# The Kick-off Meeting of the OSCE Regional Task Force on Education for Just and Inclusive Energy Transition (RTEET) in Central Asia

## EVENT SUMMARY

The Kick-off Meeting of the OSCE Regional Working Group on Education for a Just and Inclusive Energy Transition (RTEET) in Central Asia took place on 22–23 May 2025 in Almaty, Kazakhstan.

The main objective of the event was the official launch of the Regional Task Force on Education for Just and Inclusive Energy Transition (RTEET). The first goal of the RTEET group is the development of an academic course for technical universities that train specialists for the renewable energy sector.

The meeting was attended by representatives of the ministries of energy and education, national renewable energy agencies and centers, representatives of energy companies, technical universities, international organizations, and the expert community from the five Central Asian countries. A total of 74 participants took part (34 in-person and 40??? online).

### Key outcomes of the event:

1. Participants confirmed the relevance of establishing the RTEET Initiative, and agreed on its Terms of Reference and work plan through May 2026.
2. The shortage of qualified engineering personnel in the field of renewable energy (RES) has been confirmed, alongside the low appeal of existing RES educational programs in certain regional universities. The need to develop (or update existing) RES educational programs has been highlighted, taking into account: modern climate challenges, the specifics of the resource base, the volumes and structure of energy consumption in each country of the Central Asia region.
3. The following priority areas and specializations were identified:
   - *Republic of Kazakhstan.* There is a need for specialists in hydrogen, nuclear, and geothermal energy. Necessary disciplines include energy storage systems, artificial intelligence, modeling, and IoT in energy. Universities (Kazakh-British Technical University, Satbayev University, *Almaty University of Power Engineering and Telecommunications named after G.Daukeyev, Kazakh-German University*) confirmed their readiness to participate in the development and piloting of the new course.
   - *Kyrgyz Republic.* New disciplines are needed in bachelor's programs: hybrid renewable energy systems, geothermal energy, digital energy, legal regulation. Engineering specializations require the addition of topics in finance and ecology. Financial specialists need training in renewable energy technologies. Upskilling of existing professionals is important. Certification training without obtaining a second degree is a possibility. Universities for piloting the new course: Kyrgyz-Russian Slavic University and Osh Technological University.

- *Republic of Tajikistan.* There is a pronounced demand for specialists in the conversion of solar and wind energy into electricity and green hydrogen. A particular challenge lies in the development and implementation of educational modules in transportation and energy faculties related to the use of electric vehicles, their impact on power system operations, and the integration of solar power plants into the energy system. This necessitates not only the development of new educational programs in renewable energy (RES) but also the updating of existing engineering programs in specialties such as "Electric Power Stations", "Power Networks and Systems", and "Automotive Transport Operation". New disciplines or sections should be introduced into existing curricula, including: project management, financial modeling (CAPEX/OPEX), software for RES system design, energy storage, tariff regulation in the electric power industry, AI in managing autonomous RES-based power sources (including hydropower), topography (GIS), and interdisciplinary training (specialized sections on legal, financial, and environmental issues, sustainable energy development). Special attention should be given to training mid-level specialists and establishing local RES service centers. The specifics of the Central Asia region also call for workforce training in water-energy diplomacy. Bachelor's and master's degree programs are recommended as the appropriate educational levels. Partner universities include the Tajik Technical University named after academician M.S. Osimi and the Institute of Energy.
- *Turkmenistan.* Necessary new disciplines include agrivoltaics, meteorology, and IT specialists for the renewable energy sector. The creation of simulation laboratories equipped with digital equipment is important. The Turkmen State Energy Institute expressed readiness to become a pilot site for course implementation. To realize the initiative, simulation laboratories and organization of experience exchange with international experts are needed. The recommended level is Bachelor's.
- *Republic of Uzbekistan.* There is a shortage of specialists in climate finance, design, disposal, and dispatching of renewable energy networks. Specialists are needed in bioenergy, energy storage systems, and hybrid plant management. Courses are required on energy diplomacy and legal regulation in the renewable energy sector. There is a noted need for licensed software, the development of teaching and methodological materials, and the organization of professional development courses. The designated lead institution is Tashkent State Technical University.

4. For the effective implementation of the new course and practice-oriented training of specialists, universities require appropriate laboratories and experimental facilities. To train instructors, international internships and experience exchange programs within the Central Asian region are needed.

Based on the outcomes of the Inception Meeting and the priorities and proposals shared, participants are invited to consider and support the **following areas of further work:**

1) *Confirmation of support for the RTEET mandate.* Members of the Steering Group and key partners are kindly requested to confirm their support for the mandate of the Regional Task Force on Education for a Just and Inclusive Energy Transition

(RTEET), including participation in the implementation of the Action Plan.

