

# WEATHER & CLIMATE SERVICES FOR THE ENERGY SECTOR

## Training course online for practitioners & policymakers



Welcome to the online weather and climate services for the energy sector in Central Asia training course for practitioners and policymakers, brought to you by the Kazakh-German University in Almaty (DKU), the World Energy & Meteorology Council (WEMC), the World Meteorological Organization (WMO), the World Bank (TWB), UNECE (UNE) and RSE “Kazhydromet” (KHM) and the Economic and Social Commission for Asia and the Pacific (ESCAP).

In this free course you will learn about the impacts of weather and climate on energy systems, and their importance in ensuring effective and efficient uptake of renewable, clean energy sources. You will acquire theoretical knowledge and practical tools to design and deliver your own weather and climate service, working in small teams. Hearing from leading experts, you will learn about real-world applications of weather and climate services and best practice approaches to enhance your knowledge and

### HOW WILL YOU LEARN

The course is delivered online and designed as an interactive learning and exchange. Each three and a half-hour online session will consist of lectures, panel discussions, group work and practical exercises from a variety of speakers, all experts in their fields.

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The course will consist of six half-day ‘face-to-face’ online sessions on:

21, 23, 25, 28 February and 2 and 4 March 2022.

All sessions will run from 9:00 – 12:30 UTC.

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### ANY QUESTIONS ABOUT THE CENTRAL ASIA TRAINING ? PLEASE GET IN TOUCH :

Dinara Shakhmetova for registration [shakhmetova@dku.kz](mailto:shakhmetova@dku.kz)

Shelbie Walker for general enquiries [shelbie.walker@wemcouncil.org](mailto:shelbie.walker@wemcouncil.org)

## SESSION 1 –21.2.22: WHY WEATHER AND CLIMATE SERVICES MATTER FOR ENERGY MANAGEMENT

In this session, we will explore why weather and climate services are needed in the energy sector, how they can be applied in the region and possible challenges to their uptake.

9:00–9:20 UTC	Welcome Address  Chair: Barbara Janusz-Pawletta (DKU)	Wolrad Rommel (DKU) Alberto Troccoli (WEMC) Daniel Kull (WB) Roberta Boscolo (WMO)	
9:20–9:30	Introduction	Alberto Troccoli (WEMC)	Get acquainted with course outline and objectives
9:30–10:30	Weather & climate services for the energy sector Chair: Alexey Kobzev (DKU)	Alberto Troccoli (WEMC) Laurent Dubus (RTE-WEMC)	Explain what weather and climate services are. Demonstrate how these are valuable for the energy sector

### 10:30 – 11:00 BREAK & NETWORKING

11:00–11:30	The energy sector in Central Asia: current status and emerging trends Chair: Alberto Troccoli (WEMC)	Iva Brkic (UNECE) Sergey Tulinov (ESCAP)	
11:30–12:30	Panel: Weather and climate services for supporting energy transitions in Central Asia: local barriers and opportunities Chair: Barbara Janusz-Pawletta	Jane Ebinger (WB), Alexey Kobzev (DKU), Asset Nauryzbayev (Expert), Ainur Sospanova (Green Qazaq association)	Outline opportunities and challenges to the uptake of weather and climate services to support energy transitions in the region

## SESSION 2 –23.02.22: WHAT IS NEEDED FOR DELIVERING WEATHER AND CLIMATE SERVICES

Understand the steps for building a weather and climate service through the weather and climate service value chain. We will then explore the perspective of regional National Hydrometeorological Institutes on the uptake of weather and climate services.

9:00–10:00 UTC	Good practice in delivering weather and climate services development for the energy sector Chair: Alexey Kobzev (DKU)	Roberta Boscolo (WMO) Chiara Cagnazzo (C3S)	Explore best practice in weather and climate service development for the energy sector
10:00–11:00	Panel: National weather & climate services for the energy sector– the perspective of the National Hydrometeorological services Chair: Anahit Hovespyan (WMO)	Alua Sakhanova (Kazhydromet), Elena Akentyeva (GeoPhysi Obs) Natalya Vasilenko (Kyrgyzhydromet) Anvarsho Dorgayev (Tajikhydromet) Kristian Horvath (Croatia Hydromet)	Understand the state of national weather and climate services provided to the energy sector and identify national capacities and needs

### 11:00 – 11:30 BREAK & NETWORKING

11:30–12:30	Introducing practical: planning an energy weather/climate service for your country/ company	Alberto Troccoli (WEMC)	Introduce the process of creating a mini-proposal for a weather/climate service
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## SESSION 3 – 25.2.22: HOW TO DESIGN A CLIMATE SERVICE

In this session we will explore the design process of weather and climate services, from the application of collaborative approaches, to using weather forecasting for energy applications.

