

The Regional Environmental Centre for Central Asia

EXPERTISE FOR BETTER ENVIRONMENT


Central Asian Regional Cooperation for support implementation

Key Action Area 6.1 “Climate change mitigation and adaptation, disaster risk reduction and building resilience of LLDCs to the adverse impacts of climate change, natural hazards, and environmental degradation.”



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Central Asia's Environmental Challenges



- **Water challenges:** reduction of quality and quantity, growing competition for water resources, degradation of water environment and increasing of frequency of natural disasters of water nature

- **Land degradation:** Desertification, salinization and degradation of quality, soil contamination

- **Biodiversity losses and ecosystems degradation:** reduction of numbers and species, reduced environmental services

- **Degradation of Environment in Cities:** air pollution, waste and industrial pollution

- **Energy and Climate change:** Energy generation and consumption, higher and longer heat waves, melting of glaciers and increased droughts, floods.

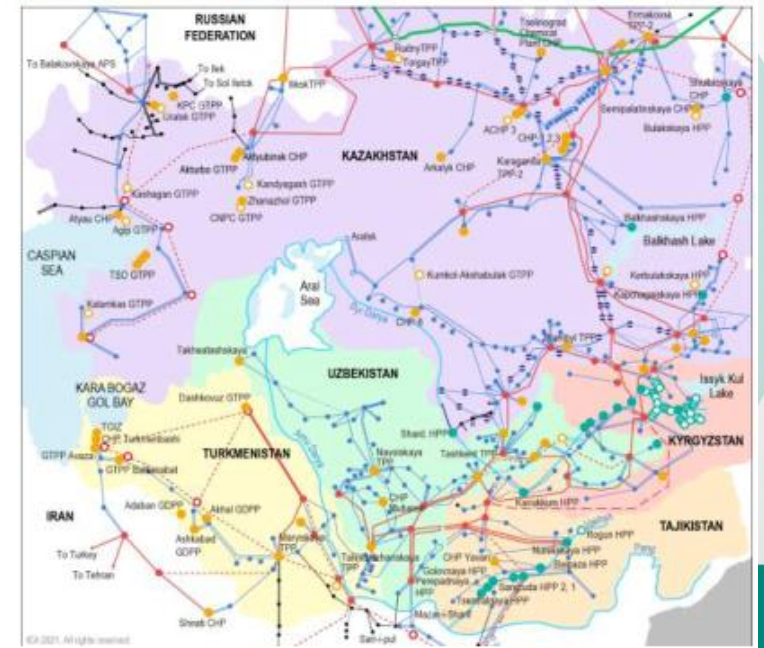
Central Asia's Environmental Challenges

Water, Energy and Climate

- Balance between Water and Energy sectors is crucial:
 - To address climate risks – both mitigation and adaptation.
 - To manage commodity and energy market trends and volatility.
- Water-Energy in Central Asia characterized by
 - Unique physical geography
 - Legacy of soviet-era infrastructure and sectoral architecture
- Two-sided problem:
 - **Energy use in Water** - costs of delivering water services
 - **Water use in Energy** - allocating water across competing uses
- Regional cooperation and inter-sectoral coordination will be key.



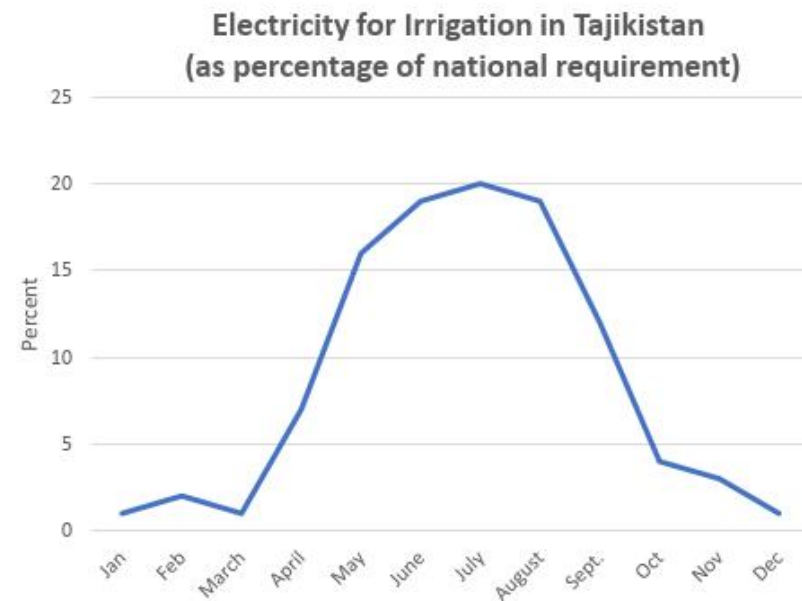
Figure 3.9 Map of regional electricity interconnections



