

IRENA FlexTool

TRAINING FOR EASTERN EUROPE AND CENTRAL ASIA

SESSION 1: Projects and initiatives in Eastern Europe and Central Asia





IAEA

International Atomic Energy Agency
Atoms for Peace and Development

Virtual Regional Meeting on the Role of
Power Systems and Markets for Achieving the Low-Carbon Transition
12 – 16 July 2021

Supporting Energy Planning in Europe and Central Asia

Mr. Manuel WELSCH

Planning and Economic Studies Section

Division of Planning, Information and Knowledge Management

Department of Nuclear Energy

Introduction to PESS

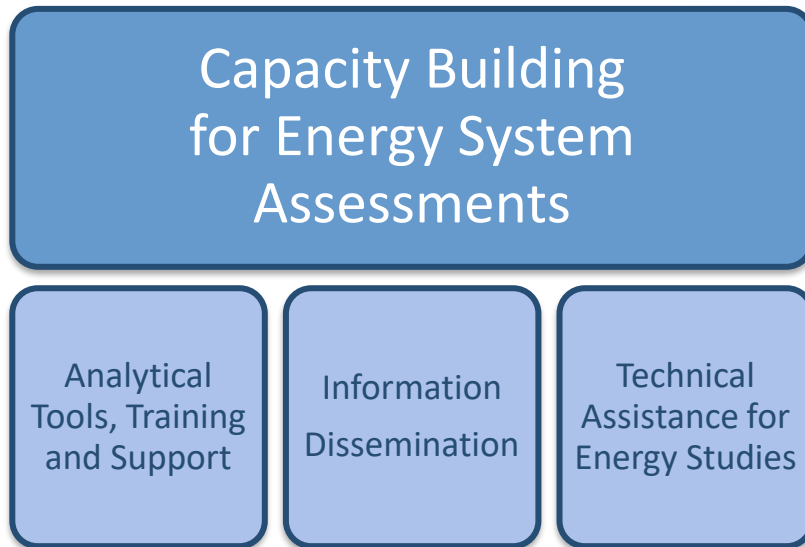
Planning & Economic Studies Section

To strengthen member states' capacities in energy system analysis to

- develop their own national **sustainable energy strategies** that
- best meet national social, economic and environmental (climate change) targets by
- identifying most suitable mix of energy **technologies**
- and, if an option, assessing potential role of nuclear energy




Energy Planning Support



Selected Examples of use of IAEA Tools

Previous National Activities

- Multi-regional Balkan model for North Macedonia (with MESSAGE, 2014 – 2017)
- USAID / EIHP Support to TSO (with WASP, Georgia, 2017/2018)




MAED
Model for Analysis of Energy Demand



MESSAGE
Model for Energy Supply Strategy Alternatives and their General Environmental Impacts



WASP
Wien Automatic System Planning Package



FINPLAN
Model for Financial Analysis of Electric Sector Expansion Plans

Previous Regional Project

Training Courses on

- MCDA (with MESSAGE, Hungary, 2016)
- NDCs (with MESSAGE, Romania, 2017)
- Financing (with FinPlan, Austria, 2017)

