 2030, renewables can deliver more than one third of CESEC’s energy demand cost-effectively
All CESEC members have additional cost-effective potential beyond existing plans / projections.
Key renewable energy options for CESEC members until 2030

**Deployment of renewable power generation**
- Large potential of > 1300 GW combining wind, solar, bio and hydro.
- Cost reductions of 82% and 39% for solar PV and wind since 2010.
- Cheaper than fossil and nuclear generation in most markets worldwide.
- Cost reductions expected to continue.

**Electrification of heat and transport services**
- Large associated efficiency gains (3-4 times less energy use).
- Power, easier to decarbonize than fuels.
- Elimination of local air pollution.
- Asset for integration of more renewables in the power sector.

**Scale-up sustainable bioenergy use**
- Complementary source for applications hard to electrify.
- Available ‘pockets’ of sustainable potential:
  - Higher yields on cropland, crop residues.
  - Residues and sustainable extraction of forest wood.
  - Municipal solid waste and animal manure.
- Potential to roughly double sustainable supply by 2030.
Renewables improve energy security while aligning the region with the goals of the Paris Agreement

- **18% Natural Gas Demand Reduction**
  Compared to the Reference scenario to 2030.
  Comparable to today’s total primary demand for natural gas in Ukraine.

- **14% Oil Demand Reduction**
  Compared to the Reference scenario to 2030.
  Comparable to today’s total oil consumption of Croatia and Greece combined.

- **21% CO₂ Emissions Reduction**
  Compared to the Reference scenario to 2030.
  Comparable to today’s total emissions of Romania and Bulgaria combined.
A clean, modern energy system in CESEC is possible by redirecting investments towards renewables

- Additional investments of **78 EUR billion until 2030**.
- In annual terms, estimated at **0.16-0.21% of the GDP** of the region.
Investing in renewables brings multiple benefits for CESEC members

- Competitive energy costs: savings in LCOE estimated at **3.4 EUR billion/year** in 2030*.

- Much larger benefits if externalities are considered: **11 to 35 EUR billion/year**.

- Significantly **improved security of supply**.

- A **more modern, resilient energy system**.

- Closer **alignment with the objectives of the Paris Agreement**.

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* Central scenario considering a social discount rate of 4% and flat fossil fuel prices in real terms as per 2018 levels.
Decisive action is needed to unlock the potential of renewables in CESEC

- **National policies** focused on improving **conditions for investment:**
  - Level playing field for renewables, stable, transparent regulatory frameworks.
  - De-risked procedures, risk-mitigating financing mechanisms.
  - Sub-national coordination.

- **Cooperation at regional level will be key:**
  - Further regional integration of national markets.
  - Coordinated investment plans for key infrastructure.

- **Support and solidarity** with CESEC members with challenging socio-economic conditions.