Central Asia's Environmental Challenges

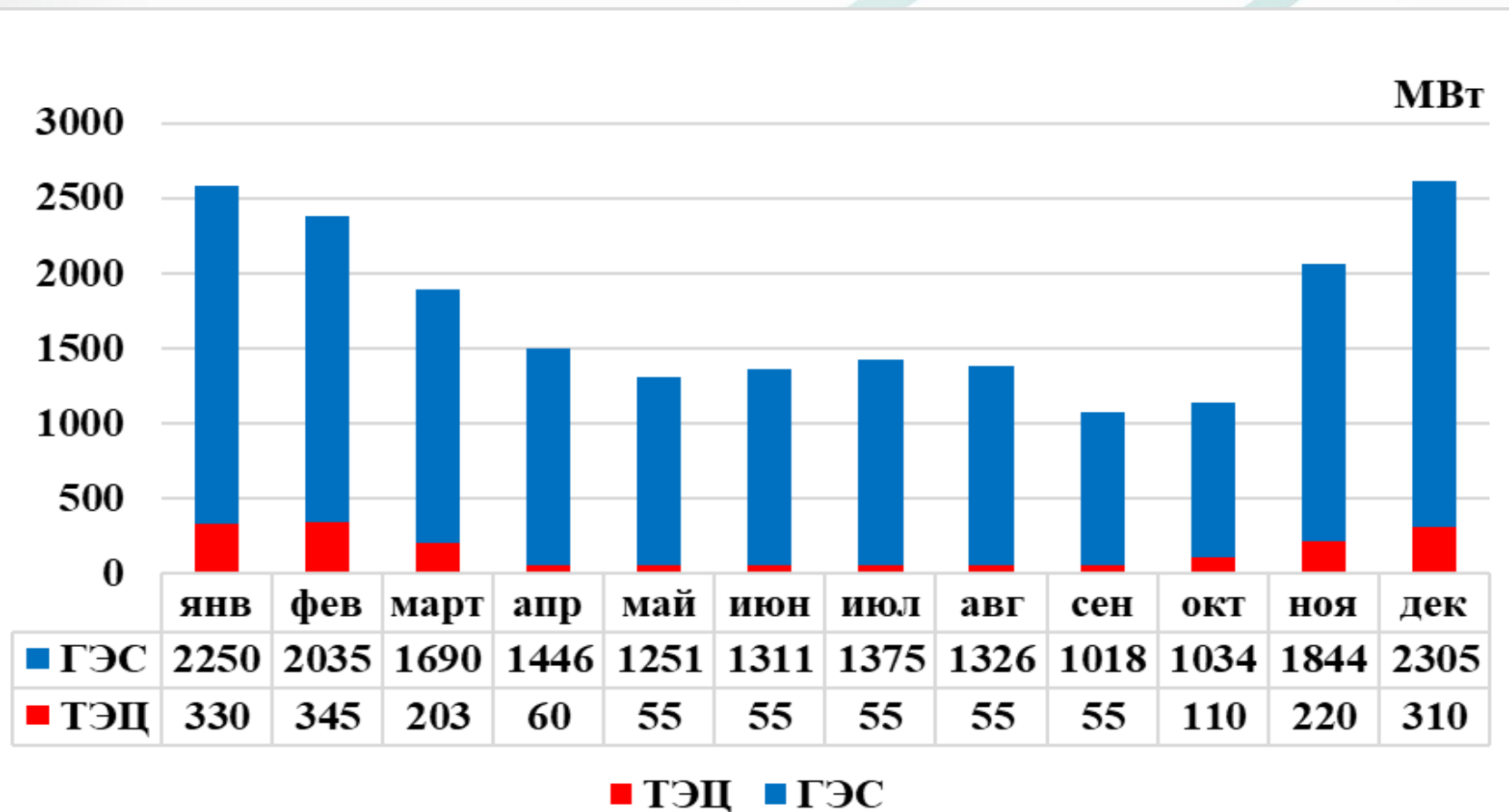
Energy for Irrigation

- Pumped irrigation is highly prevalent in region
 - Can be costly and inefficient.
 - An additional 2-3 percent of GHGs come from irrigation.
 - Up to 20 percent of *national electricity* use (very high in summer).
- Significant energy-savings potential
 - E.g. In South Karakalpakstan, Uzbekistan, improved pumping systems will save 60,000 MWh per year.
- Potential energy-efficiency improvements:
 - Upgrading equipment and design (conversion to gravity systems)
 - Improved water management practices
 - Tariff reform



