

Section 12

Thematic Reviews

12.1. China's Belt and Road Initiative: Green Developments and Water-Management Projects

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The state of river basins and transboundary water politics to a great extent depends on "out of water box" economic and political processes and trends. For the Eurasian continent⁹¹ such a framework process that concerns all resource development and use aspects is the China's Belt and Road Initiative (BRI), which was launched in 2013 and includes the Silk Road Economic Belt and the Maritime Silk Road. The idea of BRI stemmed from the socio-economic and environmental situation in China and the revision of country's foreign policy priorities. In terms of internal situation, BRI allows China to accelerate growth of its economically weak western provinces and to solve problems related to excess industrial capacities and environmental degradation.

Among foreign policy reasons of BRI promotion is the China's intention for regional economic cooperation and closer relations with states in the region in economic, political and humanitarian fields; often interpreted as a "new model of globalization" as opposed to western models. At present, 25 initiative-specific funds and banks concentrate more than \$1 trillion. Besides infrastructure and industrial investments, BRI also includes projects in education, international telecommunication, culture, standardization and simplified trade rules.

More than 100 countries and international organizations expressed their willingness to support and join the initiative. One of the landmark agreements signed was a Joint Statement of Russia and China on Cooperation in Harmonization of the Eurasian Economic Union and the Silk Road Economic Belt. Nevertheless, during last 3 years many officials, scholars and social activists have been expressing concerns regarding excessive environmental, social and other risks of the BRI which require special joint measures to prevent and mitigate them.⁹²

In the resulting document of the first International Belt and Road Forum, which took place on 14-15 May 2017 in Beijing, leaders of 30 countries emphasized «the importance of economic, social, fiscal, financial and environmental sustainability of projects, and of promoting high environmental standards» in the course of cooperation.⁹³

In 2017, the PRC's leadership made a major step in this direction issuing a framework Guidance to deal with such risks. In this context, given review addresses "greening of BRI" and water-management projects planned or built as part of the Initiative.

12.1.1. Green directions of the BRI

The logic of the BRI green policy is "to ensure the leading role of green development with environmental protection as the support", including extension of environmental goods and services trade. The starting point of green development is considered to be the PRC's

domestic policy for promoting ecological civilization, which was recognized at the 19th National Congress of the Communist Party of China (CPC) in October 2017 as one of the five pillars of building the socialist society with Chinese characteristics⁹⁴ (see [Section China](#)).

⁹⁰ See full text in SIC's Information Bulletin No.50 <http://www.cawater-info.net/library/rus/inf/50.pdf>. The English version of this chapter has been updated by the author.

⁹¹ Hereinafter, the term Eurasia means the continent rather than a certain political (as in RF's documents) or economic and geographical (as in PRC's statistics) grouping of countries.

⁹² E.A.Shvarts, E.A.Simonov. Hit the road! International Politics and Society Journal. Friedrich Ebert Stiftung. June 2017, <http://www.ipg-journal.io/rubriki/ehkologija-i-ustoichivoe-razvitiie/statja/show/v-put-290/>

⁹³ <http://kremlin.ru/supplement/5188>

⁹⁴ "Creating ecological civilization" (Integrated Reform Plan for Promoting Ecological Progress. September 2015. http://english.gov.cn/policies/latest_releases/2015/09/22/content_281475195492066.htm. Also detailed description in the UNEP's book Green is Gold web.unep.org/greeneconomy/research-reports/green-gold-strategy-and-actions-chinas-ecological-civilization; Glazyrina I.P., Simonov E.A. "China's ecological civilization: new challenges or new prospects for Russia?", pp. 374-394. East Russia: space development issues / edited by V.A.Kryukov and V.V.Kuleshov. – Novosibirsk: Izdatelstvo IEOPP CO RAN, 2017. – 484 p. ISBN 978-5-89665-321-9 http://lib.ieie.su/docs/2017/Vostok_Rossii/Vostok_Rossii_problemy_osvoenija.pdf

Guidance on Promoting Green Belt and Road and other developments

The China Ministry of Environmental Protection (MEP), Ministry of Foreign Affairs, National Development and Reform Commission and Ministry of Commerce in April 2017 issued a promising "Guidance on Promoting Green Belt and Road".⁹⁵ MEP also published The "Belt and Road Ecological and Environmental Cooperation Plan". The Plan describes policy implementation and includes 25 specific pilot projects, with some of which already started by MEP.⁹⁶