Ongoing Technical Cooperation Project RER2017

Assessing Role of Low Carbon Energy Technologies for Climate Change Mitigation

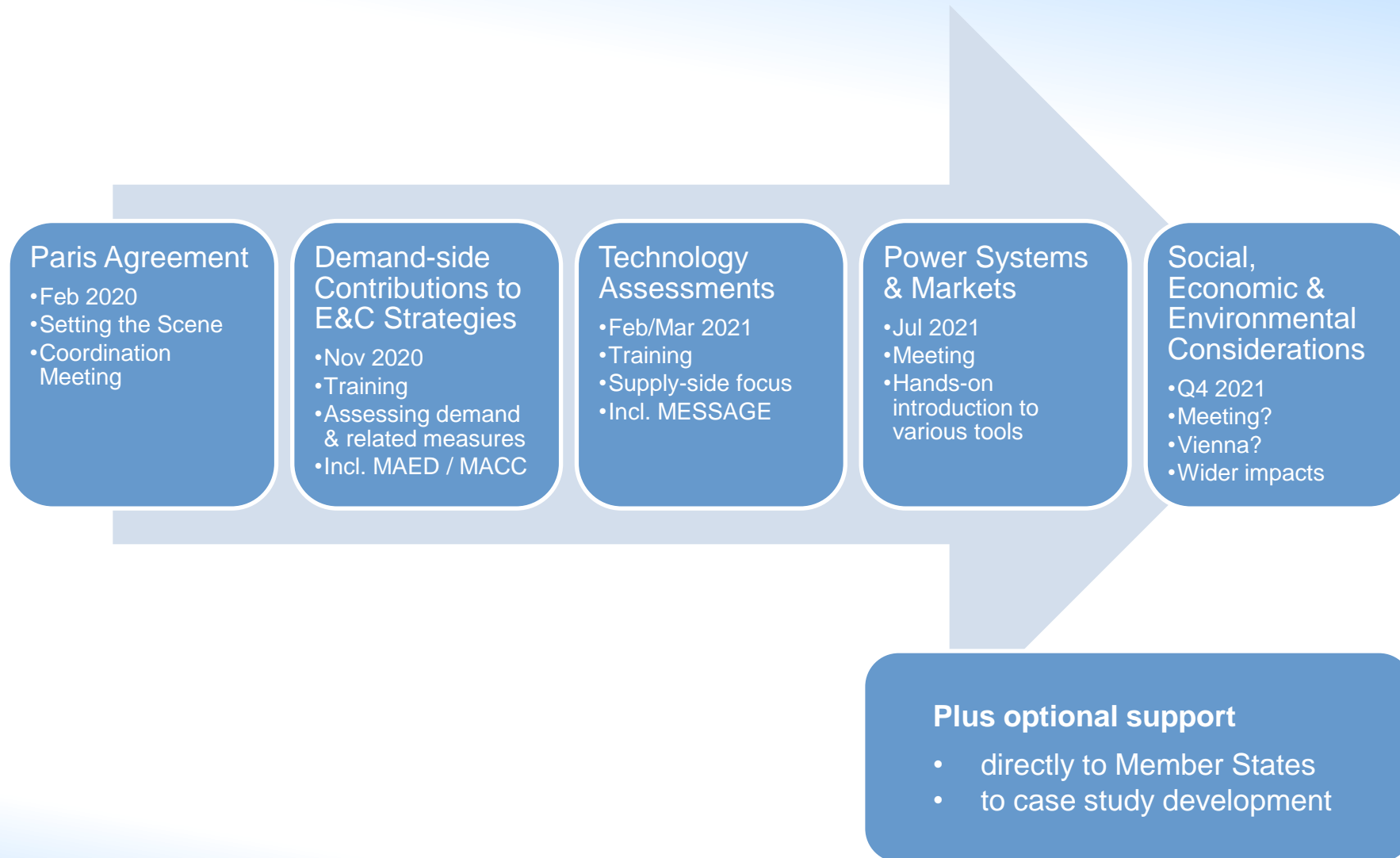
- 2020 – 2021
- 26 participating Member States from Region Europe & Central Asia
- 2 streams: Energy Planning + SMR

Project aim is to support

development of energy strategies for climate change mitigation in line with Paris Agreement



RER2017 Events – Energy Planning Component



Upcoming Project – In Design Stage

Analyzing Low Carbon Pathways Towards an Ambitious Decarbonized Energy Sector by 2050

- **Continuation** of current project from 2022 – 2025
- Approval: Board of Governors in Nov 2021

Project Aim is to support

- analyses of technology pathways & their contribution towards a climate neutral energy sector in 2050
- preparation of NDCs in 2025, and (draft) NECPs by 2023 & 2024 for EU MS

Includes

- Training Courses on demand, supply, markets, grid, financing, nuclear power, etc
- (Sub-)regional support for
 - modelling and study development
 - NECP/NDC development
- Support to research & training institutions / Centres of excellence
- Direct national support (upon request)

Further Examples of Our Work

As Countries Look to Low-Carbon Energy Sources, IAEA Offers Support for Modelling Future Energy Demand

Omar Yusuf, IAEA Department of Technical Cooperation

DEC
17
2020



Related Stories



IAEA Continues Support for All-Source Energy Planning for Countries Despite Pandemic

Interested? Stay in touch!

