IRENA
International Renewable Energy Agency

Unlocking Renewable Energy Potential in Central Asia

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Astana 2017

Regional Consultations on Renewable Energy in Central Asia

Baku, Azerbaijan • 20 October 2016

Discussions focused on

Identification of Key Challenges

Participation: Governments; International organizations; Development partners, Academia

Abu Dhabi, UAE • 26-27 April 2017

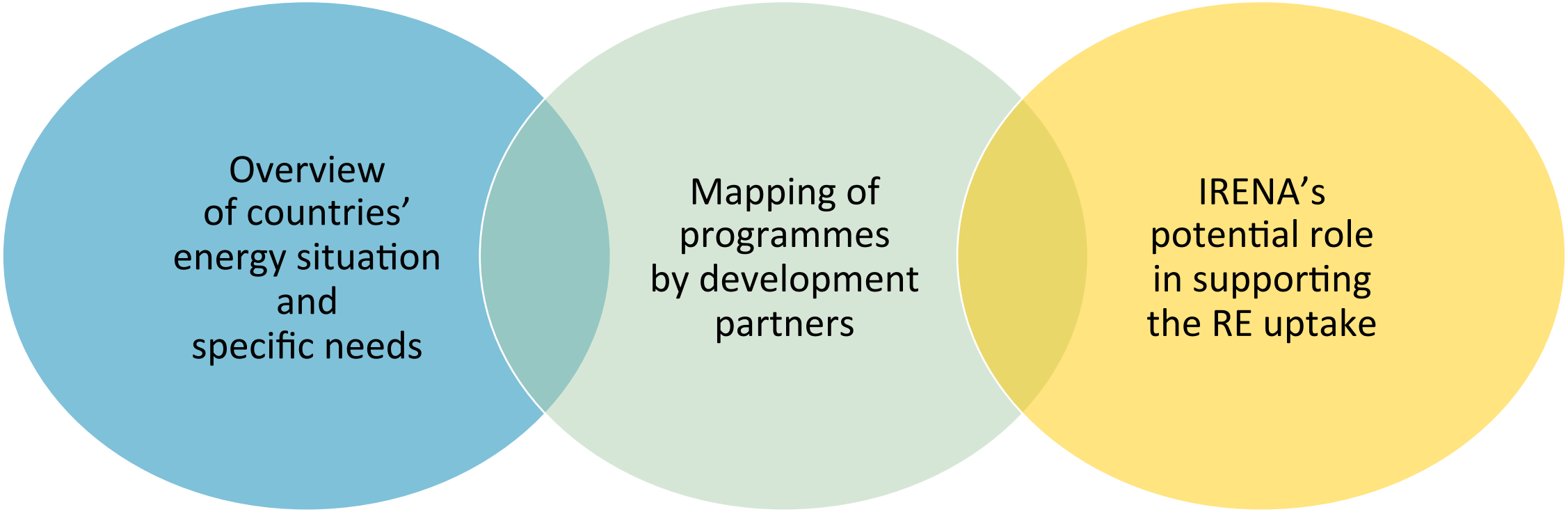
Discussions focused on

Identification of Regional Actions

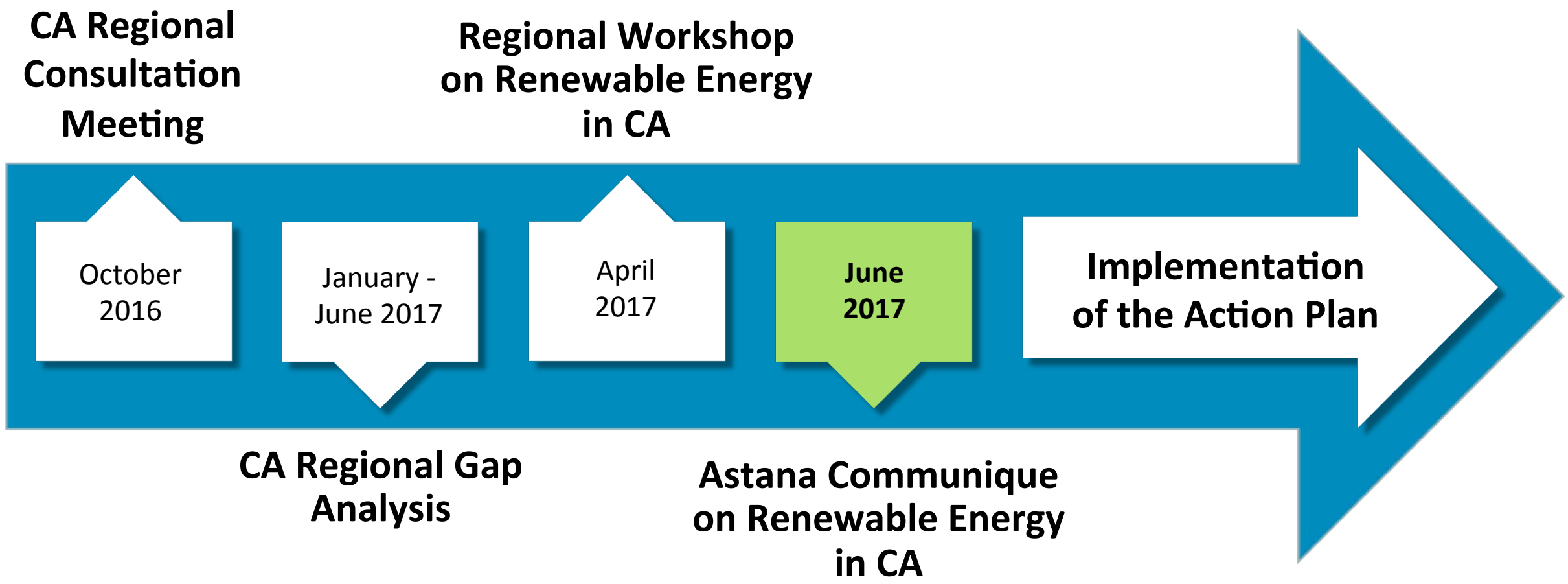
Participation: Governments; Regulators; Transmission System Operators; International organizations; Development partners

Regional Gap Analysis Study

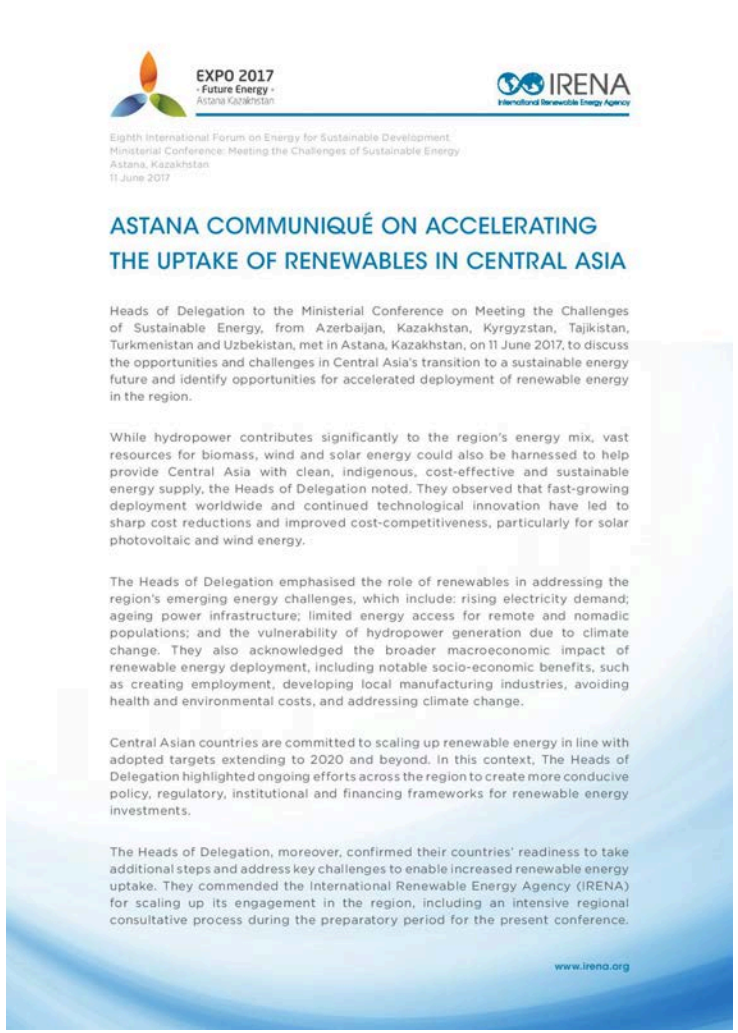
The identification of: Main barriers, challenges, needs and priorities



Action to Unlock RE Potential in Central Asia



From Commitment to Action



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Eighth International Forum on Energy for Sustainable Development
Ministerial Conference: Meeting the Challenges of Sustainable Energy
Astana, Kazakhstan
11 June 2017

ASTANA COMMUNIQUÉ ON ACCELERATING THE UPTAKE OF RENEWABLES IN CENTRAL ASIA

Heads of Delegation to the Ministerial Conference on Meeting the Challenges of Sustainable Energy, from Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, met in Astana, Kazakhstan, on 11 June 2017, to discuss the opportunities and challenges in Central Asia's transition to a sustainable energy future and identify opportunities for accelerated deployment of renewable energy in the region.

