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New opportunities for Regional collaboration and Renewable Energy developments in Central Asia

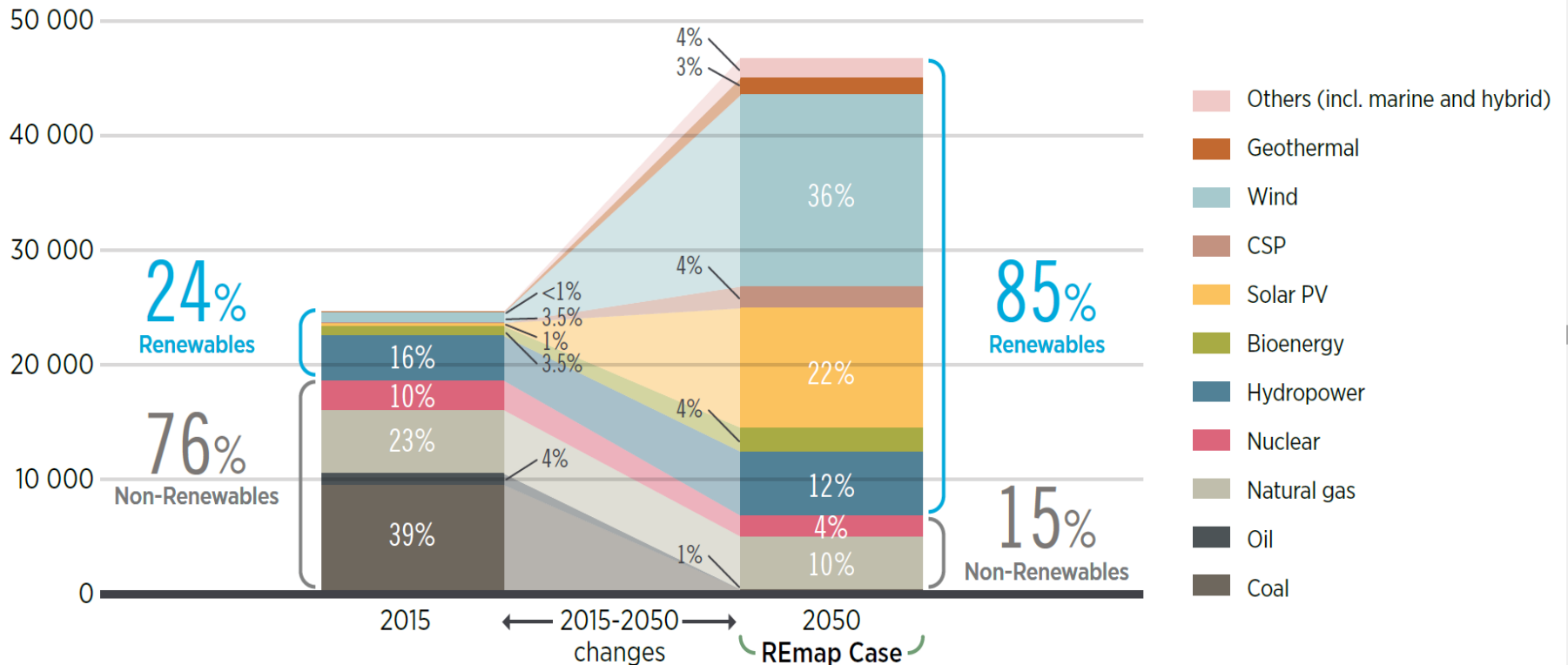
Pathways to Sustainable Energy workshop