- with the national Project Counterpart (or National IAEA Liaison Officer)
- with the team at PESS (e.g., m.welsch@iaea.org)
- with our Technical Cooperation Department (C.Henrich@iaea.org)

A significant share of emissions savings can be unlocked by switching to natural gas and cleaner fuels. (Photo: A. Koreng/Flickr)

To ensure the global average temperature does not exceed 2°C above pre-industrial levels, many countries are exploring diverse technological and regulatory measures to reduce greenhouse gas emissions. While moving away from the use of fossil fuels is key, measures related to energy demand can play a major role, as well. "Energy demand is a substantial ingredient of decarbonization strategies, but energy end-use sectors are very diverse and difficult to address," explains Theodoros Zachariadis, Associate Professor at the Cyprus Institute. Accurate modelling of national energy needs is essential for government planning.

Further Examples of Our Work

Visit our webpage:

iaea.org/topics/energy-planning or google IAEA + energy planning)



IAEA International Atomic Energy Agency

TOPICS ▾ SERVICES ▾ RESOURCES ▾ NEWS & EVENTS ▾

Home / Topics / Nuclear technology and applications ▾

Energy planning

- > Economics
- > Projections
- > Sustainability
- > Country case studies
- > Modelling tools
- > Assistance in energy planning



Home / Nuclear technology and applications / Energy / Energy planning / Projections

Energy modelling tools

The Agency assists Member States with practical solutions for their energy planning. It offers different types of energy modelling tools that enable States to make smart energy choices. The IAEA's Planning and Economic Studies Section develops, enhances, maintains and transfers analytical tools to assess different energy options and strategies, including the potential of nuclear power.

IAEA tools for energy system planning and nuclear energy system assessments

The Section offers to Member States a wide-range of tools for integrated energy planning for sustainable development that are delivered through computer based software programs and manuals, trainings and e-learning sessions/platforms, upon request.

[IAEA Continues Support for All-Source Energy Planning for Countries Despite Pandemic | IAEA](#)



Related



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

Thank you!





Our work in South East Europe and Central Asia

FlexTool Training
13-14 July 2021

Ms. Petya Icheva, Programme Officer South East Europe, IRENA
Ms. Aleksandra Prodan, Associate Professional Central Asia, IRENA

SOURCES OF REQUESTS

- IRENA Receiving **Direct Country Requests**
- IRENA Partnership with UNDP on **Climate Promise**
- IRENA Partnership with NDC Partnership on **Climate Action Enhancement Package (CAEP)**

NDC Enhancement Support

Data and Statistics

Resource Assessment

Long Term Energy Planning (LTEP)

Power System Flexibility (FlexTool)

Renewable Energy Roadmaps (REmap)

Renewable Readiness Assessment (RRA)

