

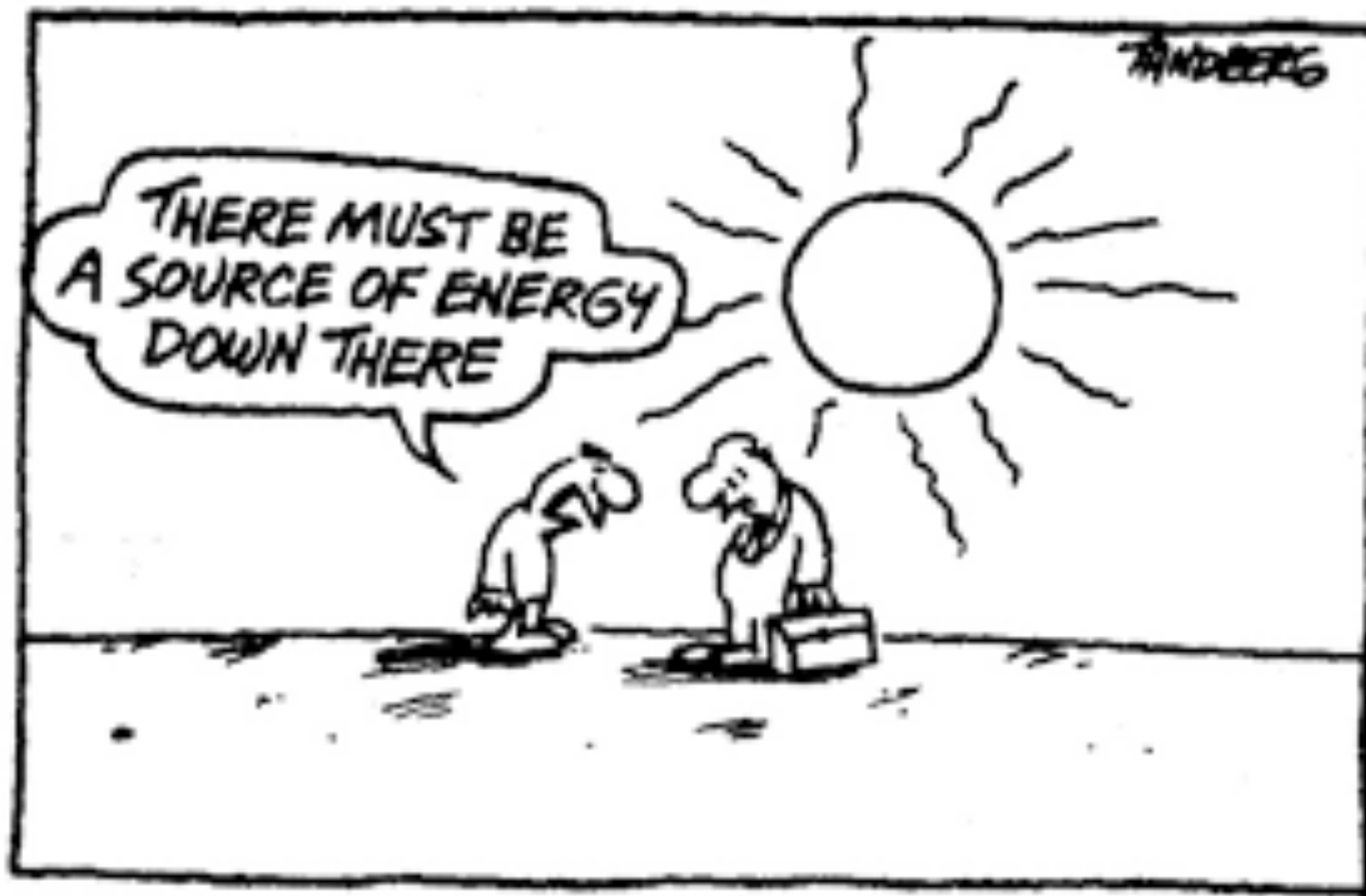
Deep Dive Workshop

Energy-Food-Water-Climate Nexus: Renewable Energy Solutions for Low Carbon and Resilient Agri-Food Systems