While hydropower contributes significantly to the region's energy mix, vast resources for biomass, wind and solar energy could also be harnessed to help provide Central Asia with clean, indigenous, cost-effective and sustainable energy supply, the Heads of Delegation noted. They observed that fast-growing deployment worldwide and continued technological innovation have led to sharp cost reductions and improved cost-competitiveness, particularly for solar photovoltaic and wind energy.

The Heads of Delegation emphasised the role of renewables in addressing the region's emerging energy challenges, which include: rising electricity demand; ageing power infrastructure; limited energy access for remote and nomadic populations; and the vulnerability of hydropower generation due to climate change. They also acknowledged the broader macroeconomic impact of renewable energy deployment, including notable socio-economic benefits, such as creating employment, developing local manufacturing industries, avoiding health and environmental costs, and addressing climate change.

Central Asian countries are committed to scaling up renewable energy in line with adopted targets extending to 2020 and beyond. In this context, The Heads of Delegation highlighted ongoing efforts across the region to create more conducive policy, regulatory, institutional and financing frameworks for renewable energy investments.

The Heads of Delegation, moreover, confirmed their countries' readiness to take additional steps and address key challenges to enable increased renewable energy uptake. They commended the International Renewable Energy Agency (IRENA) for scaling up its engagement in the region, including an intensive regional consultative process during the preparatory period for the present conference.

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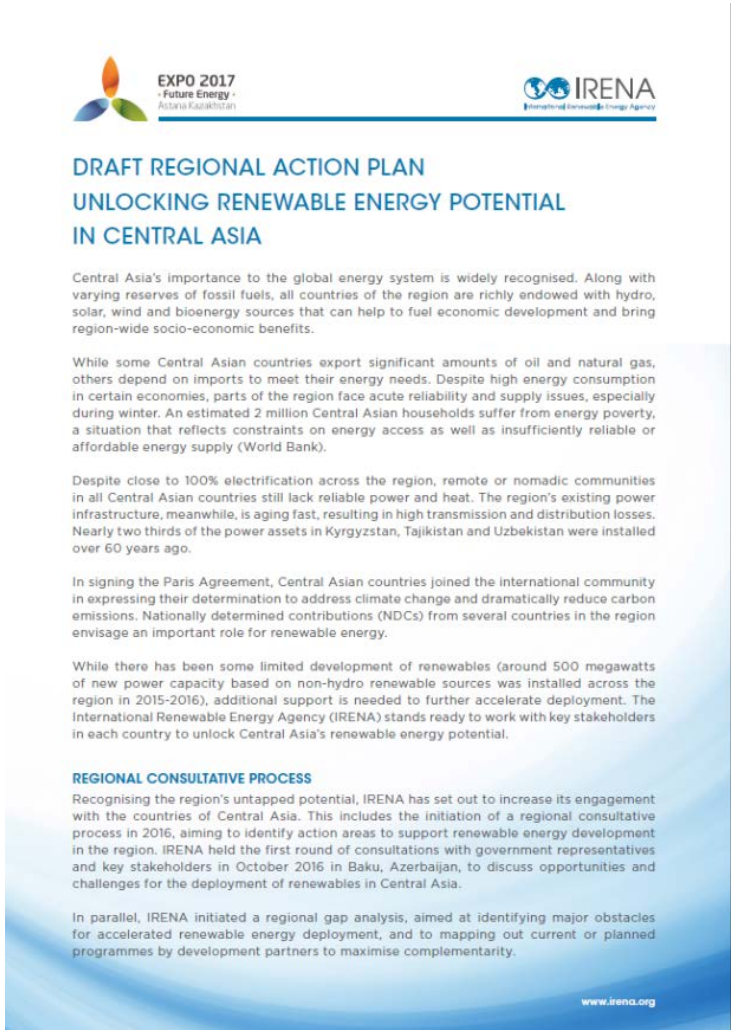

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DRAFT REGIONAL ACTION PLAN UNLOCKING RENEWABLE ENERGY POTENTIAL IN CENTRAL ASIA

Central Asia's importance to the global energy system is widely recognised. Along with varying reserves of fossil fuels, all countries of the region are richly endowed with hydro, solar, wind and bioenergy sources that can help to fuel economic development and bring region-wide socio-economic benefits.