Importantly, this new policy relates "Policy on Cooperation on Transfer Overseas of China's Production Capacity and Equipment Manufacturing"⁹⁷ with ecological carrying capacities of recipient regions. The China Academy of Sciences has already started a number of projects with neighboring countries on mapping ecosystem vulnerabilities to various impacts. A sizeable proportion of documents address general "green standards", "mechanisms of green financing", "cooperation platforms" (research, official, for non-profit organizations and businesses), as well how to push businesses to engage in environmentally responsible investments and information disclosure to the society. As early as in 2017, several new guiding documents were issued for banks and investment companies abroad.

The Framework Guidance on Promoting Green Belt and Road is well in line with dozens of specific guiding documents on environmental and social responsibility issued over 2013-2016 by different agencies. Normative development continued in 2017. For instance, in August, the Chinese Government issued "Guidelines on Overseas Investments", which strictly limits investments into the projects that would not meet local ecological standards or promote outdated technologies.

In 2017 Chinese overseas investments decreased from \$170 to \$120 billion (almost by 30%) due to attempts of the Government to prevent capital outflow, reduce investment risks and improve quality of cooperation projects and their relevance to stated priorities. BRI related investments decreased in 2017 by 1% only but this calculation excludes all developed

European countries. Analysts predict re-growth of overseas investments of PRC in the next few years.

Role of international standards and agreements

BRI and its "greening" should be considered in the framework of programs and conventions of UNECE and initiatives of European Partnership, Eurasian Economic Union, etc. Although China pays more and more attention to environmental risks of its investments and to environmental and social aspects of its companies' behavior abroad, and also has substantial capacity of its own normative acts, those domestic measures cannot substitute international standards and conventions.

For example, the China's task to "build jointly the Green Silk Road" cannot be fulfilled without tools of strategic environmental assessment (SEA) and transboundary environmental impact assessment (EIA). The need for such assessments was underlined in the Guidance on Promoting Green Belt and Road, and it is the subject of one pilot project in the Belt and Road Ecological and Environmental Cooperation Plan.

Nevertheless, China does not attempt to join the Espoo Convention and its Kiev Protocol on SEA that are open and already serve as the main regulatory framework for transboundary EIA and SEA within Pan-European space, which Silk Road Economic Belt crosses.

It is imperative that China, given its new role of the global economic leader, fully explores and uses accumulated experience, tools (including UNECE multilateral environmental agreements) and mechanisms for greening economic development and protecting ecological interests of concerned parties. However, such process will be slow unless partner countries - parties to those conventions - clearly express their support to it. For Eurasian countries, Pan-European conventions could become a valuable safeguard from possible mistakes and risks in cooperating with the PRC.

⁹⁵ MEP, MFA, Ministry of Commerce and NDRC PRC. "Guidance on Promoting Green Belt and Road". 24 April 2017 (<https://eng.yidaiyilu.gov.cn/zchj/qwfb/12479.htm>)

⁹⁶ MEP PRC. "The Belt and Road Ecological and Environmental Cooperation Plan". May 2017, <https://eng.yidaiyilu.gov.cn/zchj/qwfb/13392.htm>.

⁹⁷ This policy has been adopted in 2015 to identify a set of priority sectors for transfer/promotion overseas. By the end of 2017, this policy is used by the Ministry of Commerce of PRC as synonym for "overseas direct investments to non-financing sectors".

Lack of information and understanding of risks in neighboring states

Currently, the key problem in greening BRI is unpreparedness and lack of information among counterparts in participating countries such as governments, research institutions, businesses, and community organization, rather than actions of Chinese actors (which are under tight government pressure for all-round "greening" and reduction of other risks) or non-participation of PRC in international conventions.

New 'green' documents require early reflection and application in the context of cooperation of neighboring states with China. Particularly:

- Prevention of 'ecological dumping' (lowering environmental and social standards) when planning cooperation under BRI and competition for Chinese investment in BRI context;
- Formulation of projects for cooperation and harmonization of spatial planning in border regions in line with the objectives of green development;
- Utilization of innovative green production technologies and algorithms in Eurasian countries;
- Adoption of green financing standards in funds responsible for development of bilateral cooperation with China;
- Inclusion of assessments and measures for protection of ecosystem services and biodiversity in joint forestry, water management and development projects in other sectors;
- Creation of ecological networks/systems of protected natural areas as an important preventative tool in planning development along the Silk Road;
- Adoption of strategic environmental assessment procedures in planning economic corridors of BRI and other large investment schemes;
- Adoption of high environmental standards for transboundary river basin management.