Friday, 16 June | 9:00 a.m.– 12:30 p.m. (GMT+8)

Organized by:





Sohail Hasnie

16 June 2023



NUREK DAM DOWNSTREAM SPILLWAYS

500 m³/sec



Dushanbe, Tajikistan



Bishkek, Kyrgyz Republic



Summer in Dashoguz, Turkmenistan



Summer: Tashkent to Samarkand, Uzbekistan

Kazakhstan

How Is Climate Change Affecting Central Asia?



A Kazakh villager carries a bucket of water from a well in a desert that once formed the bed of the Aral Sea. (file photo)

Source: <https://www.rferl.org/a/central-asia-climate-change-water-talant/31924317.html>

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Turkmenistan

Turkmenistan Is Facing A Water Crisis

By Eurasianet - Apr 25, 2023, 1:00 PM CDT

- ▶ Turkmenistan faces severe water stress, with only Uzbekistan surpassing its agricultural withdrawals from its scarce water supply.
- ▶ The government has been criticized for ineffective investment and perpetuating thirsty industries such as cotton farming, in contrast to its Guinness record-holder status for public fountains.
- ▶ To mitigate this crisis, Turkmenistan seeks international cooperation, specifically from Israel with their advanced water-saving techniques and the joint venture with Kazakhstan and Russia for transportation.



Source: <https://oilprice.com/The-Environment/Global-Warming/Turkmenistan-Is-Facing-A-Water-Crisis.html>



Winter bites
everywhere

Tajikistan

Another Cold, Dark Winter That Central Asia Will Not Forget



With temperatures plunging, many residents of the Uzbek capital, Tashkent, have been spending days without power, heating, and water.

Kyrgyz Republic

KYRGYZSTAN, CENTRAL ASIA



Kyrgyzstan turns off lights to prepare for crisis

There will be no escaping discontent this winter.

Ayzirek Imanaliyeva Oct 1, 2021



Kyrgyzstan's reservoirs are far lower than normal going into the winter. (Danil Usmanov)

KYRGYZSTAN, TAJIKISTAN, CENTRAL ASIA



'Expect less water next year,' Kyrgyzstan warns downstream neighbors

Relations between upstream and downstream Central Asian countries can be tense. This won't help.