2) *Circulation of the Needs Assessment Report.* The finalized version of the Needs Assessment Report will be circulated in August 2025 to inform curriculum development and the creation of country-specific modules.
3) *Formalization of collaboration with pilot universities and initial curriculum development.* In the 2025–2026 academic year, the process of developing and piloting renewable energy courses will begin in collaboration with universities that expressed interest. Ongoing support from national authorities and international partners will be essential for success.

# MINUTES OF THE MEETING

The Kick-off Meeting of the OSCE Regional Task Force on Education for Just and Inclusive Energy Transition (RTEET) in Central Asia was held in a hybrid format in Almaty, Kazakhstan, on 22–23 May 2025, with the support of the Organization for Security and Co-operation in Europe (OSCE) and the Regional Environmental Centre for Central Asia (CAREC).

## Purpose of the Event:

The primary goal of the event is to officially kick off the establishment of the Regional Task Force on Education for Just and Inclusive Energy Transition (RTEET) in Central Asia (RTEET). The first objective of this group is to develop an educational programme for technical universities training professionals for the renewable energy sector.

## Objectives of the Event:

- Present the preliminary results of the Needs Assessment Report, highlighting skills gaps and job creation potential in the renewable energy sector.
- Discuss the draft Action Plan for curricula development and agree on next steps for its implementation.
- Obtain formal endorsement of the Action Plan from steering and working group members.
- Promote gender equality by exploring ways to increase female participation in energy education and leadership roles.

The meeting brought together **74** participants (34 in person, 40 online), including representatives from government bodies (ministries of energy and education, national agencies, services, committees, subcommittees, and renewable energy centers) from Central Asian countries, representatives of national energy companies, national and regional project experts, as well as representatives of international and regional organizations (OSCE, CAREC, UNECE, UNESCO, GIZ), among others. The concept note, meeting agenda, and participant list are provided in the annexes.

*Participants of the Kick-off Meeting of the OSCE Regional Task Force on Education for a Just and Inclusive Energy Transition (RTEET) in Central Asia*

Opening the meeting, *Ms. Giulia Manconi (Senior Energy Security Adviser, OSCE Secretariat)* emphasized the significance of the RTEET initiative as part of the OSCE's commitments to support Central Asian countries in the energy transition. The speaker also expressed gratitude to CAREC for the partnership and highlighted the need to develop human capital in the field of renewable energy. In addition, Ms. Mankoni noted that the success of the energy transition depends on an inclusive approach and cross-sectoral cooperation.

The welcome remarks were continued by *Mr. Batyr Mamedov (Executive Director, CAREC)*, who emphasized the region's potential in renewable energy and the importance of training qualified personnel. The speaker noted the project's contribution to achieving national commitments under the Paris Agreement and creating new jobs, including opportunities for women. He also thanked participants for their involvement in the process of developing the educational module on renewable energy and expressed CAREC's readiness to coordinate the process at the regional level.

**The first session** was dedicated to the presentation of the RTEET initiative and the preliminary results of the needs assessment.

*Mr. Emomali Mirzoev (Project Officer on Energy Security, OSCE Secretariat)* presented the goals, objectives, and structure of RTEET, noting its role as a platform for coordination among governments, universities, and the private sector. The speaker also highlighted existing challenges: a lack of qualified personnel, a mismatch between educational programs and market demands, and gender imbalance in the sector. At the same time, Mr. Mirzoev presented the objectives of the needs assessment and key areas for further work of the group.

Continuing the session, representatives of Central Asian countries as well as national and regional experts of the project presented preliminary findings of the Needs Assessment, identifying skill gaps and gender disparities, as well as the potential for job creation in the renewable energy sector in Central Asia:

- **Republic of Kazakhstan.** *Mr. Abylaikhan Soltanayev, (Almaty University of Power Engineering and Telecommunications named after G.Daukeyev)*, spoke about national priorities in training personnel in the field of renewable energy. The speaker emphasized the lack of qualified specialists, especially in engineering and technical fields, and pointed to the need to update curricula in accordance with modern requirements. Attention was also drawn to the importance of a practice-oriented approach and the integration of real case studies into the educational process.
- **Kyrgyz Republic.** *Mr. Turukmen Zhabudayev (Kyrgyz State Technical University named after I. Razzakov)* spoke about the situation in hydropower in Kyrgyzstan, emphasizing the country's potential, of which only a small portion is currently utilized. Mr. Zhabudaev noted the need to modernize training approaches, including the introduction of mentorship and dual education. The need for modernizing education, including mentorship and dual education, was also emphasized.
- **Republic of Tajikistan.** *Mr. Umarkhon Madvaliev (President of the Association of Renewable Energy of Tajikistan)* proposed to establish closer coordination among the countries of the region. He also supported the idea of creating a working group with the participation of leading technical universities from Central Asian countries and expressed interest in experience exchange, especially in the area of specialist training and renewable energy potential assessment. Mr. Madvaliev emphasized the importance of considering the opinion of practitioners in the development of educational programs.