12.1.2. BRI structure and place of water relations and projects in this structure

China announced the development of six economic corridors under BRI.⁹⁸ Three of them cross Central Asian countries. Only in case of the China-Mongolia-Russia Economic Corridor the parties formulated a formalized Development Program,⁹⁹ but its objectives related to green development and environmental safeguards are not appropriately integrated into planning and implementation of the Program and its projects.

Transboundary water resources management and related cooperation is not explicitly included in any of well-known official BRI documents, although existing documents cover cooperation matters in navigation, aquaculture, agricultural production, pollution prevention, wastewater treatment technology export, joint environment monitoring and common databases, wetland protection,

climate adaptation and other aspects related to water management.

Hydropower and other water engineering projects are also important directions to promote Chinese technologies abroad. Some Chinese experts think that the reason for absence of water management in BRI documents is that the latter were prepared without explicit participation of the PRC's Ministry of Water Resources due to interdepartmental barriers. One may also suppose that this is due to hypersensitivity of neighboring countries to the China's role in transboundary basin management and because MWR and upper agencies do not have a common water cooperation strategy.

Current concerns about transboundary basins are reinforced by Guidelines on Overseas

⁹⁸ For detailed description see the brochure on first results of BRI issued in May 2017: Building the Belt and Road: Concept, Practice and China's Contribution. www.yidaiyilu.gov.cn/wcm.files/upload/CMSydylyw/201705/201705110545004.pdf

⁹⁹ <http://minpromtorg.govrb.ru/rus-ch-mn.pdf>

Investments recently issued by National Development and Reform Commission, where investments that address transboundary water resources are recognized as the most risky and thus requiring additional review and permissions. This would hold far-reaching consequences for all water-related undertakings in BRI.

However, the fact that there is no specific water strategy does not imply inaction. On the contrary, BRI, in our opinion, has a potential to change radically China's transboundary water policy.¹⁰⁰ We believe that given shift of industrial overcapacity to neighboring countries, China's interest in ensuring sustainable water supply in those territories and reducing transboundary water-related conflicts is growing. Moreover, cooperation in transboundary basins, first of all, will result in better monitoring of transboundary waters and sharing databases and analysis systems, with China's decisive role. This is more evident in 2016-2017 in the Lán cāng Jiāng-Mekong basin, where China, being previously as observer and "bogey", has become the coordinator of cooperation mechanism and, actually, the leader of development planning processes (see [Section China](#)).

Water and energy projects along the Silk Road and associated risks

Where it is possible, Chinese entities are eager to participate in water infrastructure projects in other countries under the banner of BRI. First, nowadays, no providers of water and energy engineering and equipment in the world can compete on scale and diversity of services with Chinese companies supported by state-bank loans. Second, although no formal list of BRI projects either exists or is being planned, for Chinese companies the BRI label means better chances for promotion and domestic financing.

In 2017, most Chinese water-related private and public overseas investments were in agriculture, hydropower, urban development and infrastructure, which imply massive export of flood protection, water supply/sewerage and treatment systems. Besides, China invested in development of inland waterways, water supply of industrial parks and large enterprises, and water-based tourism.

Water is a prominent topic in activities of the Asian Infrastructure Investment Bank (AIIB), where China, with its 26 % of capital, undoubtedly dominates.¹⁰¹ By end of 2017, 22 already financed projects include reconstruction of HPPs in Pakistan and Tajikistan, flood protection in Philippines, repair of old dams in Indonesia, and establishment of two intermediary funds that can also finance water projects. By February 2018, the list of projects under evaluation included only 10 projects, such as irrigation projects in India and Indonesia, controversial Nenskra HPP in Georgia, and "climate" project for flood control in Sri Lanka.