While some Central Asian countries export significant amounts of oil and natural gas, others depend on imports to meet their energy needs. Despite high energy consumption in certain economies, parts of the region face acute reliability and supply issues, especially during winter. An estimated 2 million Central Asian households suffer from energy poverty, a situation that reflects constraints on energy access as well as insufficiently reliable or affordable energy supply (World Bank).

Despite close to 100% electrification across the region, remote or nomadic communities in all Central Asian countries still lack reliable power and heat. The region's existing power infrastructure, meanwhile, is aging fast, resulting in high transmission and distribution losses. Nearly two thirds of the power assets in Kyrgyzstan, Tajikistan and Uzbekistan were installed over 60 years ago.

In signing the Paris Agreement, Central Asian countries joined the international community in expressing their determination to address climate change and dramatically reduce carbon emissions. Nationally determined contributions (NDCs) from several countries in the region envisage an important role for renewable energy.

While there has been some limited development of renewables (around 500 megawatts of new power capacity based on non-hydro renewable sources was installed across the region in 2015-2016), additional support is needed to further accelerate deployment. The International Renewable Energy Agency (IRENA) stands ready to work with key stakeholders in each country to unlock Central Asia's renewable energy potential.

REGIONAL CONSULTATIVE PROCESS

Recognising the region's untapped potential, IRENA has set out to increase its engagement with the countries of Central Asia. This includes the initiation of a regional consultative process in 2016, aiming to identify action areas to support renewable energy development in the region. IRENA held the first round of consultations with government representatives and key stakeholders in October 2016 in Baku, Azerbaijan, to discuss opportunities and challenges for the deployment of renewables in Central Asia.

In parallel, IRENA initiated a regional gap analysis, aimed at identifying major obstacles for accelerated renewable energy deployment, and to mapping out current or planned programmes by development partners to maximise complementarity.

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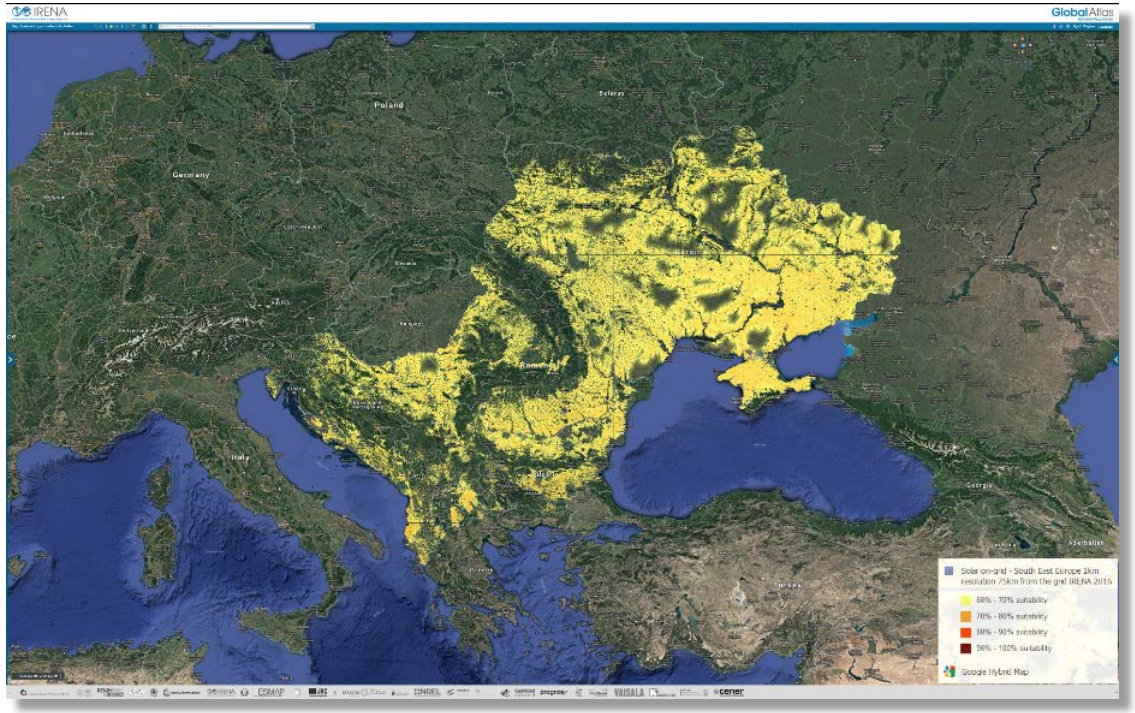
Areas for Regional Action