- **Turkmenistan.** *Mr. Serdar Mamedniyazov (Aarhus Centre in Turkmenistan)* stated that Turkmenistan has strategic documents on energy saving and renewable energy in place until 2030. The speaker also spoke about energy saving programs, the climate strategy, and the development of energy diplomacy, emphasizing the importance of the legal framework as a foundation for the sustainable development of the sector and the training of specialists.
- **Republic of Uzbekistan.** *Ms. Nargiza Dalmuradova (Tashkent State Technical University named after Islam Karimov)* presented a brief overview of Uzbekistan's needs in renewable energy personnel. The speaker also noted the importance of early career guidance for students and the inclusion of solar and wind energy courses in bachelor's and master's programs. She emphasized that new programs should be closely linked to the labor market and adapted to the country's existing infrastructure.

Summarizing the presentations of national experts, *Mr. Alexey Kobzev (Kazakh-German University)* presented a systematic overview of the procedure for introducing new courses into university programs in the context of the Central Asian region: from curriculum development and compliance with state educational standards (GOSO) to approval by methodological councils and obtaining the rector's order. Special attention was given to the provision of human and material resources, as well as the need to monitor the effectiveness of the implemented course. The speaker also emphasized the necessity of taking into account the national standards of each country.

During the session, participants also shared proposals and asked questions:

- A representative of the Kyrgyz Republic proposed the creation of a Committee on curriculum development with the participation of leading technical universities of each Central Asian country.
- A question was raised about the possibility of including technical and vocational education institutions (colleges) in the work of the group. OSCE representatives confirmed that such institutions were considered during the assessment and will be invited to further cooperation.
- Possible forms of international cooperation with technical universities in Europe were discussed, as well as the need to create training centers for practical education.

**The second session** began with a presentation by *Ms. Chiara Giamberardini (United Nations Economic Commission for Europe),* who congratulated the organizers of the meeting and emphasized that the energy transition must be fair and inclusive, placing people at the center of the process. The speaker also noted the importance of interregional cooperation, especially in the field of training and knowledge exchange, and supported the RTEET initiative as a sustainable tool for coordinating efforts in the region.

Next, representatives of Central Asian countries, members of the Regional Coordination Committee (RCC), presented their **comments on national priorities** in the renewable energy sector and on the results of the Needs Assessment:

- **Republic of Kazakhstan.** The representatives of Kazakhstan noted the advanced level of renewable energy development in the country, including the legislative framework since 2009. Among the priorities are hydrogen, nuclear, and geothermal energy. The need for specialists in new areas, including pumped storage power plants and energy modeling, was emphasized. RCC members also proposed expanding the

practical base in universities and noted the need for digital competencies, including artificial intelligence and IoT in energy.

- **Kyrgyz Republic.** The speakers emphasized the need for upskilling of already active specialists. A proposal was made to organize exchange programs with foreign countries. The speakers also touched upon the problem of interaction between engineers and financiers. The need for certification training without obtaining a second diploma and issues of internal energy logistics and international cooperation were also discussed.
- **Republic of Tajikistan.** The speakers highlighted the acute need for personnel in solar and wind energy and green hydrogen and proposed including topics such as project planning and development considering local conditions, financial modeling (CAPEX/OPEX), software for designing renewable energy systems, skills in working with rooftop stations, topography (GIS), and interdisciplinarity (including lawyers and financiers) in the programs. Attention was also drawn to the training of specialists in electric vehicles and charging systems integrated with solar panels. The representatives of Tajikistan also supported interdisciplinary training involving lawyers, financiers, and environmentalists and emphasized the importance of a renewable energy export strategy and training of specialists in international electricity flows.
- **Turkmenistan.** A representative of the Turkmen State Energy Institute noted initiatives for the development of new academic disciplines such as agrivoltaics, meteorology in the context of renewable energy, and IT solutions in energy. Emphasis was placed on the need to create simulation laboratories equipped with digital equipment and the involvement of international experts. The speaker expressed the institute's readiness to participate in piloting the course. He also emphasized that Turkmenistan has a scientific foundation in solar energy, rooted in the work of the Institute of the Sun.
- **Republic of Uzbekistan.** A representative of the Ministry of Energy emphasized the need to train specialists in bioenergy, hybrid station management, and energy storage systems. RCC members also pointed out a shortage of personnel in climate financing, design, disposal, and dispatching of renewable energy networks. In addition, the importance of additional courses in energy diplomacy and legislative regulation was emphasized. The practice of international cooperation (Japan, Germany) was presented, including international cooperation in the training of energy managers. Active participation of universities in the education reform was noted.