Central Asia's Environmental Challenges

Average monthly electric loads of JSC "Electric Stations" for 2020 (Kyrgyzstan)



Increased frequency of fixing the country's summer peak demand

- 27 July 2022 - 35 million 353 thousand kWh

- 7 July 2021 - 32 million 759 thousand kWh

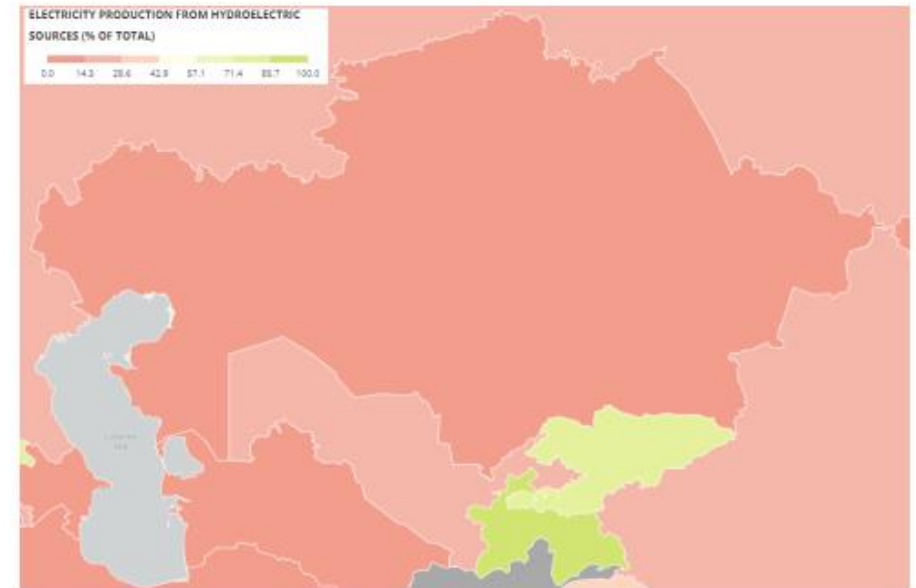
- 8 September 2017 - 27 million 270 thousand kWh