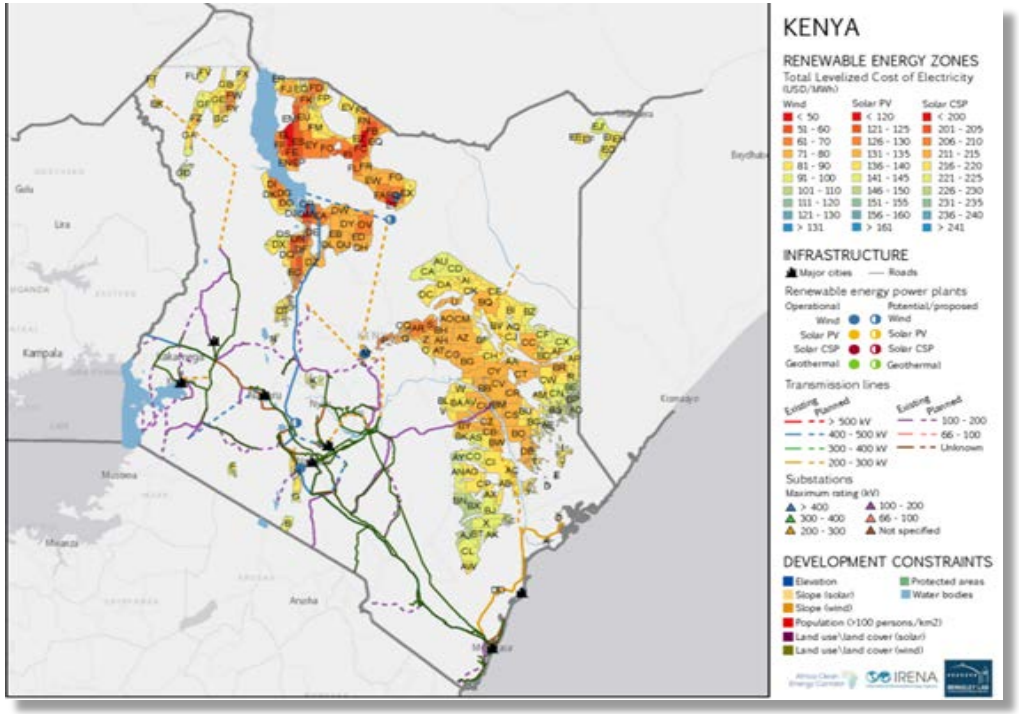
- Resource Assessment
- Grid Integration of Variable Renewable Energy Sources
- Policies and Regulations for Renewable Energy Deployment
- Renewable Energy Statistics and Data Collection
- Project Development Support
- Awareness Raising