**The third session** was dedicated to group work. Participants were divided by country and worked on six key questions:

- Which renewable energy discipline is not taught or has very limited teaching in Central Asia, but is in demand?
- Bachelor's or Master's level?
- What topics should the discipline cover?
- Which universities are interested in piloting the course?
- What does the pilot university need in addition to the training module?
- Necessary steps for course development?

Based on the discussions, representatives from each country presented their ideas and proposals:

- **Republic of Kazakhstan.** Priority areas proposed included disciplines on energy storage systems, artificial intelligence, modeling, and IoT in energy. Universities confirmed their readiness to implement the courses, having appropriate laboratories and research facilities. Successful implementation also requires international internships and strengthening of practice-oriented training.
- **Kyrgyz Republic.** New disciplines were proposed, including hybrid renewable energy systems, geothermal energy, equipment certification, digital energy, and legal regulation. The focus is planned to be on bachelor's programs. Priority universities include the Kyrgyz-Russian Slavic University and Osh Technological University. Implementation of the courses requires appropriate laboratories and experimental facilities.
- **Republic of Tajikistan.** The focus of the proposed disciplines shifted towards digitalization, artificial intelligence, and legal regulation. The recommended level is Master's. Partner universities identified include the Tajik Technical University and the Institute of Energy. The importance of adapting educational courses to the specifics of regional conditions was particularly emphasized.
- **Turkmenistan.** Key proposals included agrivoltaics, training of IT specialists in the field of renewable energy, and meteorology. The recommended level is Bachelor's. The Turkmen State Energy Institute expressed its readiness to become a pilot platform for course implementation. To realize the initiative, simulation laboratories and organization of experience exchange with international experts are needed.
- **Republic of Uzbekistan.** Proposed disciplines include energy storage systems, safe grid integration, as well as energy economics and diplomacy, with clear differentiation between Bachelor's and Master's levels. Tashkent State Technical University was identified as the leading platform. The need for licensed software, development of teaching and methodological materials, and organization of professional development courses was noted.

**The fourth session** was dedicated to discussing and agreeing on the next steps within the project. *Ms. Ludmila Kiktenko (Programme Manager, CAREC)* summarized the group work and presented a consolidated draft Action Plan, including key priorities for all countries in the region. Areas requiring immediate attention were identified:

- Finalization of the Action Plan taking into account participants' comments
- Allocation of responsibilities between countries and universities
- Establishment of the RTEET Coordination Council
- Preparation for the launch of pilot courses in the 2025–2026 academic year, taking into account participants' comments
- Allocation of responsibilities between countries and universities
- Establishment of the RTEET Coordination Council
- Preparation for the launch of pilot courses in the 2025–2026 academic year

*Mr. Alexey Kobzev (Kazakh-German University)* confirmed the interest of several universities in participating in the course piloting. He noted that educational institutions are ready to provide a platform and resources, and expressed readiness to share best practices and developments.

*Members of the Steering Group* expressed support for the proposed Action Plan. They announced intentions to coordinate the program implementation with national priorities, ensure institutional support, and engage international partners in the implementation of the initiative.

*The representative of the Republic of Tajikistan* proposed the following stages for the development of an educational program in the field of renewable energy (RE):

1. Consider the possibility of developing a core educational program that would be mandatory for all universities in the Central Asian region, covering various levels of education (Master's, Bachelor's, etc.).
2. Develop the structure of the core educational program and define the approval process.
3. Develop country-specific modules of the educational program for different levels of education.
4. Support the coordination and approval process of the educational program, taking into account the interests of each country.

*OSCE representatives* noted the high level of participant engagement and the importance of creating a unified educational platform. It was noted that the meeting was an important step toward creating a unified educational platform in Central Asia and promoting gender inclusivity.

## Conclusion

The RTEET Kick-off Meeting confirmed the relevance and demand for establishing the RTEET Initiative, and resulted in the agreement on its Terms of Reference and work plan through May 2026.

Representatives of government bodies, academia, and energy companies from the five Central Asian countries confirmed the shortage of qualified professionals in the renewable energy sector, particularly in engineering and technical fields, and emphasized the importance of developing an educational course for technical universities in Central Asia that train specialists for the renewable energy sector.

Each Central Asian country outlined its priority areas and specializations for the new course. Participants expressed readiness to continue cooperation on the course development and support its piloting in their respective countries.

According to the results of the post-event survey 93% of participants reported a high level of satisfaction with the event, noting the relevance of topics, quality of the programme, and strong organization. Thematic sessions were considered meaningful by 80–90% of respondents, while 85–95% positively assessed the knowledge gained. Convenience of participation and technical support were rated as excellent by 80–85% of participants. Written comments mostly expressed appreciation and highlighted the high quality of the event. Suggestions included adding a cultural component, improving interaction with online participants, and expanding the range of topics. Overall, the event received positive feedback and left a favorable impression.

*Annex:*

1) *Agenda of the meeting*
2) *List of participants*