Ayzirek Imanaliyeva Nov 5, 2021

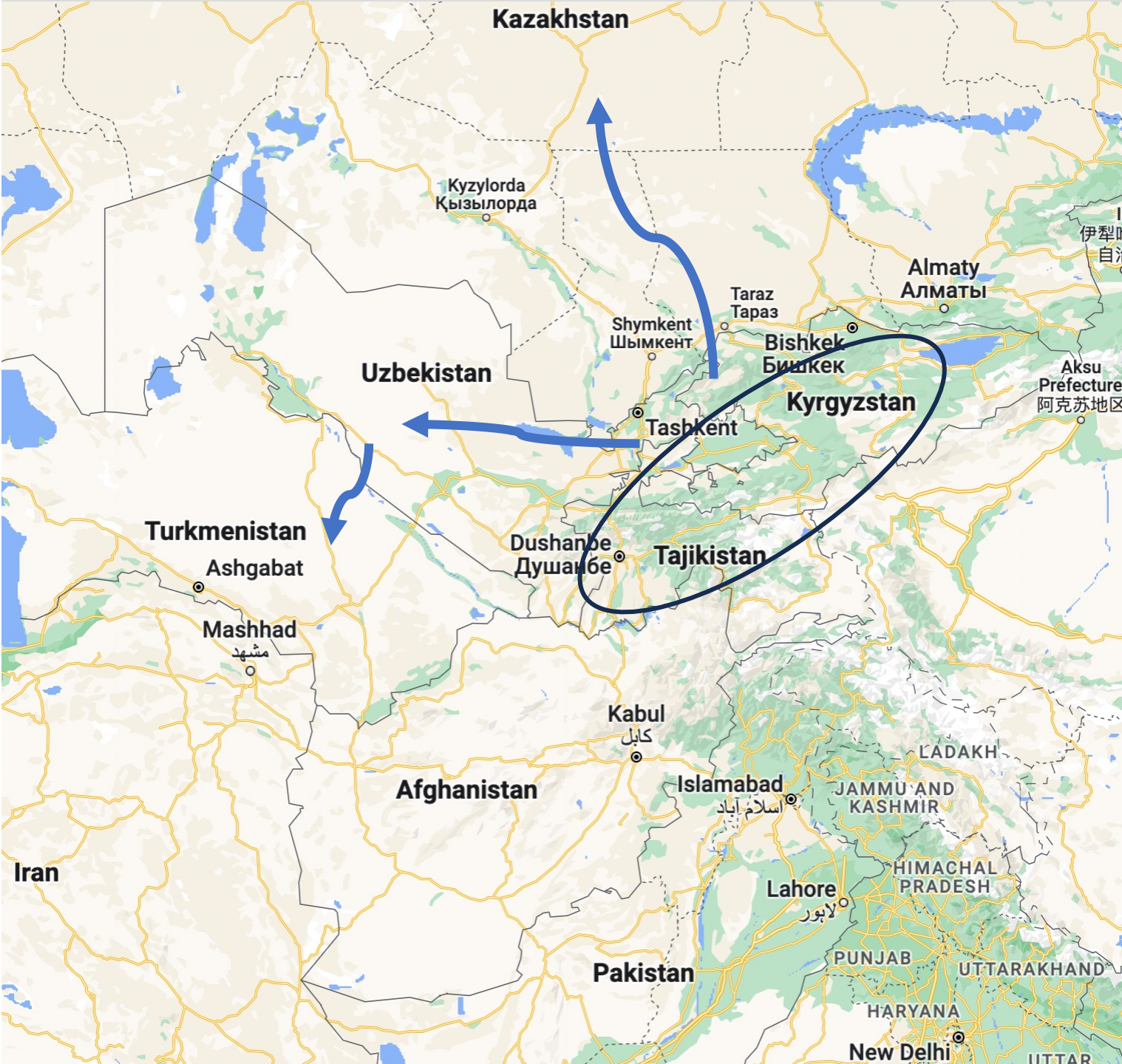


Reservoirs across Kyrgyzstan, such as Orto-Tokoy near Lake Issyk-Kul, were also low this year. (Danil Usmanov)

To stop Kyrgyzstan's electricity shortage from becoming a multi-year crisis, Bishkek has warned its neighbors that it must start keeping more water for itself.

Popular

- 1 Georgia to ban surrogacy for foreigners
Nini Gabritchidze
- 2 Turkmenistan: Hungary Hungary
hydrogen
Akhal-Teke: A Turkmenistan Bulletin
- 3 Kazakhstan: Mass wildfire deaths provoke
anger at corruption
Almaz Kumenov



During the **winter months**,

“conflicts” starts between upstream and downstream countries with water use

Upstream countries:

- **Kyrgyz Republic**
- **Tajikistan**

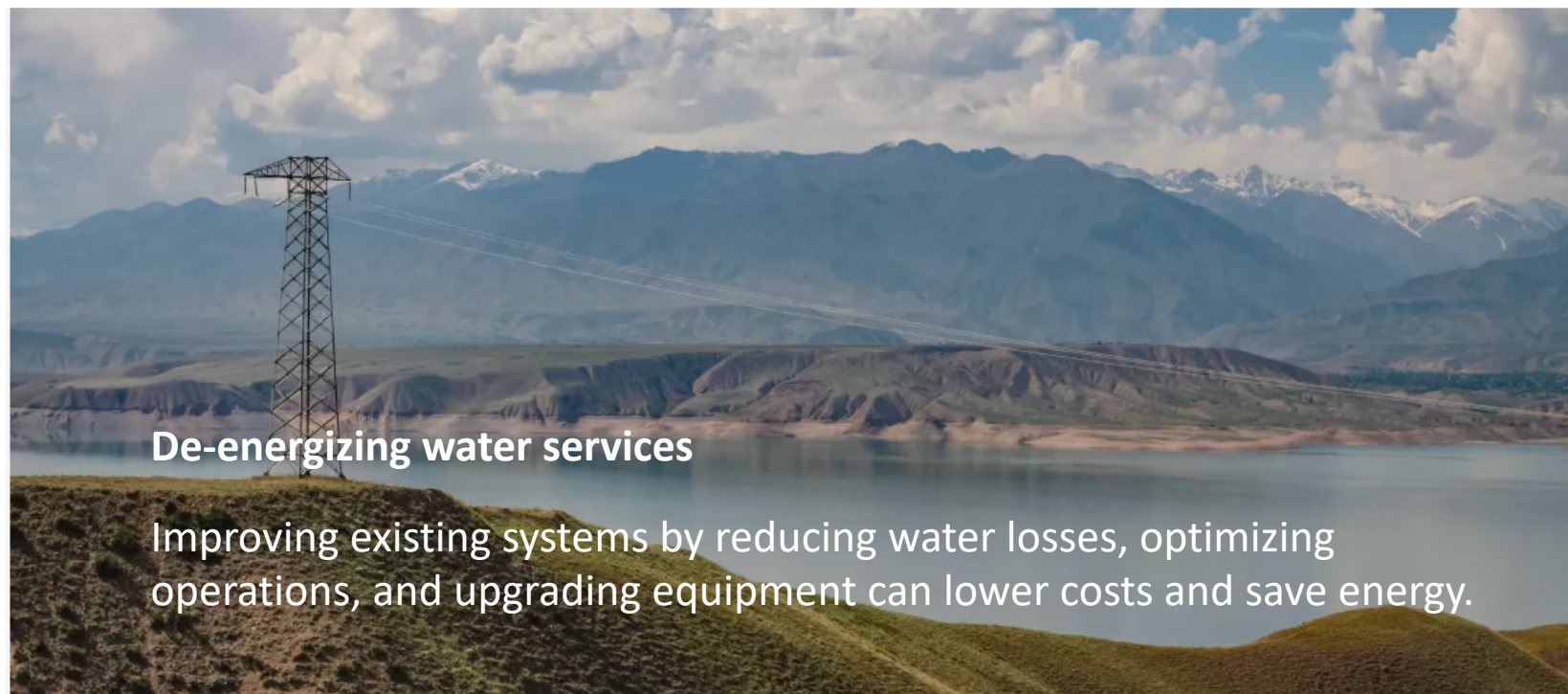
Downstream countries are

- **Uzbekistan**
- **Kazakhstan**

Leveraging the water-energy nexus to tackle climate challenges in Central Asia

TATIANA PROSKURYAKOVA & WINSTON YU | MAY 11, 2023

This page in: English | [Русский](#)