9:00-10:00 UTC	Collaborative approaches to weather and climate services <b>Chair: Iva Brkic (UNECE)</b>	<b>Clare Goodess (UEA)</b>	Explore co-design principles, from understanding users' needs, co-production and co-delivery, also touching on evaluation
10:00-11:00	Group work – build your own mini climate service/ proposal <b>Chair: Alberto Troccoli (WEMC)</b>	<b>Mentors:</b> Iva Brkic (UNECE) Sergey Tulinov (ESCAP) Alexey Kobzev (DKU) Hamid Bastani (WMO)	
<b>11:00 – 11:30 BREAK &amp; NETWORKING</b>			
11:30-12:30	Weather and climate forecasting for energy applications in the region <b>Chair: Alberto Troccoli (WEMC)</b>	<b>Sue Ellen Haupt (NCAR)</b> <b>David Brayshaw (U of Reading)</b>	Understand the science behind and application of weather and climate forecasting for the energy industry

## WEEK 2

## SESSION 4 – 28.2.22: APPLYING WEATHER AND CLIMATE SERVICES FOR THE ENERGY SECTOR

In this session we will understand the factors affecting energy users' decisions and actions when using weather and climate services. We will then hear from energy industry stakeholders on their experience with weather and climate services.

9:00-10:00 UTC	Presentation: Sources of weather and climate data for the energy sector: Copernicus C3S, the Global Solar and Wind Atlas, etc <b>Chair: Laurent Dubus (RTE/WEMC)</b>	<b>Matteo DeFelice (JRC)</b> <b>Jake Badger (DTU)</b>	Explore sources of data for the development of weather and climate services
10:00-11:00	Case studies: applying climate services in the energy industry <b>Chair: Matteo DeFelice (JRC)</b>	<b>Altynay Zhapbasbayeva (Kazhydromet)</b> <b>Dana Yermolyonok (GIZ)</b> <b>Jose Alberto Zúñiga Mora (ICE)</b>	Panel showcasing case studies using weather and climate services in the energy sector
<b>11:00 – 11:30 BREAK &amp; NETWORKING</b>			
11:30-12:30	Group work – build your own mini climate service/ proposal	<b>Mentors:</b> Iva Brkic (UNECE) Sergey Tulinov (ESCAP) Alexey Kobzev (DKU)	

This programme is indicative to illustrate course content but is subject to changes.

## SESSION 5 –02.03.22: APPLYING WEATHER AND CLIMATE SERVICES FOR THE ENERGY AND RELATED SECTORS

In this session, we will explore different data sources for the development of weather and climate services. We will then hear how these services can be turned into business opportunities.

9:00–10:00 UTC	Insurance and hedging for energy and agriculture <b>Chair: Daniel Kull (WB)</b>	<b>Lukas Sundermann (Swiss Re)</b>	Learn how insurance is used to hedge hydropower production and agricultural products in the region
10:00–11:00	Panel: Weather and climate services for risk management and net-zero infrastructure development <b>Chair: Daniel Kull (WB)</b>	<b>Alma Zhukenova (Ministry of Energy of the Republic of Kazakhstan), Yuri Simonov (Roshydromet) Vladislav Bizek (WECOOP) Laurent Dubus (RTE/WEMC)</b>	Discuss what is required to support weather and climate services for the net-zero transition and low-carbon investment.
<b>11:00 – 11:30 BREAK &amp; NETWORKING</b>			
11:30–12:30	Group work – build your own mini climate service/ proposal	<b>Mentors: Sergey Tulinov (ESCAP), Alexey Kobzev (DKU), Iva Brkic (UNECE)</b>	

## SESSION 6 –04.03.22: CONCLUDING THOUGHTS AND PARTICIPANTS PRESENTATIONS

In the first part of this session, we will explore with course participants capacity needs and knowledge gaps for uptake of weather and climate services in the region. Participants will then showcase their projects, before concluding comments and farewells.

9:00–10:00 UTC	Building regional and cross-sectoral capacity on weather and climate services – what is needed? <b>Chair: Roberta Boscolo (WMO)</b>	<b>Andreas Schaffhauser (ZAMG), UNECE Environment Division (TBC)</b>	Explore what individual, organisational and institutional capacities are needed to enhance collaboration and uptake of weather and climate services in the region
10:00–11:00	Elevator pitch of projects <b>Chair: Roberta Boscolo (WMO)</b>	<b>Group representatives</b>	Demonstrate the group work performed during the training event
<b>11:00 – 11:30 BREAK &amp; NETWORKING</b>			
11:30–12:30	Closing and farewell	<b>Alberto Troccoli (WEMC), Barbara Janusz-Pawletta (DKU) Alexey Kobzev (DKU)</b>	

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