Resource Assessment

Suitability maps for wind and solar PV potential in Central Asia



Assessment of cost-competitive RE resource potential



Grid Integration of Variable Renewable Energy Sources

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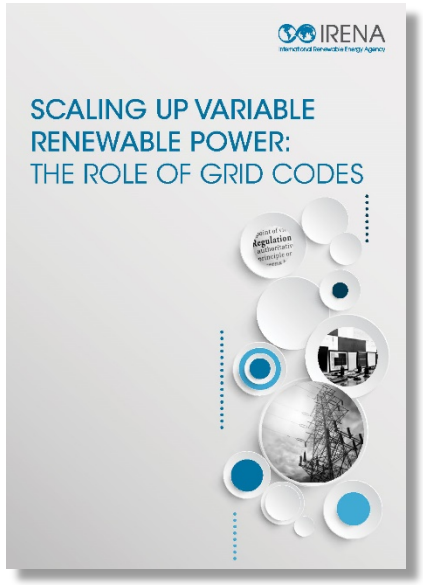
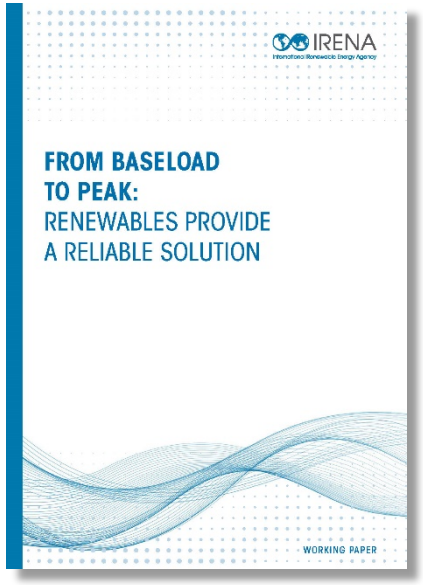
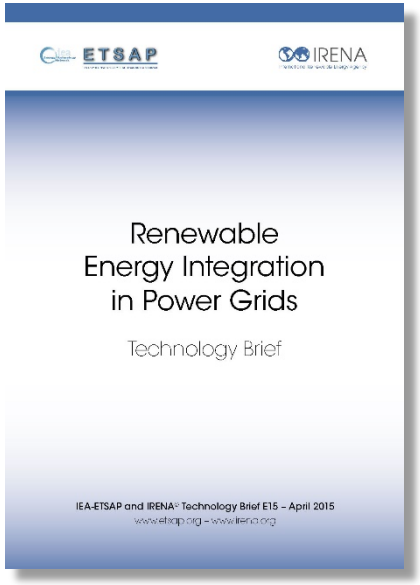
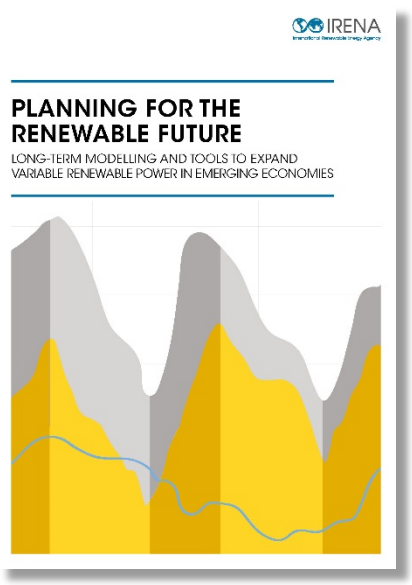
Improving understanding of technical and regulatory aspects and facilitate the integration of variable renewable energy into power systems









Policies and Regulations for RE Deployment

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Types of renewable energy policies and measures

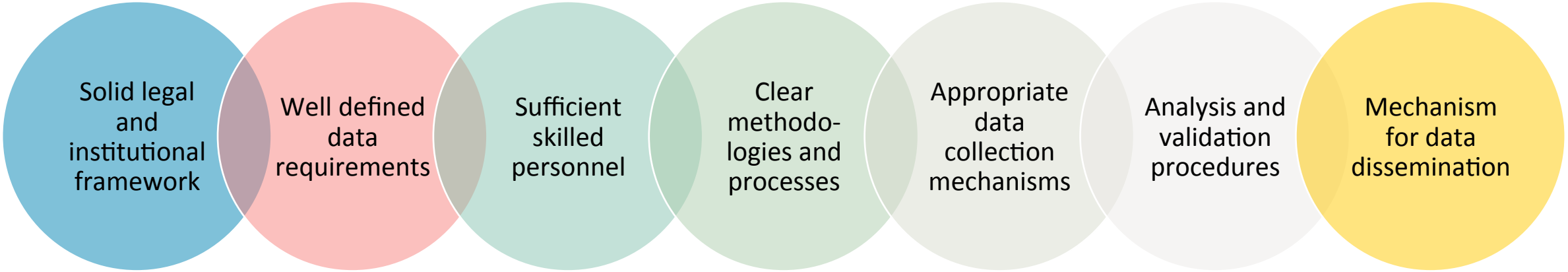
NATIONAL POLICY	REGULATORY INSTRUMENTS	FISCAL INCENTIVES	GRID ACCESS	ACCESS TO FINANCE[a]	SOCIO-ECONOMIC BENEFITS[b]
◆ Renewable energy target ◆ Renewable energy law/ strategy ◆ Technology-specific law/ programme	◆ Feed-in tariff ◆ Feed-in premium ◆ Auction ◆ Quota ◆ Certificate system ◆ Net metering ◆ Mandate (*e.g.*, blending mandate) ◆ Registry	◆ VAT/ fuel tax/ income tax exemption ◆ Import/export fiscal benefit ◆ National exemption of local taxes ◆ Carbon tax ◆ Accelerated depreciation ◆ Other fiscal benefits	◆ Transmission discount/ exemption ◆ Priority/ dedicated transmission ◆ Grid access ◆ Preferential dispatch ◆ Other grid benefits	◆ Currency hedging ◆ Dedicated fund ◆ Eligible fund ◆ Guarantees ◆ Pre-investment support ◆ Direct funding	◆ Renewable energy in rural access/cook stove programmes ◆ Local content requirements ◆ Special environmental regulations ◆ Food and water nexus policy ◆ Social requirements