- 11 July 2012 - 21 million 994 thousand kWh

Central Asia's Environmental Challenges

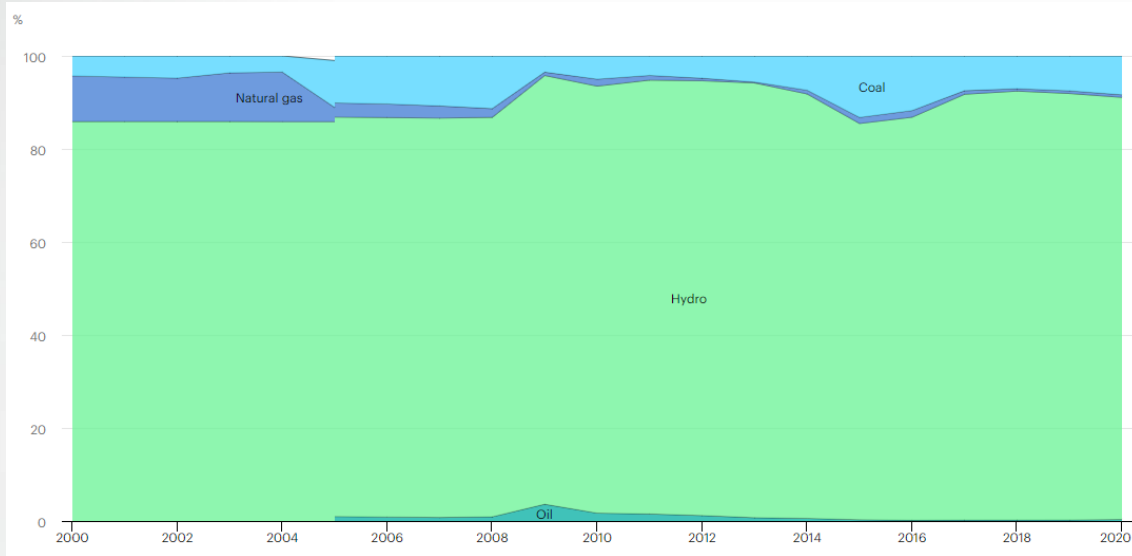
Water for Energy Production

- Choice of energy production technology determines water footprint
 - Thermal power plants among biggest industrial water users
 - Solar and Wind have little water requirements
- Hydropower will be crucial for achieving net zero
 - Enough hydropower potential to meet energy needs region ... more than 4 times over!
 - But distribution of power and water resources is highly uneven.
- Critical challenges arise at this nexus:
 - Water allocation needs balancing across competing uses
 - Inter-sectoral: hydropower, irrigation, environment
 - Inter-regional: upstream vs downstream
 - Timing of water demand and supply is a key issue
 - Hydropower for winter heating vs irrigation for summer crops.
 - Climate change projected to change timing and variability of flows
 - Energy trade not well-established.