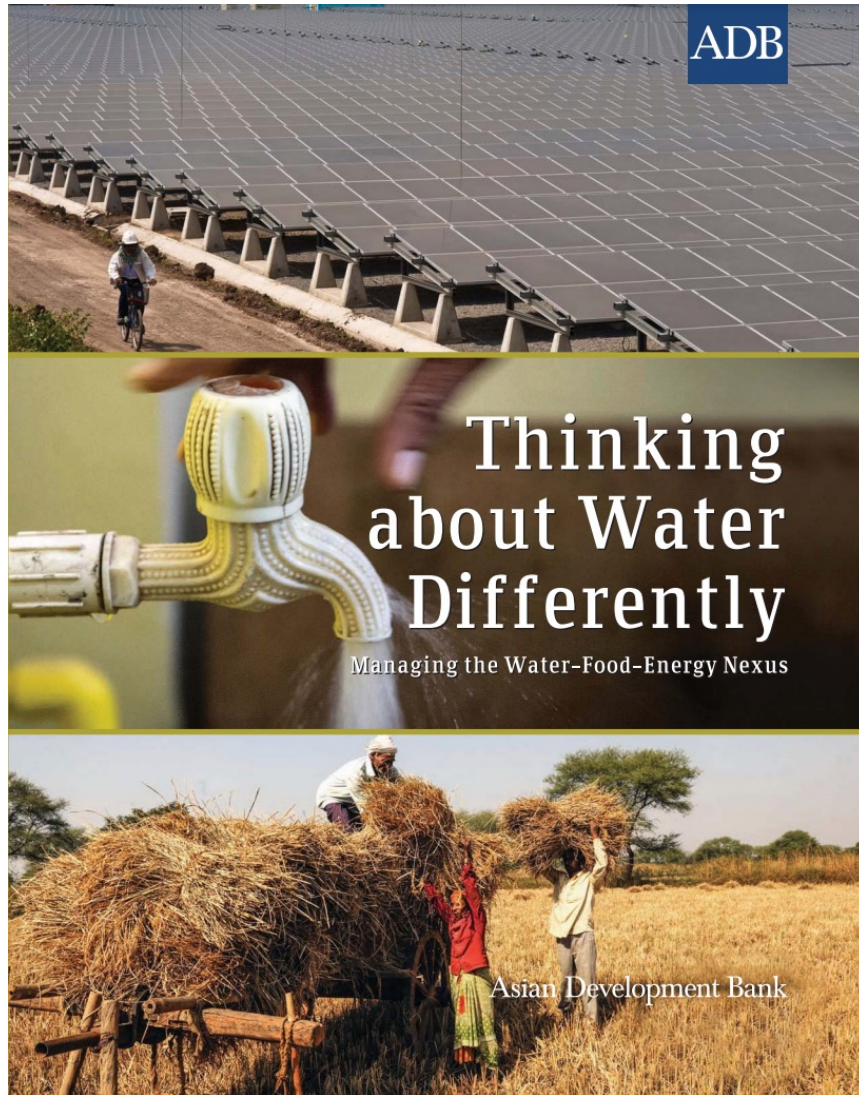
De-energizing water services

Improving existing systems by reducing water losses, optimizing operations, and upgrading equipment can lower costs and save energy.

Toktogul Reservoir, Kyrgyz Republic.

The paper suggests:

- an integrated water and energy planning.
- policy reforms, institutional capacity building, and regional cooperation to address shared water resources



The paper discusses:

- Water scarcity challenges and the role of integrated water resources management
- The interconnectedness of water management with social, economic, and environmental dimensions
- Effective water governance and institutional arrangements
- The importance of innovative financing mechanisms, PPP
- **Regional cooperation and partnerships** are encouraged to address transboundary water issues and promote information sharing.

Source: <https://www.adb.org/sites/default/files/publication/30409/thinking-about-water-differently.pdf>

The Food, Water, Energy Nexus



A boy watches a pump providing water to irrigate a rice field in Cambodia.

The paper suggests:

- The article explores the interdependence and challenges of the food, water, and energy sectors.
- Water, energy, and food sectors rely on each other for their functioning.
- water scarcity, climate change impacts, and resource competition are key issues
- interconnected nature of these systems and integrated and sustainable approaches are necessary
- **The adoption of innovative technologies and improved water management and renewable energy**

Central Asia Energy Forum Discusses Prospects for the Regional Electricity Market Development



Published 3 months ago on March 6, 2023

By **Newsroom**



Water Challenges: Interdependence, Conflicting Interests, and the Need for Cooperation – **summary**

- **Transboundary water challenges:**
 - The collapse of Soviet Union
 - New independent republics
 - Uneven distribution
 - Interdependence and tensions
- **Conflicting interests:**
 - Energy production vs. agricultural needs
 - Kyrgyzstan and Tajikistan's energy potential vs. downstream countries' irrigation requirements.
- **Limited fossil fuel reserves:**
 - Increased interest in water resources for energy generation
 - Concerns among downstream countries.
- **Lack of legal frameworks and cooperation:**
 - National interests hinder interstate cooperation
 - Underdeveloped regional management.
- **Water conflicts and instability:**
 - Source of conflicts and instability
 - Impacts regional unity and poses security threats.