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

RE Statistics and Data Collection

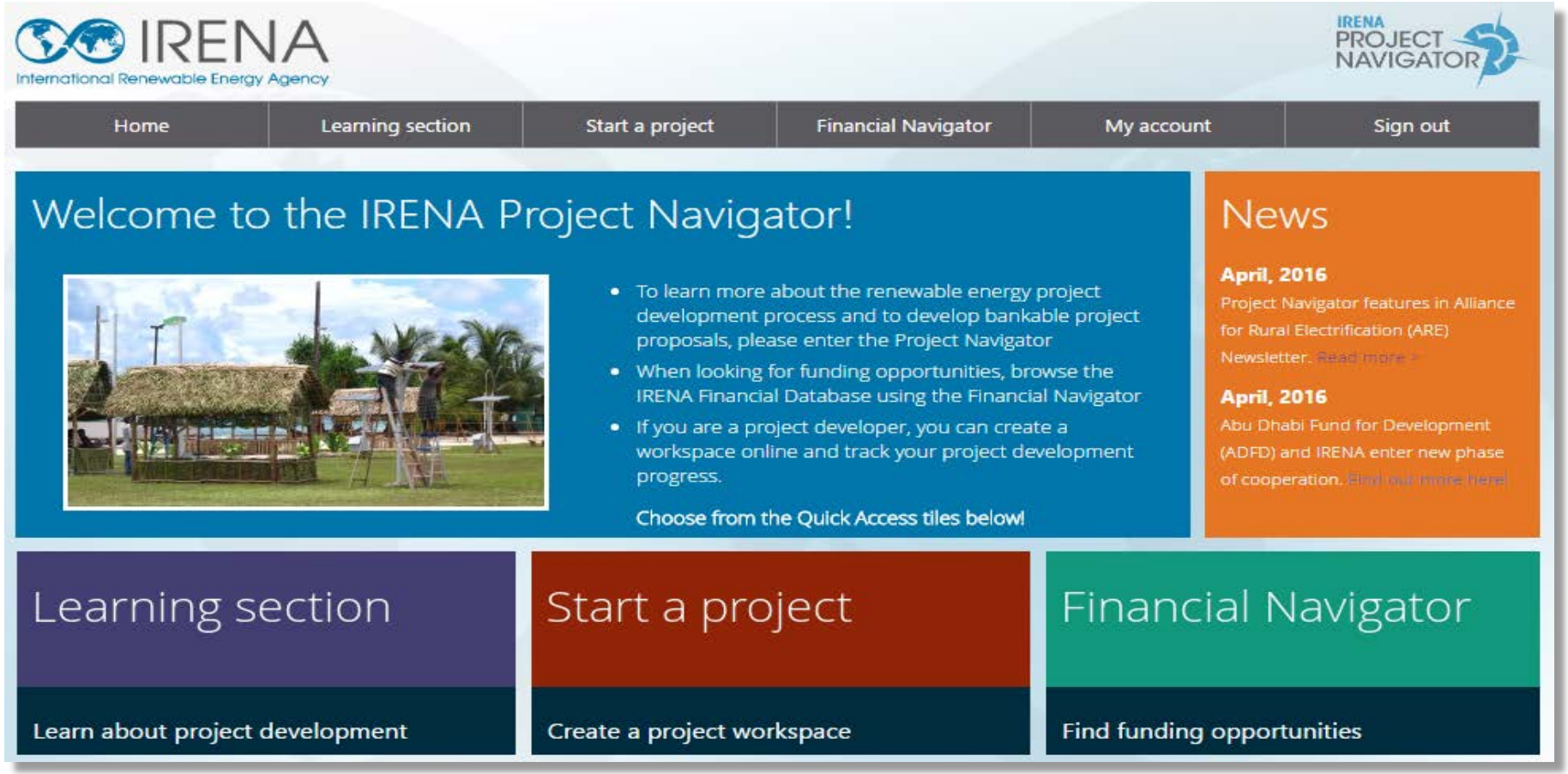
Enhancing capacities to improve the collection of reliable data on renewables

- Capacity Needs Assessment for RE Statistics
- Understanding the various elements and processes involved in renewable energy data collection and management.