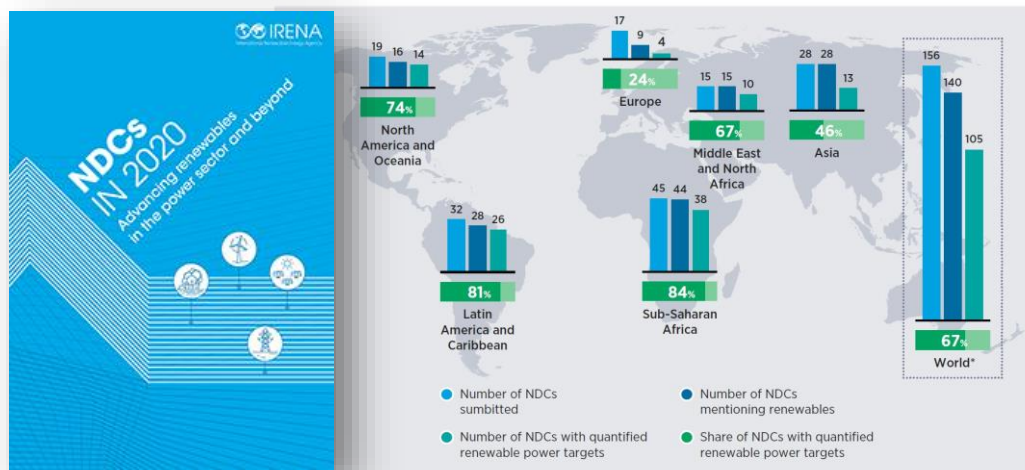
RE Policy – Capacity Building

RE Technology – Capacity Building

NDC Implementation Support

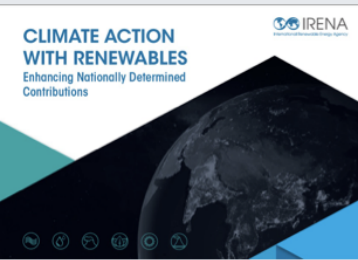
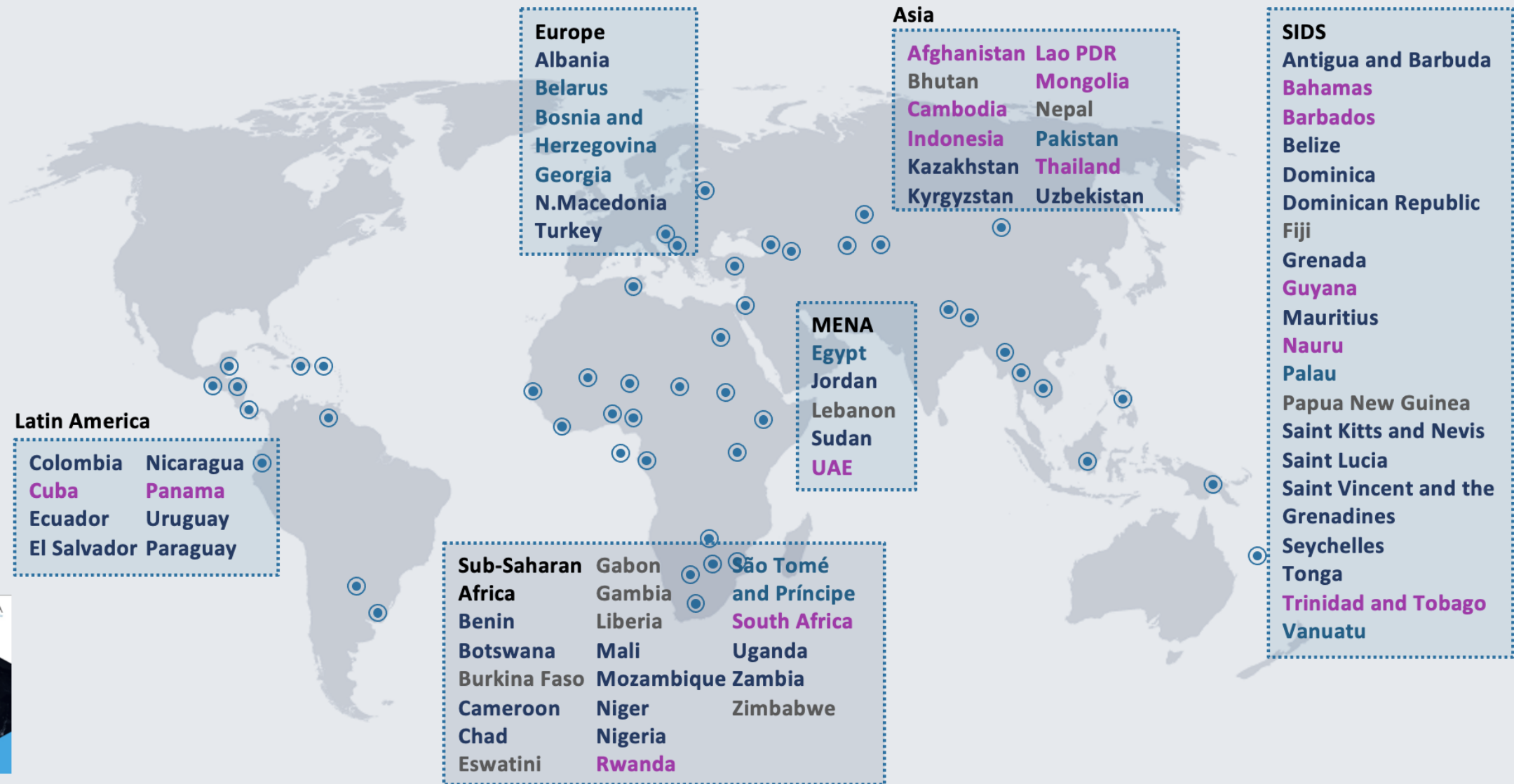
Technical Assistance

