

**Global Workshop on Water, Agriculture and Climate Change** 17-18 October 2022, Geneva and online



# Energy, Water and Land-use Nexus approach for strengthening climate resilience

### Takayoshi Kato

Economist, Environment Directorate



Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederazion suizza

Bundesamt für Umwelt BAFU Office fédéral de l'environnement OFEV Ufficio federale dell'ambiente UFAM Uffizi federal d'ambient UFAM



F

Ministry of Infrastructure and Water Management



UNECE



## Inter-sectoral co-operation

- Climate action needs to be economically efficient, socially inclusive, ecologically sustainable.
- Coherence between sectoral development goals and policies is crucial to achieve this aspiration.
- Right thing to do, but often **challenging to implement**.
  - At the **policy level**, competing development priorities and insufficient inter-sectoral coordination
  - At the **project level**, challenges in engagement with different stakeholders with different interests, resource constraints, cost-benefit profiles, etc.

Example

Multi-purpose water infrastructure (e.g. Shardara MPWI in South Kazakhstan)

- Technical challenges in accounting for all benefits
- Social conflicts over positive and negative externalities associated with the proposed project



Reference: OECD (2018), Strengthening Shardara Multi-Purpose Water Infrastructure in Kazakhstan LINK

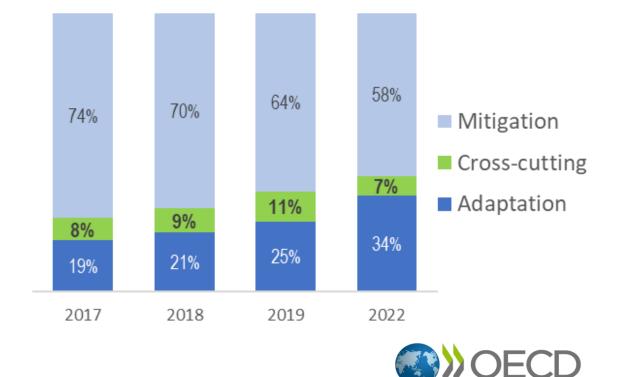


WOFCI

# Thematic policy coherence (e.g. mitigation-adaptation linkages)

- Climate change **mitigation and adaptation** typically led by distinct policy communities and applied distinct solutions/technologies.
- Finance and investment for climate action tends to be thematic focus, rather than cross-cutting

Climate theme and sectoral split of climate finance provided and mobilised in 2016-2020 (%)



Reference: OECD (2022), Aggregate trends of Climate Finance Provided and Mobilised by Developed Countries in 2013-2020

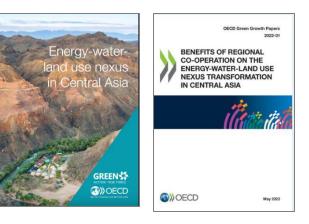
# Thematic policy coherence (e.g. mitigation-adaptation linkages)



- When addressed jointly, mitigation and adaptation actions' impact and effectiveness can be reinforced.
  - **Examples**
  - Wind and solar energy to pump groundwater for improved provision of drinking and irrigation water to remote settlements (e.g. Navoi, Uzbekistan)
  - Agricultural soil improvement measures to enhance carbon sequestration, while rendering crops more resilient to extreme weather such as droughts (e.g. Pan-Canadian Framework on Clean Growth and Climate Change)
  - Wetland restoration and mangrove rehabilitation for carbon sink, while at the same time offering a natural defense against water-related risks.



# An approach to promote Cross-sectoral climate action



- Enhance evidence that demonstrates the benefits of cooperation between countries, sectors and policy communities in light of national climate targets
  - e.g. Energy, water, land-use "Nexus" approach
- Communicate the benefits to decision makers in planning and sector ministries, their development partners and other non-state actors (incl. the private sector)
- Help develop investment projects that demonstrate cross-sectoral benefits
- Develop workable mechanisms to support mainstreaming of the cross-sectoral approach into the relevant regional and national policies and mandates of sectoral institutions
- Facilitate both at political and working levels intersectoral dialogues, planning and coordination



Reference: Botta, Griffiths & Kato (2022), Benefits of regional co-operation on the energy-water-land use nexus transformation in Central Asia, LINK