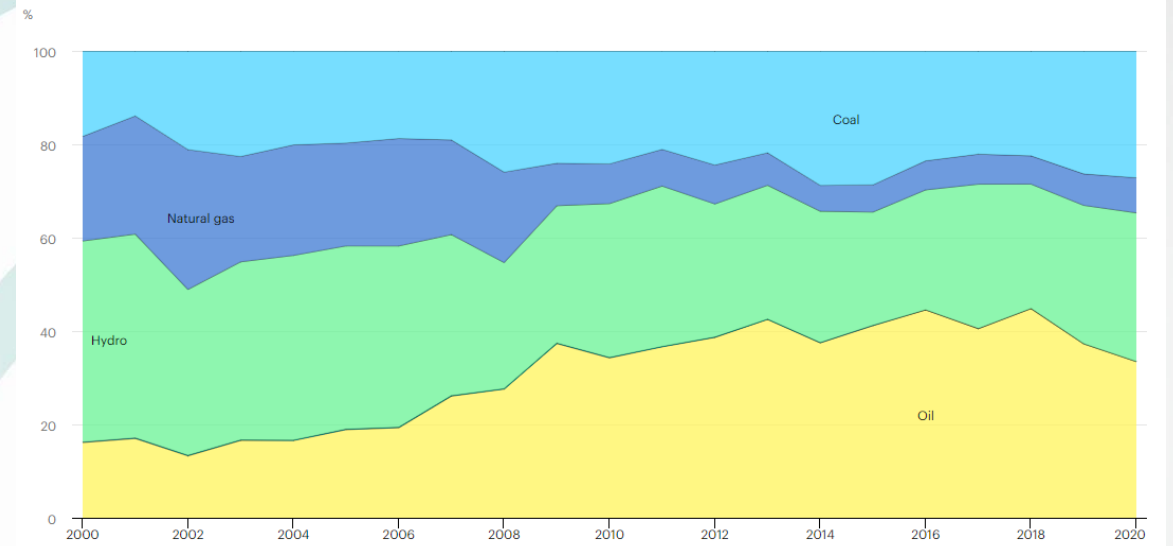
Central Asia's Environmental Challenges

Total electricity generation

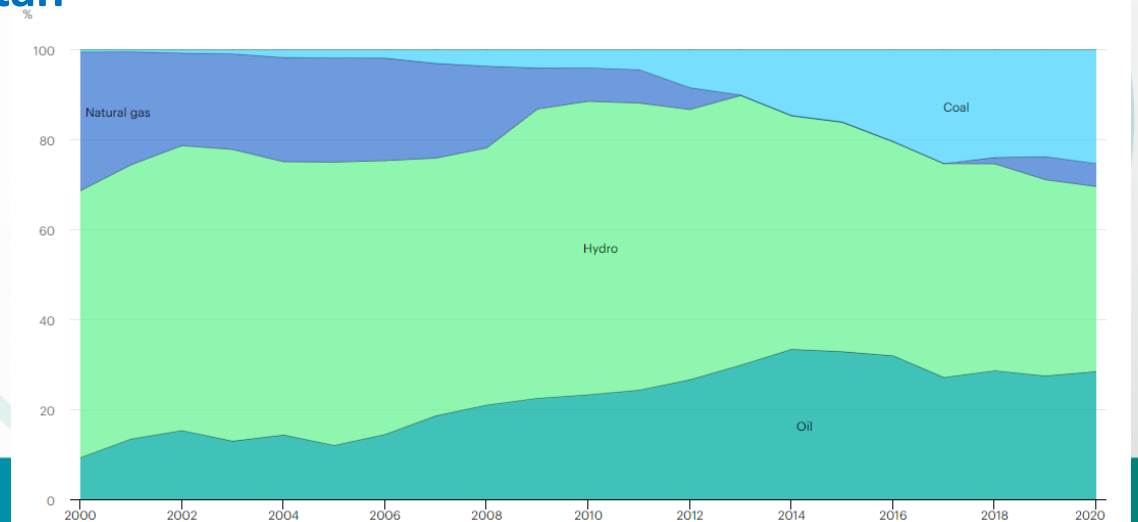
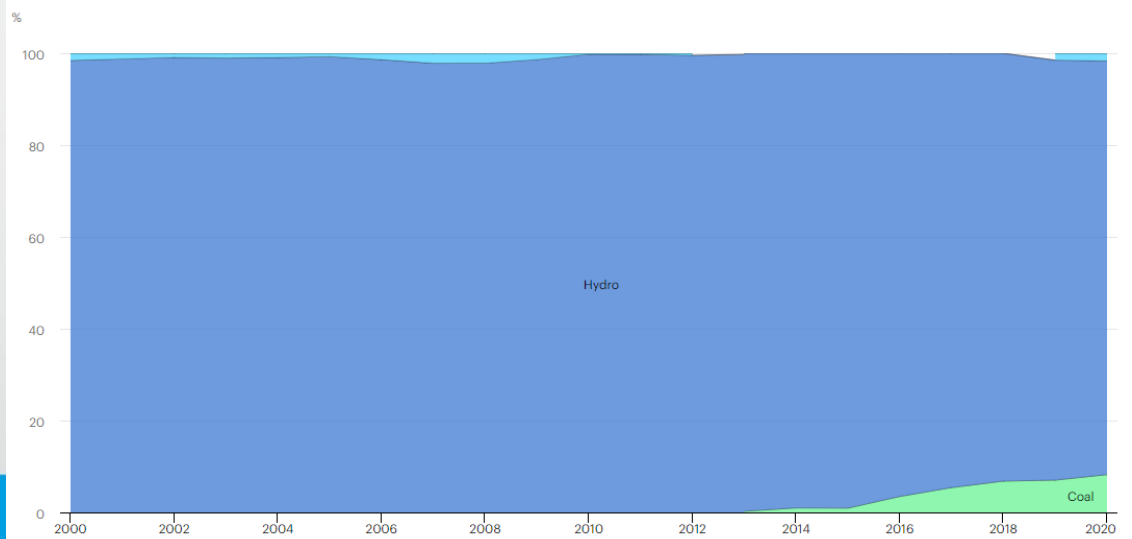