Project Facilitation Support



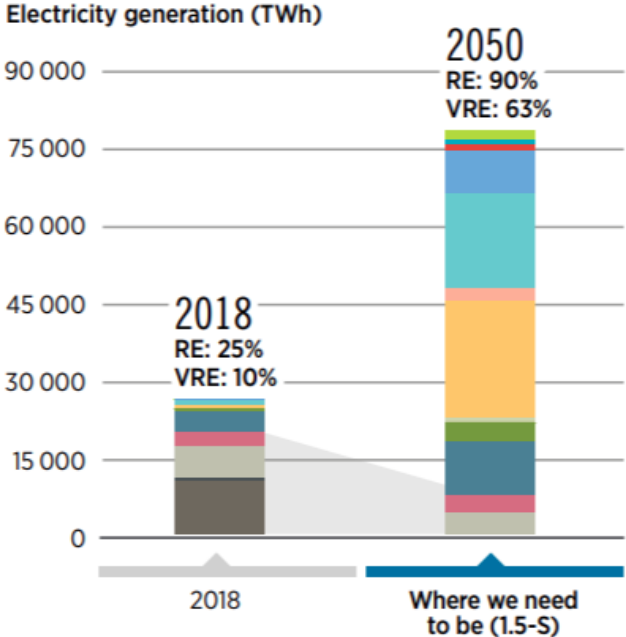
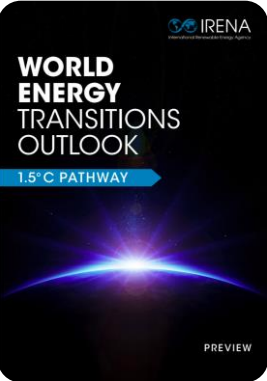
NDC support to foster climate action across the globe

3 bn tonnes CO₂-eq. annually



○ NDC Support Finalised (11) ● Implementation of Support (34) ● Work plan development (08) ● Scoping / Initial discussions (17)

Energy Transition in Western Balkans and Eastern Europe

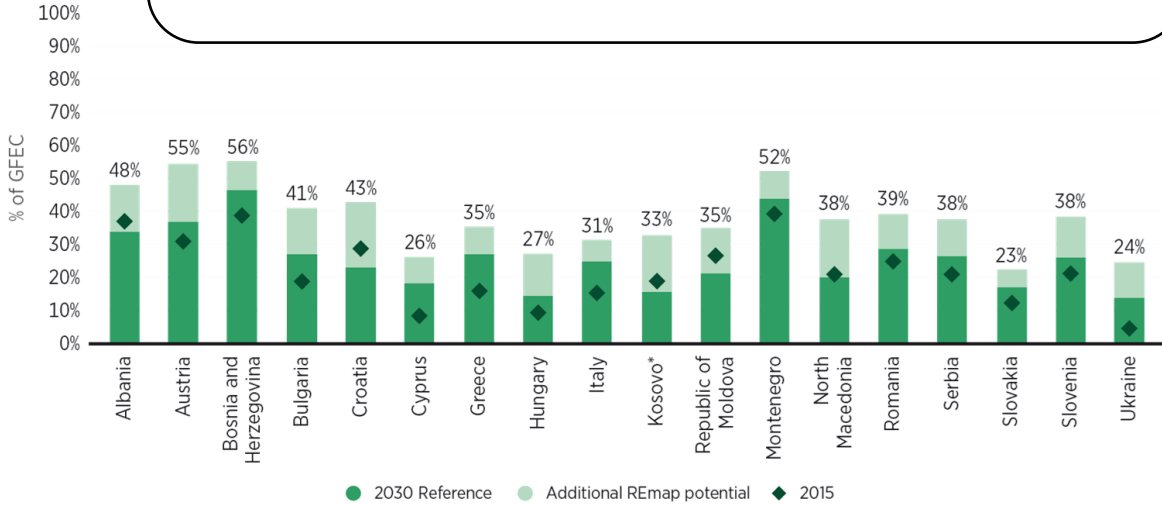
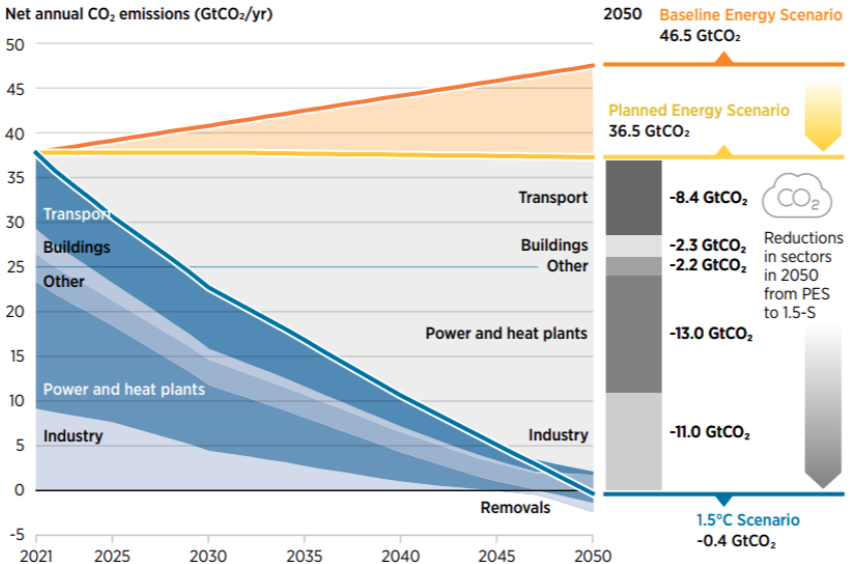