Despite such diverse water projects portfolio, the AIIB has very limited pool of experts for project assessment and supervision. Strategic documents adopted by the Bank were discussed intensively with the public. Particularly, upon proposition by the international coalition "Rivers without Boundaries", the AIIB's Socio-ecological framework policy has included a sentence on a need for protection and restoration of wetlands' ecosystem services as the first-priority alternative to creation of new infrastructure.¹⁰² In 2017, when non-governmental organizations discussed the AIIB's Energy Sector Strategy, the detailed analysis of opportunities and risks of financing hydropower projects was produced by request of one of Bank's regional directors.¹⁰³ As a consequence, the strategy included recommendation on assessment of basin-wide hydropower plans prior to making decisions on a project. However, most water projects with Chinese participation are financed by state "policy" banks of China; however, there is no publicly available information on the rules and procedures of decision making inside these banks.

According to the non-profit organization (NGO) "International Rivers", HPP account for most waterworks facility/dam projects that Chinese companies build abroad, including bulk of large dams. According to the NGO's data, in 2006-2017, Chinese companies signed contracts for construction of more than 266 HPPs with the total capacity of 130 GW, from which 76 GW are BOT-contracts under where Chinese companies own the plants during first decades of their operation. Thus, in 2017, more than 14 contracts were signed with the total

¹⁰⁰ BRI's implications for water governance were analyzed in details in case of the Amur River Basin. See Eugene Simonov, Eugene Egidarev, Intergovernmental Cooperation on the Amur River Basin Management in the 21st Century. *International Journal of Water Resources Development*, Special issue "Hydropolitics and Conflict Management in Transboundary River Basins: China and its Neighbors". <https://doi.org/10.1080/07900627.2017.1344122>

¹⁰¹ Five largest co-founders in terms of investments: China, India, Russia, Germany, and Republic of Korea.

¹⁰² <https://www.aiib.org/en/policies-strategies/download/environment-framework/20160226043633542.pdf>

¹⁰³ <https://www.researchgate.net/publication/322386465>

capacity of 25 GW (however, these figures include contracts on Diamer-Bhasha HPP in Pakistan and Budhi Gandaki HPP in Nepal that were canceled at the end of the year).¹⁰⁴

In general as anticipated, there is slow decrease in the number and annually installed capacity of hydropower projects world-wide, as most investments in renewable energy go to solar and wind sources. However, the role of China in this sector is still overwhelming with its companies and banks participating in 55% of all hydropower installed and for 75% of the global investment in hydropower in 2017.¹⁰⁵ We must

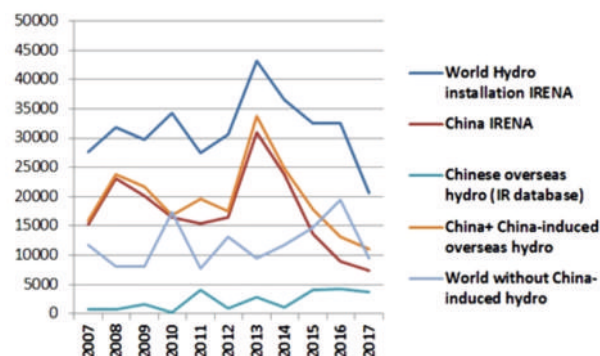


Figure shows 10-year dynamics of global hydropower installation (in MW)

China's hydropower projects by region

Region	Total of Hydropower Capacity (MW)	Number of Hydropower Projects	Total of BOT Hydropower Capacity (MW)	Number of BOT Hydropower Projects
Asia (SE)	63,444	180	56,622	63
Asia (S)	26,822	26	14,219	6
Africa	21,210	65	500	3
Latin America	9,631	27	906	2
Europe	5,984	25	3,922	6
Asia (Central)	2,151	9		
Middle East	558	2		
Oceania	180	1		
Pacific	59	3		

Source: Stephanie Jensen-Cormier. Reflections on Chinese Companies' Global Investments in the Hydropower Sector between 2006-2017¹⁰⁶

mention that in installation of wind and especially solar China's global leadership is even more pronounced in 2017.

The public global database on China-built dams developed by International Rivers¹⁰⁷ includes only a dozen of projects in countries of the former USSR. Although the figures are indeed small, the reality is more robust, since many local projects escape global inventories. For instance, despite the fact that Chinese hydropower constructors virtually left Russia in view of unfavorable economic and political environment, pulp and paper mill "Polyarnaya" (Xingbang Goji) with 100% Chinese capital by

2018 completed construction of a reservoir on Amazar River - the first tributary of the Amur River.¹⁰⁸ This is the first relatively large dam (up to 18 m high) in the Russian history built in the sole interests of Chinese investors, with severe violations of regulations and without environmental impact assessment and public consultations. It will damage local stock of red-listed endangered fishes and may effectively halt any fishing activities by local people in Mogochinsky region of Zabaikalsky Province.