Bishkek

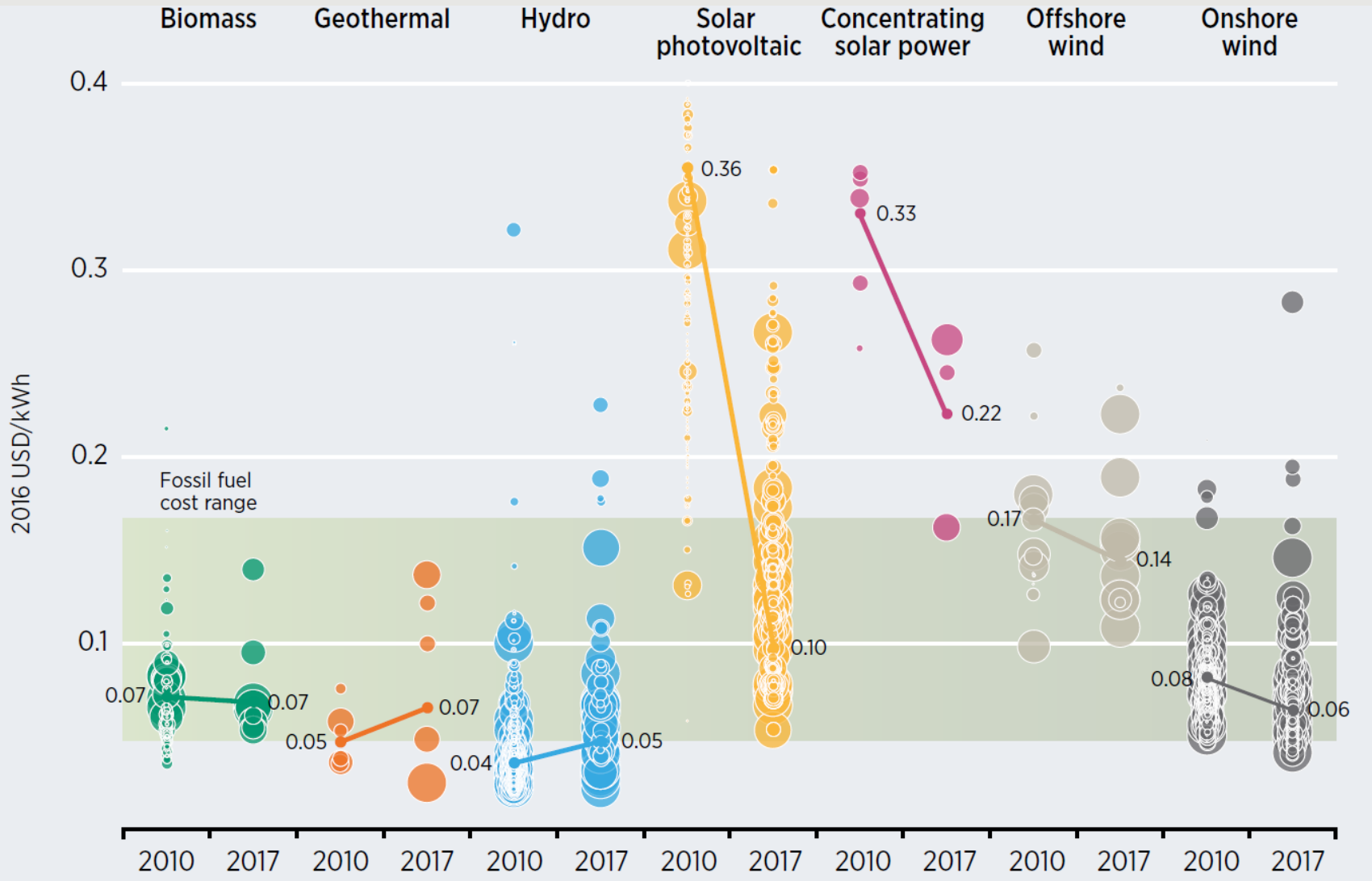
June 12-14

Forecast for the Change in Electricity Generation Structure with Increase of RE (IRENA)

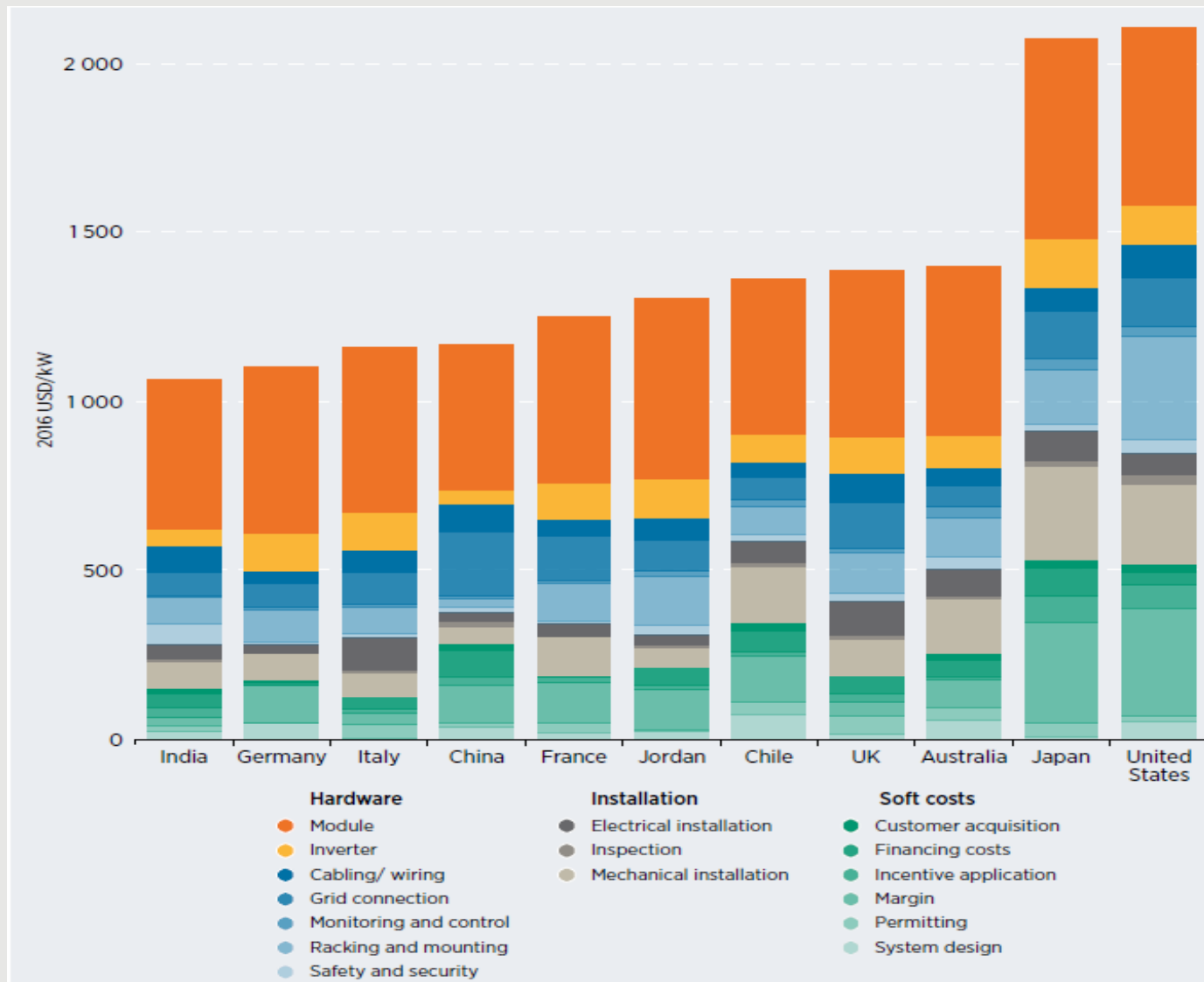
Electricity generation (TWh/yr)