18% Natural Gas Demand Reduction
Compared to the Reference scenario to 2030.
Comparable to today's total primary demand for natural gas in Ukraine.

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.

Renewables, in combination with energy efficiency and electrification of heat and transport improve energy security while aligning the region with the goals of the Paris Agreement.



Regional studies

Framework

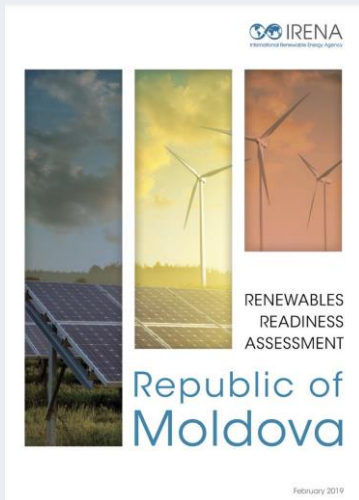
- **South East Europe Regional Initiative: harnessing the region's vast but unexploited renewable energy**
- **Communiqué on accelerating the uptake of Renewables in South-East Europe (January 2017)**

Our activities

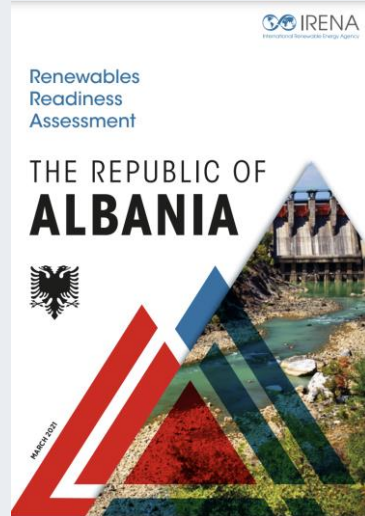
- **Mapping renewable energy resources**
- **Long term planning for renewables deployment**
- **Socio-economic benefits of renewables energy**
- **Capacity building trainings on improvement of technical, financial, regulatory framework**
- **Energy-Climate Dialogue Event: Advancing Energy Transition in Western Balkans and Eastern Europe countries through Enhanced Nationally Determined Contributions (6 May 2021)**



Renewable Readiness Assemments (RRA)