Kyrgyzstan

Total energy supply



Tajikistan

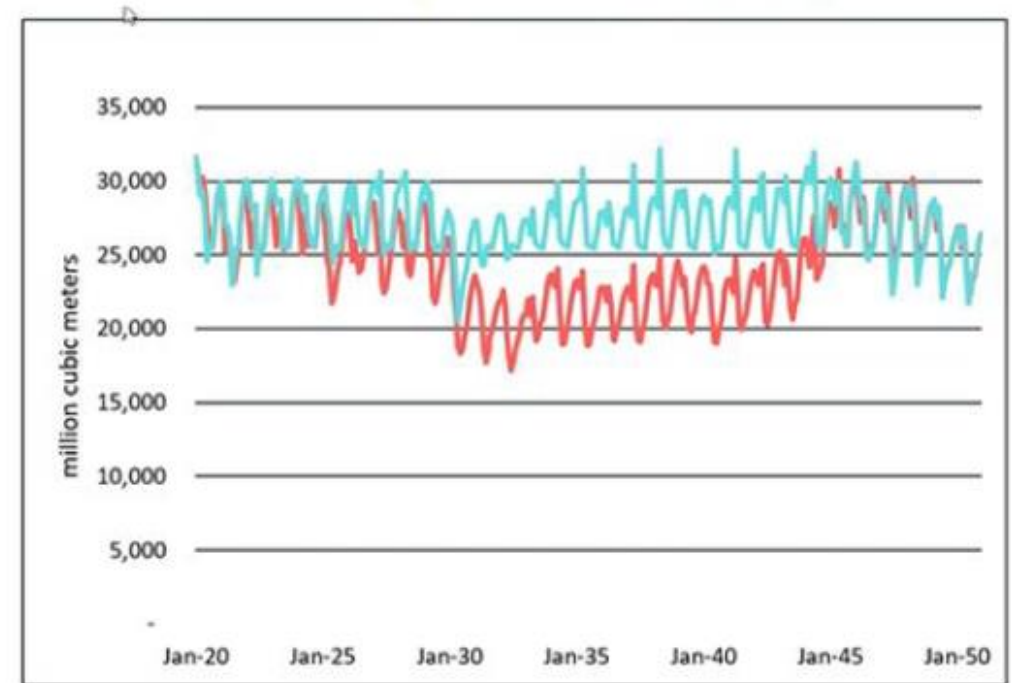


Central Asia's Environmental Challenges

Looking Forward

- Climate action gives fresh impetus for coordinated water-energy nexus.
 - Projections of increased water stress
 - Race to net zero
 - Need for a just green transition
- New technologies now bring new possibilities
 - More efficient infrastructure and equipment available.
 - Better hydromet, remote-sensing and other data to inform decisions
 - Integrated modelling approaches developed for joint water and energy planning and management →
- Regional cooperation and inter-sectoral coordination will be **key**:
 - Strengthening institutional arrangements
 - CAWEP, IFAS, ICWC, CAREC
 - Information and knowledge sharing (across countries and sectors)

Simulated Optimal Reservoir Storage



— Water Modelling Only
— Integrated Water and Energy Modelling

The Regional Environmental Centre for Central Asia



**22 years of
expertise
for better
environment**

WE ARE

- Independent
- Non-commercial
- Non-political
- International

MISSION

to assist Central Asian countries in addressing national and regional challenges on environmental protection

FOUNDERS

- Kazakhstan
- Kyrgyzstan
- Tajikistan
- Turkmenistan
- Uzbekistan
- European Union
- UNDP

The Regional Environmental Centre for Central Asia

01

Knowledge exchange

- RiverBP <https://www.riverbp.net>
- Central Asia Climate Information Platform
<https://centralasiacimateportal.org>

03

PROMOTING THE REGIONAL DIALOGUE

- Dialogue platforms: CAIEF, CACCC, CALP, Meetings of representatives of the MFA and Parliamentarians

02

ASSISTANCE TO GOVERNMENTS IN RESOLVING ENVIRONMENTAL PROBLEMS

- Assistance in the development of laws, by-laws, National environmental reports

04

SUPPORT IN IMPLEMENTATION OF OBLIGATIONS UNDER CONVENTIONS

- UNFCCC, UNCCD, Ramsar, Espoo Convention, UNECE, SDG achievement

CAMP4ASB



Overall objective: to enhance regionally coordinated access to improved climate change knowledge services for key stakeholders as well as to increased investments and capacity building that, combined, will address climate challenges common to the region
Resource partner: the World Bank
Duration: Aug 2016 – Apr 2021
Budget: 15 million USD
Location: Central Asian countries

Smart Waters



Overall objective: to build capacities of managers in Central Asia & Afghanistan who trust each other & are capable of managing shared water resources efficiently to obtain the economic value from water resources over the long term
Resource partner: USAID
Duration: Oct 2015 – Sep 2020
Budget: 9,5 million USD
Location: Central Asian countries and Afghanistan

NEXUS



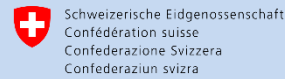
Overall objective: to create a multi-sectoral enabling environment to facilitate sustainable and climate-resilient investments for increased water, energy, and food security in CA
Resource partner: European Union
Duration: Dec 2016 – Dec 2019
Budget: 1.3 million EURO
Location: Central Asian countries

UzWaterAware



Overall objective: to raise awareness of the Uzbekistan population on the importance of rational water use and environmental protection in the face of climate change
Resource partner: European Union
Duration: Sep 2016 – Sep 2018
Budget: 2.2 million EURO
Location: Uzbekistan