Water Security and Interstate Cooperation: **Challenges Remain**

- **Water allocation:** Complex and security-threatening issue affecting Central Asian countries and neighbouring states, posing a regional security threat.
- **Water-energy nexus and conflicts:** Debt disputes lead to downstream countries halting energy deliveries, resulting in conflicts at multiple levels. Current settlement mechanisms are ineffective.
- **Unilateral approaches and the need for regional unity:** Each country independently addresses water problems, disregarding the interests of riparian states.
- **Strengthening the legal framework and cooperation:** Existing legal agreements and declarations serve as a foundation but require modernisation and effective implementation.
- **Importance of a supranational approach:** Bilateral efforts are insufficient; an independent supranational body must address water, energy, and agricultural issues, establish a legal order, and guide proper water management strategies.

New technology will make traditional regional cooperation discussions more difficult

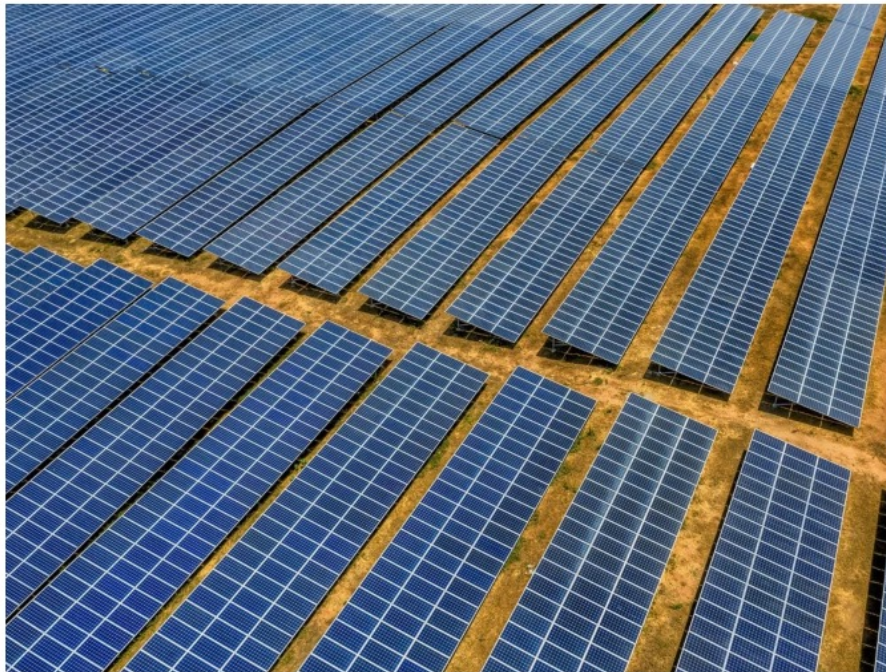
Uzbekistan

Article • Renewable Energy

Masdar to construct three solar projects in Uzbekistan

By Mariam Ahmad

April 08, 2023 • 3 mins



Once fully operational, projects will generate enough electricity to power over 1 million homes, while displacing more than 1million tonnes of carbon dioxide annually

Israel eyes to open its expertise office on agriculture and water management in Uzbekistan

Uzbekistan | Materials | 9 June 2023 08:12 (UTC +04:00)



Energypreneurs brings *solar power, electric vehicles and battery technologies* to young entrepreneurs



Sohail Hasnie

Co-Founder, Grow It Yourself-Australia | Host of Energypreneurs |
Ex-Asian Development Bank (ADB)

Talks about #solarpower, #batterystorage, #impactinvesting,
#hydroponicfarming, and #electricalvehicles

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