

Assessment of the Water-Food-Energy- Ecosystems Nexus in the Syr Darya Basin: Introduction

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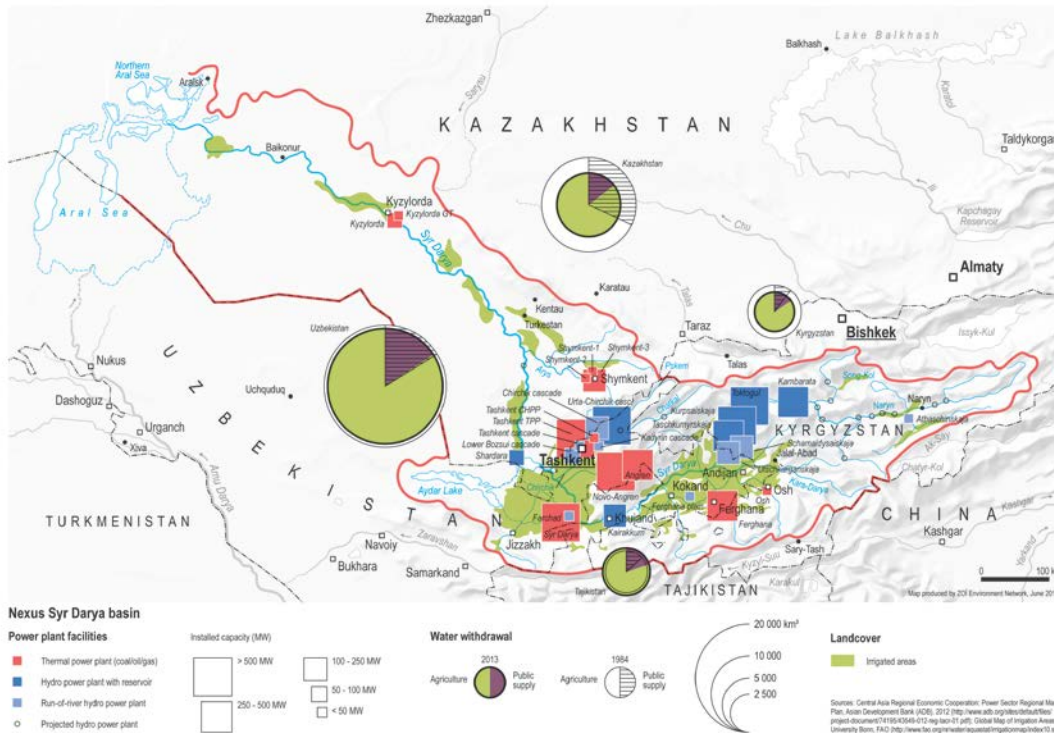


Convention of the Protection and Use of Transboundary Watercourses and International Lakes



UNECE

Nexus assessment process in the Syr Darya Basin



- Desk study
- Multisectoral workshop (Almaty, 2-4 December 2014) for the countries organized with GWP in cooperation with FAO
- Main intersectoral issues, some future scenarios, possible solutions jointly identified
- Scoping level analysis
- Participatory process: Consultations (e.g. NPDs)
- Funded by Finnish Ministry of Foreign Affairs

Syr Darya Basin: indicators

SYR DARYA BASIN

River length 3,019 km
River basin area 410,000 km²



KYRGYZSTAN	TAJIKISTAN	UZBEKISTAN	KAZAKHSTAN
INTERNAL RENEWABLE WATER RESOURCES			
<p>National: 48,930 million m³/year</p> <p>Syr Darya Basin: 28,500</p> <p><i>Surface, groundwater and return flow, 1988</i></p>	<p>21,910</p> <p>2,000</p>	<p>48,870</p> <p>12,000</p>	<p>108,400</p> <p>5,400</p>
WATER WITHDRAWAL			
<p>8,000 million m³ (2006)</p> <p>Agriculture 98% Industry 4% Municipal 3%</p> <p>Syr Darya Basin: 2,700 (2013)</p>	<p>11,500 (2006)</p> <p>Agriculture 91% Industry 3% Municipal 6%</p> <p>3,900</p>	<p>56,000 (2006)</p> <p>Agriculture 90% Industry 3% Municipal 7%</p> <p>22,700</p>	<p>21,100 (2010)</p> <p>Agriculture 96% Industry 30% Municipal 4%</p> <p>6,900</p>
INSTALLED ELECTRICITY GENERATING CAPACITY			
<p>3.8 million kW</p> <p>Hydropower 3.0 (79%) Fossil fuels 0.8 (21%)</p>	<p>5.1 million kW</p> <p>Hydropower 4.7 (92%) Fossil fuels 0.4 (8%)</p>	<p>12.6 million kW</p> <p>Hydropower 1.7 (14%) Fossil fuels 10.8 (86%)</p>	<p>17.8 million kW</p> <p>Hydropower 2.3 (13%) Fossil fuels 15.6 (87%)</p>
AGRICULTURAL LAND			
<p>105,900 km² (2012)</p> <p>of which 21% is potentially irrigable</p>	<p>48,750 km²</p> <p>of which 32% is potentially irrigable</p>	<p>266,900 km²</p> <p>of which 18% is potentially irrigable</p>	<p>2,079,800 km²</p> <p>of which 2% is potentially irrigable</p>

Possible solutions/synergic actions identified (a selection):

1. National development with co-benefits

- Improving energy efficiency, reducing dependency on water for energy (diversification of sources)
- Rationalizing water use (esp. in agriculture)

2. Broader sustainable development and national policy coherence

- Developing mechanisms to identify and incorporate the wider nexus impacts in sector-based policy development leading to more integrated planning processes
- Improving basin-wide monitoring, data verification and exchange, and knowledge-sharing, including joint monitoring (e.g. water flows and quality), joint forecasting

3. Accelerate national development by furthering cooperation

- Improving intersectoral coordination at the basin level by increasing representation of and consultation with the relevant ministries
- Developing a regional energy market and exploring opportunities for energy-water exchanges

Possible UNECE contributions to the Nexus Dialogues in Central Asia



- a. Outputs** (material for both further national & regional nexus dialogues)
 - a. Experience from application of the nexus assessment methodology (ENG, soon RUS)
 - b. Syr Darya assessment (a summary in RUS; an extended assessment in ENG and RUS)
 - c. A policy brief
 - d. Example to an official document of the Group of Experts on Renewable Energy

- b. Awareness raising and capacity building on different platforms**
 - a. (in cooperation with OECD) National Policy Dialogues (KZ, KG, TJ) – intersectoral, relevant ministries represented at a senior level
 - b. Outreach to the energy sector in cooperation with UNECE Sust. Energy Division: e.g. Sustainable Energy Forum (Oct 2016, Baku)

Some concluding remarks

- Recognition of the value of a nexus approach for sustainable development expanding to economic sectors, illustrated by the cooperation with the UNECE Group of Experts of Renewable Energy.
 - A “menu” of possible synergic actions identified for the countries’ consideration.
 - A 4-country energy system modeled, that interfaces with other resource models: Subject to interest of the countries, with additional data, specific questions and opportunities could be explored (e.g. effect of investments)
 - Opportunities to build further on this work: SPECA TWG, EUWI National Policy Dialogues, new project on Nexus Dialogue in Central Asia led by CAREC and to be financed by the European Commission.
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