Launched in 2019

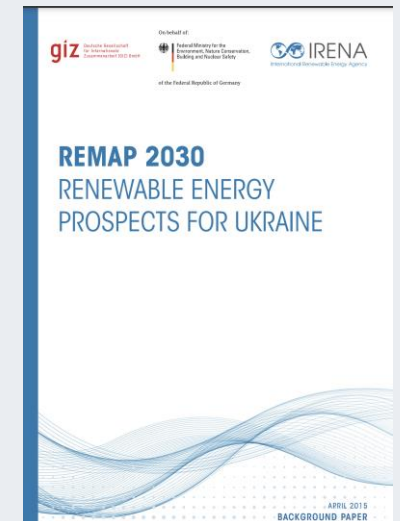


Launched in 2021

Belarus RRA to be launched in July 2021

Upcoming: Bosnia and Herzegovina RRA

REmap studies



NDC Support

- **Countries:** Albania, Belarus, Bosnia and Herzegovina, Georgia, North Macedonia, Turkey
- **Activities:** Capacity building workshops and analytical work on topics such as renewable energy auction design, socio-economic benefits of the energy transition, renewable energy targets, policy frameworks and financing.

IRENA's Engagement in the region of Central Asia: regional level

Astana Communiqué on Accelerating the Uptake of Renewables in Central Asia



June 2017, Nur-Sultan

- IRENA has identified key areas of support required for the accelerated deployment of renewables in Central Asia.

Enabling Policy and Regulatory Frameworks for Renewables



Regional Workshop on Policy Support Mechanisms
October 2018, Baku

- Improving the understanding of design and implementation of renewable energy targets, policies and support schemes

Renewable Energy Statistics and Data Collection



Central Asia Renewable Energy Statistics Training
September 2018, Abu Dhabi

- Enhancing capacities to improve the collection of reliable data on renewables

Long-Term Energy Planning



Central Asia Workshop on Long-Term Capacity Expansion Planning with a High Share of Renewables
March 2019, Astana

- Improving understanding of technical and regulatory aspects and facilitate the integration of variable renewable energy into power systems



VIRTUAL EVENT

Advancing the Energy Transition in Central Asia through Nationally Determined Contributions

📅 THURSDAY, 8 JULY 2021

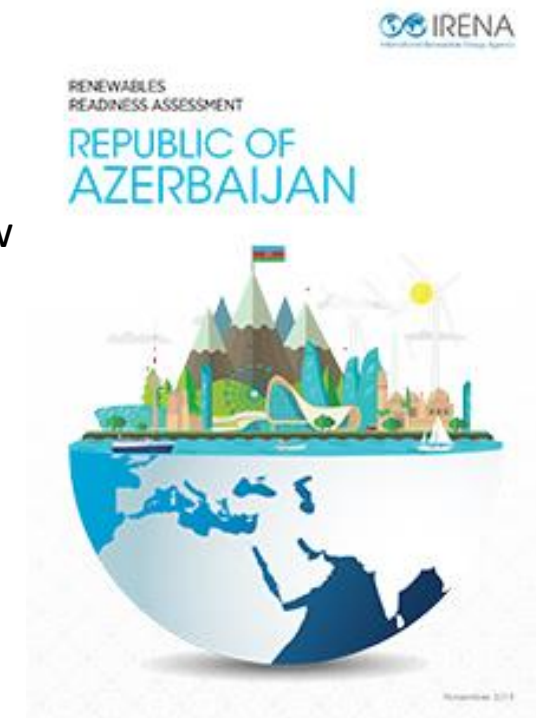
🕒 12:00 PM GST



- **encouraging more ambitious climate action** by all governments in Central Asia, including the submission of updated long-term climate/energy strategies in support of the goals set out in the Paris Agreement;
- **deepening the understanding on the opportunities offered by the energy sector** in the decarbonization efforts;
- **discussing the key role of mobilizing renewable energy financing at scale and de-risking investments** in Central Asia to accelerate energy transition;
- **sharing experience across the region** on long-term climate/energy strategies, and from analysis and studies by **regional and international institutions.**

IRENA's Engagement in the region of Central Asia: country level

- **Azerbaijan** : Renewables Readiness Assessment, December 2019
- **Kazakhstan** : NDC support: Statistics (Energy data audit report, MRV, Capacity building); LTS review
- **Kyrgyzstan** : RRA with resource assessment and RE targets capacity building
- **Uzbekistan** : NDC support: Statistics (Energy data audit report, MRV, Capacity building)
- **Regional**: Resource assessment project: suitable zones for utility-scale solar and wind projects





www.irena.org



www.twitter.com/irena



www.facebook.com/irena.org



www.instagram.com/irenaimages



www.flickr.com/photos/irenaimages



www.youtube.com/user/irenaorg