Blue Peace



Overall objective: to support the HLDP to strengthen the effective regional water diplomacy in CA and contribute to empowering the next generation
Resource partner: Swiss Development Cooperation (SDC)
Duration: Apr 2018 – Dec 2023
Budget: 800k USD
Location: Central Asian countries

RESILAND +



Overall objective: Program is to increase the resilience of regional landscapes in Central Asia
Resource partner: European Union
Duration: 2022 - 2024
Budget: 45 million USD
Location: Tajikistan, (expected: Uzbekistan, Kyrgyzstan, Turkmenistan, Kazakhstan)



РЕГИОНАЛЬНЫЕ ЗАЯВЛЕНИЯ от имени:

ПРАВИТЕЛЬСТВ СТРАН ЦА



Правительства стран ЦА стремятся усилить международное сотрудничество в борьбе с изменением климата и внедрить современные экологически безопасные технологии

НПО СТРАН ЦА



Региональное заявление НПО ЦА настоятельно рекомендует пересмотреть и усилить национальные и региональные климатические обязательства.

МОЛОДЕЖИ СТРАН ЦА



Региональное заявление молодежи ЦА демонстрирует, что молодежь ЦА готова совместно сотрудничать и выработать общие послания и решения.



Proud host of
the Emirates Climate
Conference with
the UNFCCC

COP28

نفتخر باستضافة
مؤتمر الإمارات للمناخ
مع UNFCCC

November 2023 نوفمبر



CAREC will continue to support Central Asian countries in joining their efforts:

Synergy: discussing common positions and actions, increasing efficiency, avoiding duplication of efforts

Advocacy: advocating for strategic goals and interests in the region and abroad, participating in global climate debates and negotiations, and ensuring a stronger presence in global climate negotiations.

Capacity: strengthening knowledge and skills in climate action, policy, diplomacy, negotiations, lobbying, climate finance, carbon markets

Know-how: sharing experiences with colleagues from other countries and regions, learning from each other's best technologies and practices, accessing unique experiences and innovations

Partnerships: strengthening cooperation with other countries, international partners, regional groupings, and sectors

Support for preparation and participation of Central Asian countries at UNFCCC COP28



Implemented by:



The key goal is to:

- Foster collaboration among Central Asian governments, NGOs, and young people, formulating joint statements.
- Guarantee the active, productive, and knowledge-based engagement of Central Asian delegates at COP28.

COP28: PREPARATION PHASE

9th Meeting of Foreign Ministers and Parliamentarians of Central Asia: Preparations for UNFCCC COP-28

April 2023, Tashkent, Uzbekistan

Decisions

Central Asian countries:

- Mobilize for joint action at COP28
- Prepare a joint regional statement at COP28
- Holding the 10th meeting on COP28