# Regional Mechanism for the Energy, Water and Land-use Nexus in Central Asia













#### On behalf of:



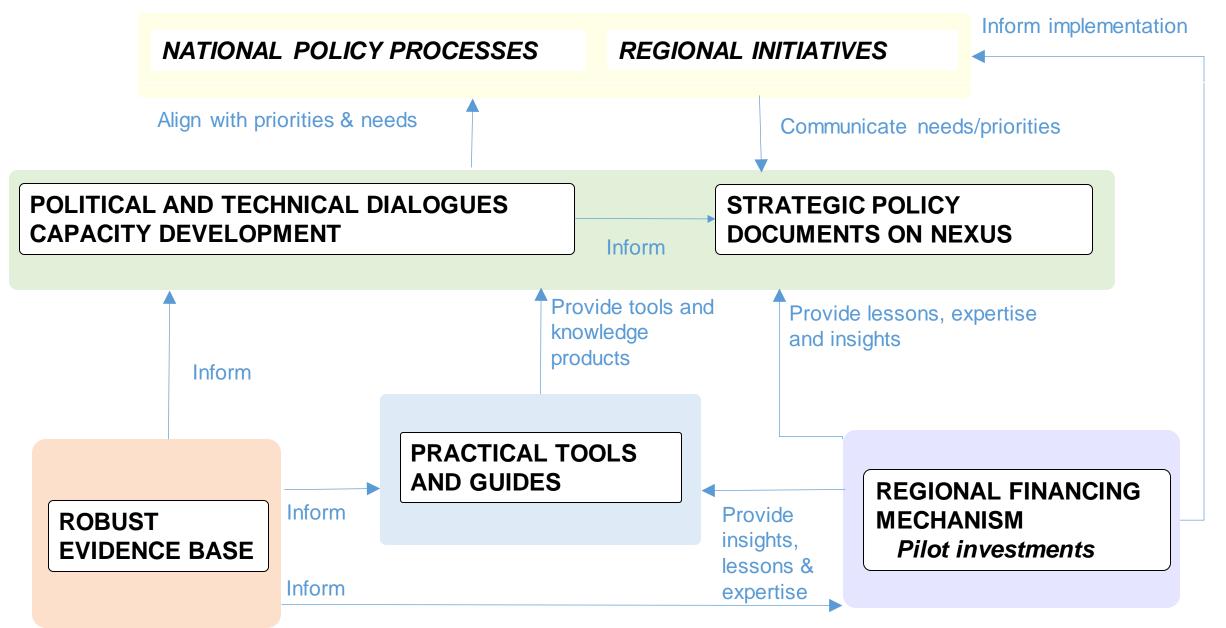
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection

of the Federal Republic of Germany



- Other development cooperation partners
- Private sector
- Academia
- Civil society organisations

## Programme activities overview



Reference: Further information on proposed programme activities

## **Developing narratives and communicating benefits of Nexus approach** (Examples from agribusiness in Central Asia)

- Agribusinesses with a focus on the nexus already happening in Central Asia
- Entrepreneurs and their partners striving for not only economic benefits, but also other social and environmental impacts on their community, country and ecosystems.
  Examples:
  - Sugar processing plants in the Chui region
  - Hydroponic strawberry greenhouses in Turkmenistan
  - Promotion of production and supply of lentils, Kyrgyzstan
- **Development financial institutions**, including the EBRD, are also providing financial solutions to support such businesses

<u>Examples</u>

- Capital investment, de-risking, business expansion, transfer of technical and managerial expertise.
- Positive impacts on local economies where they operate and on their supply chains.
- Also contributing to sustainable management of water, energy and land resources in a changing climate.

### The art of the possible: Good business case for sectors to further collaborate on the nexus

Improved water resource management through adoption of efficient

technologies, recycling practices and reduced pollution through discharges

Water security Energy

Energy security

Food security Reduction of agricultural import dependence, enhanced resilience of agriculture to climate hazards

Efficient energy use, improved energy independence, shift to low carbon energy

production, including renewables, contribution to climate goals and air pollution

Environmental security

Reduction of use of pesticides and related pollution, production of crop types that are suited to local environmental and climatic conditions

Economic resilience Higher value products, longer growing period, economic diversification, increasing exports, creating local markets and job opportunities

## Preliminary lessons for advancing the nexus approach in agribusiness

- Need for greater clarity about multi-sectoral benefits of particular technologies and techniques
- Communication of benefits
  - (e.g.) Possible messaging around economy, green, health, well-being of children and youth
- Suitable financial solutions
  - (e.g.) blended finance for de-risking of up-front investments and lending for business expansion
- Technical assistance
  - (e.g.) consultancy services for businesses to better understand benefits of the nexus approach; prepare funding proposals and reporting; and facilitate communication among interested business owners and experts
- Policy reforms
  - (e.g.) water and energy tariffs, environmental permits, private-public partnership legislations, among other areas...



# Thank you



Takayoshi.kato@oecd.org



Website: <a href="https://oe.cd/gatf">https://oe.cd/gatf</a>