Project Development Support

- Capacity building on financing and risk mitigation for RE projects
- Promoting the use of tools to clarify and systematise project development and make projects more bankable



Awareness Raising

Improving the understanding of benefits and economic impact of renewable energy deployment

Environment

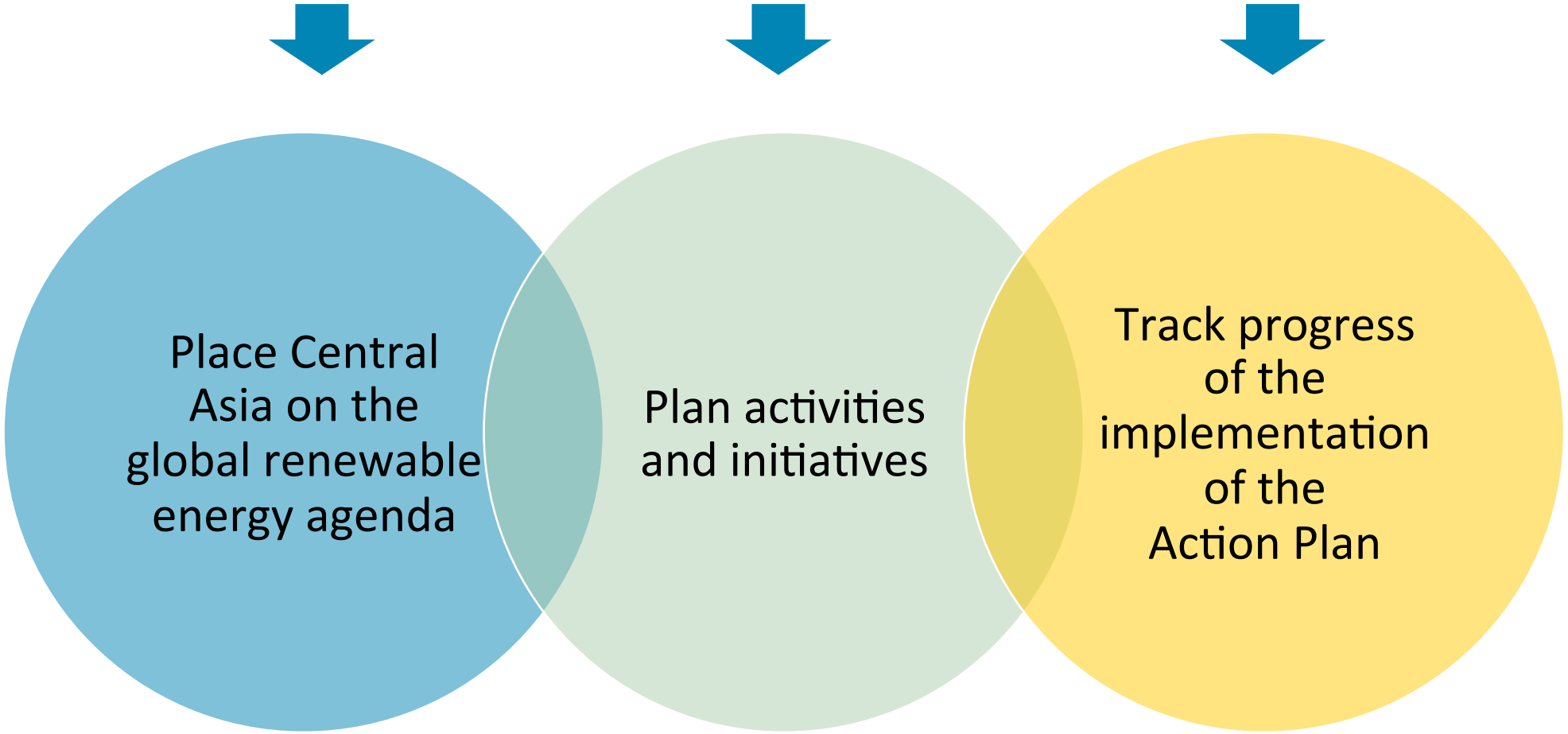
Human Development

Energy Security

Economic Growth

Plan, Implement and Track

Central Asia Renewable Energy Conference



Regional Action based on Partnership

Regional Collaboration

EU, UNECE, UNESCAP, NREL

Research & Development

ADB

Policy & Regulatory Assistance

ADB, UNDP, GIZ, USAID, EBRD, IFC

Investment Grants

CIF, EBRD, EIB, EDB, WB, AIIB, GEF

Other Technical Support

Energy Charter, GIZ, IEA, REN21, UNDP, UNECE, UNESCAP, WB

More than
USD 2.5 billion
on renewable energy during 2005-2016

Technical assistance
USD 46.65 million

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