16-17 мая, г. Душанбе, Таджикистан
16-17 May, Dushanbe, Tajikistan

ЦЕНТРАЛЬНО-АЗИАТСКАЯ КОНФЕРЕНЦИЯ ПО ВОПРОСАМ ИЗМЕНЕНИЯ КЛИМАТА

ИЗМЕНЕНИЕ КЛИМАТА И РАЗВИТИЕ

CENTRAL ASIA CLIMATE CHANGE CONFERENCE

CLIMATE CHANGE AND DEVELOPMENT

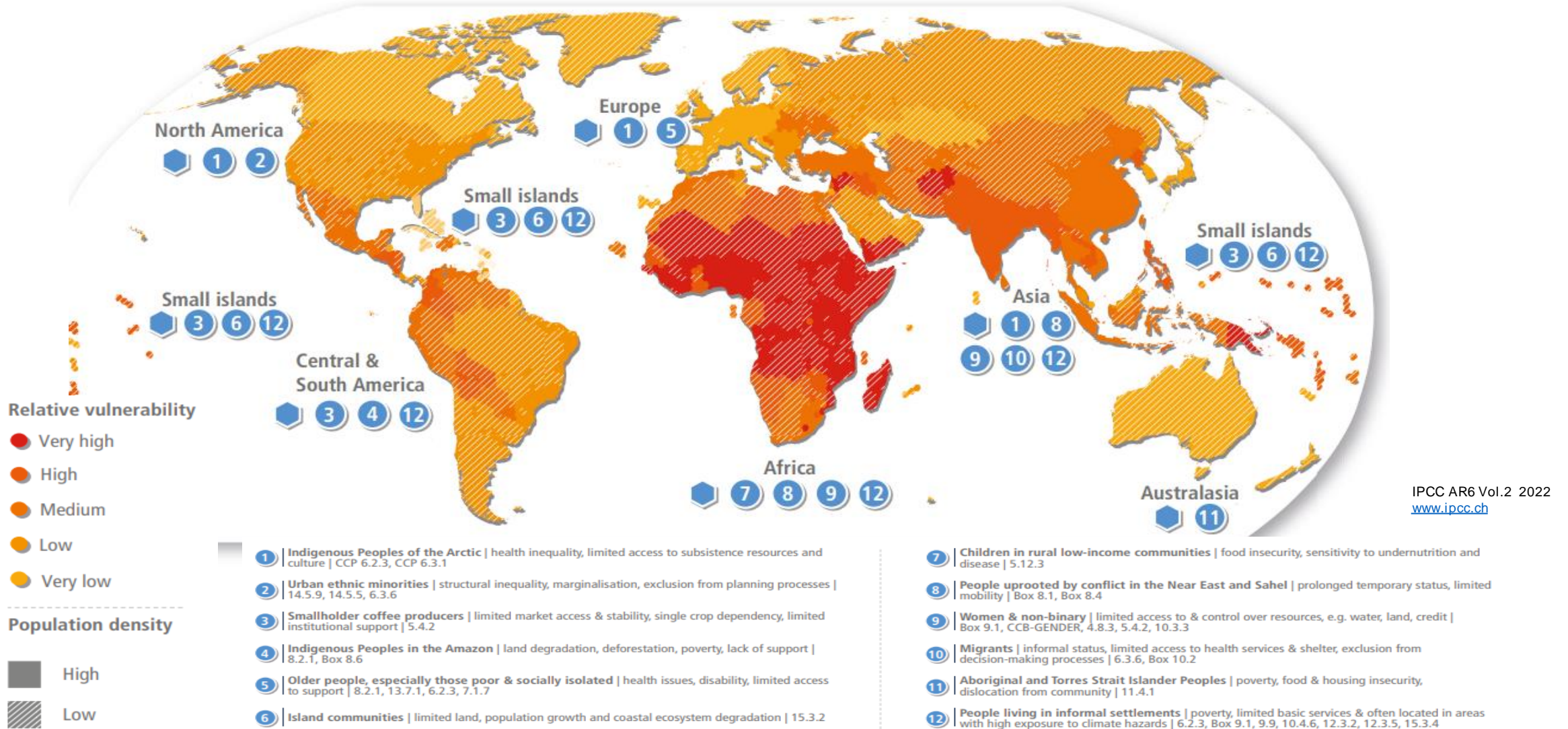
6 panels and 11 parallel sessions
3 pre-conference events
3 post-conference events

The conference rooms saw a participation of over 300 experts, with approximately 61% being men and 39% being women. Furthermore, more than 450 online participants registered, among whom around 54% were men and 46% were women.



Looses and Damages Financial Facility: human vulnerability in developing countries should be addressed

vulnerability = impact / resilience. resilience = resources / sensitivity.



Eight sets of climate levers for transformative climate action



1. Project-Based Financing

Finance or project support to enable climate investments
e.g., wind plant, climate-resilient roads



2. Financial Sector Reform

Financial sector regulations that catalyze green investment
e.g., regulations for green bonds, climate risks in portfolio assessments



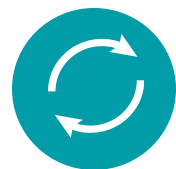
3. Fiscal Policy

Setting taxes and adjusting spending priorities to support climate action
e.g., green taxes, improved subsidy targeting, green procurement



4. Sector Priorities

Regulatory standards or information provision policies
e.g., energy efficiency standards, building codes



5. Trade Policy

Trade policies to encourage exchange of LCCR products
e.g., carbon border tax adjustment, trade liberalization for LCCR products



6. Innovation and Tech Transfer

Development of new, more effective and cheaper green technologies
e.g., demonstration plants, R&O, SME support, early/discounted financing



7. Carbon Markets

System to define and trade mitigation outcomes for cost efficient mitigation
e.g., emission trading systems, baseline and crediting mechanisms



8. Climate Intelligence and Data

Knowledge and planning tools to support policy and investment decisions
e.g., 2050 low-carbon resilience trajectories, NDC implementation plans

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Thank you!

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