The Chinese Plan on Global Energy Interconnection (GEI) as part of BRI is the most illustrative example of intended systemic

¹⁰⁴ Detailed report on Chinese investments in renewable energy sources in 2017 is the interesting alternative source of information.

¹⁰⁵ Statistics Confirm: Chinese Industry is the Engine of the Global Hydropower Boom. www.transrivers.org/2018/2211/

¹⁰⁶ www.internationalrivers.org/blogs/435/reflections-on-chinese-companies%E2%80%99-global-investments-in-the-hydropower-sector-between-2006

¹⁰⁷ www.internationalrivers.org/sites/default/files/attached-files/public_chineseoverseasdams_may2017.xls

¹⁰⁸ www.researchgate.net/publication/322231581



Backbone transmission lines of GEI (Global Energy Interconnection, GEIDCO 2018)

cooperation in the field of technology and export of industrial capacity that could have a strong impact on energy and water management sectors. For implementation of this initiative an international non-profit organization was established - Global Energy Interconnection Development and Cooperation (GEIDCO), with headquarter in Beijing and partners from Russia, Japan, Korea and many other countries.¹⁰⁹

A volume authored by the GEIDCO Chairman Mr. Liu Zhenya¹¹⁰ describes in detail advantages of global energy interconnection but keeps silence on risks. When building global interconnection in 2030-2050, renewable energy sources will fail to fully replace coal, nuclear and large hydropower generation and those types of power plants will be perpetuated when connected by super-grid. It should be taken into account that most hydropower and nuclear projects are viewed by GEIDCO as environmentally friendly. The GEI creates opportunities for transmission of power over large distances, i.e. consumers will stay far from environmental and social impacts of energy generation (that occur even in case of wind and solar power). The global interconnection also means unified technical standards and the strongest influence of grid owners on their formation. In October 2016, the IEC International Electro-technical Commission in

cooperation with the State Grid Corporation of China issued a White Paper on Global Energy Interconnection¹¹¹, which was the first step of such standardization. GEI is hardly the first attempt by international corporations to create super-grids. For instance, the power transmission line CASA-1000 has been under development for a decade in Central Asia. This transmission line is to connect old and new large hydropower projects in Kyrgyzstan and Tajikistan with consumers in Pakistan and Afghanistan. Anticipating considerable negative impacts from the GEI environmental groups and indigenous communities came up with explicit requests to subject super-grid schemes to strategic environmental assessments at the earliest stages of design.¹¹²

Beyond endeavors in energy sector, China's BRI water-related projects are less studied and more difficult to trace. Most visible but not numerous are proposed navigation projects, many of which dates back to the past century or even more. For example, in 2017 we see the fiasco of Nicaragua Canal, which was intended by a private Chinese company as an alternative to Panama Canal, but encountered massive protest of local communities, legal obstacles, concerns about massive loss of biodiversity as well as political instability in the country. Another on-going effort is feasibility study for blasting rapids on Mekong river with a

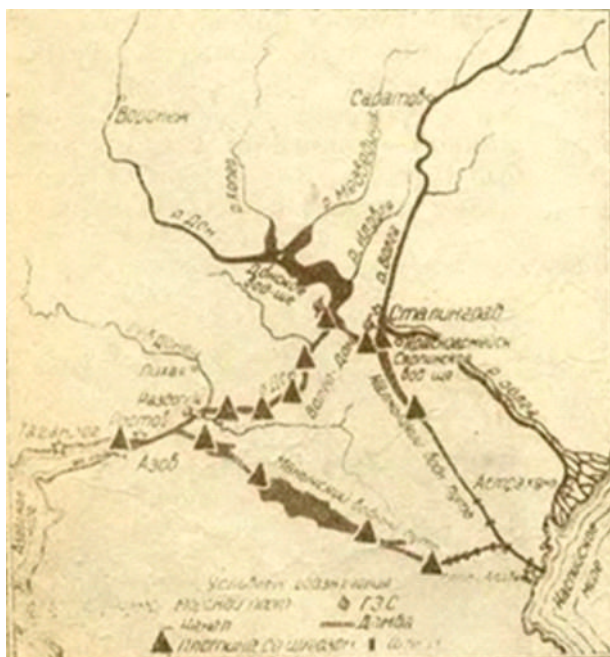
¹⁰⁹ www.geidco.org

¹¹⁰ Liu Zhenya. Global Energy Interconnection. – M.: Izdatelskiy dom MEI, 2016. – 512 p. (in Russian)