RE Projects Costs Dynamics Pattern (IRENA)



Structure of the cost for PV Projects (IRENA)



Trends in the Changes in RE Auction Prices

- Abu Dhabi, May 4, 2016 - 2,99 US cents
- Abu Dhabi, September 20, 2016 - 2,42 US cents
- Abu Dhabi, October 3, 2017 - 1,79 US cents
- Mexico, November 21, 2017 - 1,77 US cents



Significant efforts and measures needed to reach this level of prices

First set of auctions in Kazakhstan provided the lowest price for RE projects ever – 17,49 tenge (5,32 US cents) for PV and 12,80 tenge (3,89 US cents) for HPP

Lessons learned from the first set of auctions will be used for preparation of the second set to be conducted in the fall of 2018

RE Developments in CAR

- All five countries demonstrate high interest to RE developments but have different priorities and level of competence
- Government of Kazakhstan set ambitious goals to reach 50% of RE in total generation by 2050
- Our project provides support to the Government to develop the roadmap to reach announces targets and minimize potential negative impact
- Uzbekistan consider implementation of large scale RE project in the nearest future
- Kyrgyzstan, Tajikistan and Turkmenistan prefer implementation of off-grid projects for electrification of remote isolated rural sites



RE Developments in CAR (cont.)



- Energy sector development scenario with deep penetration of RE rises number of important technical and legal issues to be resolved including the need of flexible generation capacity for frequency regulation
- At present time, the limit of power regulation capacity in the is almost exceeded
- Kyrgyzstan and Tajikistan have large potential for expansion of flexible generation capacity
- Low local electricity tariff prevents expansion of generation capacity in those countries
- Search for solutions of raised problems might become additional motivation for strengthening of regional cooperation and improvement of the market tools for electricity trade

Power the Future Project Activities

- Regional project in Central Asia under C5+1 initiative
 - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
- Project life:
 - August 2017 – August 2021
 - 1 phase, August 2017 – August 2019
- Project office in Astana, coordinators in each CA country



Areas of Activities

- Energy sector reforms, improving environment for RE developments
- Energy sector planning for RE developments
- RE pilot projects
- Improving of energy efficiency at power plants
- Transparency
- Knowledge management, coordination and capacity building

Key Counterparts

- Ministries
- Regulators
- Power companies
- Research institutes
- Educational universities
- Business societies
- Donors and local financial societies



Regional Activities

- Support of the reintegration of Central Asian Power System
- Support of new opportunities for regional cooperation with different scenarios of RE penetration
- Support to the improvement of the institutes and tools for strengthening of the regional cooperation
- Revision and improvement of the legal and regulatory framework for increasing of the benefits from the regional power trade
- Knowledge exchange



Activities in Kazakhstan

- Auctions support:
 - IT platform for RE auctions
 - Development of enabling environment for investors
 - Land granting
 - Assessments of RE resources
 - Grid connection
 - Grid expansion
 - Indexation
 - Take-or-pay guarantees
 - Совершенствование нормативно правовой базы
- Least costs generation planning
- Improving of Energy Efficiency for CHPs



Activities in Tajikistan and Uzbekistan

- Support in implementation of RE&EE foundation in Tajikistan
- Workshops on RE topics
- Improvement of the process of data collection from existing sources and data evaluation for assessment of RE potential
- Support to development and implementation of the RE standards
- Support to implementation of modern RE study course for educational universities
- Support to modernization of RE scientific research laboratories with modern RE equipment samples
- Design and implementation plan for RE pilot projects



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