¹¹¹ www.iec.ch/whitepaper/pdf/iecWP-globalenergyinterconnection.pdf

¹¹² China's SUPERGRIDS-PROMISE OR CURSE FOR GREEN DEVELOPMENT? Presentation at the 2018 conference of AASA. www.researchgate.net/publication/326250744

view of developing a commercial waterway from China to Thailand and Vietnam, which also is confronted by locals and may lead to substantial biodiversity losses. Closer to Central Asia there is unceasing effort by Kazakhstan to cooperate with China and Russia to open access to the sea, for example, through Eurasia Canal from Caspian to Black Sea. The project makes little economic sense for Russia, whose territory it should cross, so consultations go on for years without tangible results, despite extensive diplomatic efforts of Kazakhstan and China.



Most water infrastructure megaprojects have long history of wishful thinking: Precursor of "Eurasia"-Manych Canal Scheme 1938

In theory, investments in agriculture, including modern efficient irrigation systems, could be the most useful BRI component in many countries of Eurasia. Apparently, Chinese companies lease overseas much smaller area of agricultural land than was feared before¹¹³, and nominally, the greatest area is leased in Russia (1+ million hectares). However, in Eurasia Chinese companies leasing land rarely invest into expensive new irrigation systems and modernization of water-use in agriculture, or at least such facts are absent in documents available to us. In Africa, there are multiple incidents when Chinese engineering firms win contracts for new

reservoirs and canals for agriculture in projects commissioned by local governments. The official "BRI Strategy for Cooperation in Agriculture" does not mention cooperation in water management.¹¹⁴ In contrast to many other BRI documents, this Strategy has never been officially translated into English, which probably shows that China's officials do not want to draw too much public attention to this sphere. That is understandable given that lease of agricultural land by Chinese has been trigger for mass-protests in Russia, Kazakhstan and some other countries in 2015-16. Nevertheless, cooperation in agriculture and related water infrastructure projects under the BRI is still likely to experience long-term increase in most countries of Eurasia due to objective need to modernize agricultural production and adapt to climate change.

The last, probably most positive, trend to mention is aggressive attempt of China to claim its fair share of global market in water treatment and related urban water management systems. This industry sector is listed a part of "environmental industry" and according to the 13th 5-year plan and other policy documents China encourages export of these technologies. Recently Chinese companies signed contracts for construction of large wastewater treatment facilities in many cities of Eurasia from Belgrade¹¹⁵ to Ulaan Baatar.¹¹⁶

When China has a lead in planning cooperative relationships, BRI-related cooperation in water sector may be framed as a very comprehensive exercise. China-Pakistan Economic Corridor Long Term Plan (CPEC LTP)¹¹⁷ is a striking example of a desire to cover all aspects of cooperation in water sector. It includes clauses on:

- comprehensive planning of water resources and river basin plans, improving the capability of Pakistan to coordinate the planning of water resources development and utilization, conservation and protection, flood and drought prevention and disaster relief;
- preparatory work of major projects to accelerate the hydropower development process;

¹¹³ E. Gooch and F. Gale China's Foreign Agriculture Investments, ERS, April 2018. www.ers.usda.gov/publications/pub-details/?pubid=88571

¹¹⁴《共同推进“一带一路”建设农业合作的愿景与行动》 www.yidaiyilu.gov.cn/wcm.files/upload/CMSydytqaw/201705/201705161031001.pdf

¹¹⁵ <https://watermagazine.ru/novosti/za-rubezhom/20791-kitajskaya-kompaniya-postroit-v-belgrade-ochistnye-sooruzheniya-kanalizatsii.html>

¹¹⁶ www.oannews.org/print/502623

¹¹⁷ CPEC's Long Term Plan (LTP) 2017-2030. www.cpecinfo.com/cpec-news-detail?id=ndywnw==

- construction of water-saving modern agricultural zones, and increase the development and remediation of medium- and low-yielding land to achieve efficient use of resources, strengthen drip irrigation technology for water efficiency;
- development of comprehensive agricultural production capacity, construction of agricultural water conservancy (reservoirs) and facilities for processing agricultural products;
- improving water resources operation and management, strengthen development of pastoral areas in desert, and promote application of remote sensing technology in natural resource management;
- applying international and China's new urbanization concepts to the municipal construction of the node cities along the CPEC, such as the construction of the public transport system and water supply and drainage systems;
- actively research comprehensive development of coastal tourism within the CPEC coverage;
- cooperate in fisheries.

These plans are still mostly on paper, while practical cooperation in CPEC goes on in more narrowly defined directions like construction of 3 hydropower plants (Karot, Dasu and Neelum-Jhelum). Nevertheless, the CPEC plan shows the widest spectrum of water-related aspirations of China in BRI economic corridor development.

China's water projects in Central Asia

Central Asia is the key region on the Silk Road and water management issues are central for development of this region. Official Chinese media often publishes articles about the positive role of China in regulation of water issues in the Aral Sea Basin. Some of these publications stress that China should play it safe when investing in water projects in the CA countries to avoid breaking the fragile peace.¹¹⁸ Nevertheless, the growth of expectations and agreements on participation of Chinese

companies and banks in construction of water infrastructure in CA was observed throughout 2017.

In Kazakhstan, it was reported on plans to construct small hydropower along the Shelek River (HPP – 1, 2, 19, and 29) in Almaty province. The partners are the Kazakh AO Samruk-Energo and China Water Electric Co. Ltd. The latter also applies for construction of "compensatory" Kerbulak HPP on the Ili River.¹¹⁹ As part of shift of industries from China to Kazakhstan in its Eastern Kazakhstan province, three investment projects will be implemented and include construction of two Turgusun HPPs. The initiator of this construction is the Kazakh TOO EcoEnergy with the support of Chinese OAO TBEA. The cost of construction of Turgusun HPP-2 is \$50 million, while the third station will cost \$250 million. Hydropower plant capacity will be 20 and 90 MW, respectively; while the average annual generation will be 64 and 328 million kWh, respectively.¹²⁰ However, Kazakh officials responsible for water management did not confirm that any of abovementioned projects can go ahead any time soon.

The national irrigation development program in Kyrgyzstan is financed partially through a grant of China government¹²¹, but there is no evidence about Chinese financing of hydropower in the republic.

As part of the program on transfer of China's production over-capacities offshore, more than 7 cement factories were built in Tajikistan and, evidently, their product was used in its large-scale hydropower development program. Some Chinese firms are sub-contractors at Rogun Hydro construction site, with TBEA Co. building essential transmission lines, while Dongfang Electric announced they could supply generators for the 2nd stage of its construction.

In May 2017, the PRC's leadership promised multibillion loans to Uzbekistan for irrigation and hydropower projects.¹²² In particular, funds of the Export-Import bank of PRC are expected to be used for construction of Pskem HPP (400 MW). So far Chinese firms are involved only in renovation of several old hydropower plants. Selection of Uzbekistan as the first candidate for large water investments is likely just the

¹¹⁸ Institute for Central Asian Studies, Lanzhou University. www.globaltimes.cn/content/1041521.shtml

¹¹⁹ <http://today.kz/news/ekonomika/2017-10-03/751481-energetika-i-mashinostroenie-vo-chto-investiruet-kitaj-v-almatinskoj-oblasti/>

¹²⁰ <http://today.kz/news/ekonomika/2017-05-19/742506-vyiplyavim-med-i-obuzdaem-reki--predpriyatiya-s-kitajskimi-investitsiyami-v-ko/>

¹²¹ <http://cbd.minjust.gov.kg/act/view/ru-ru/100162>

¹²² www.eurasianet.org/node/83611

beginning of systematically increasing China's influence on Aral Sea Basin management and hydro-engineering investments in the region.

BRI's suspended water projects

2017 showed several examples where "Chinese" hydropower projects promoted under the BRI were canceled or frozen. The reasons are different, but in general illustrate great vulnerability of large water infrastructure projects in transboundary basins.

Notwithstanding close cooperation between China and Pakistan, inclusion of large HPP along the Indus River into the Program of China-Pakistan Economic Corridor¹²³ has encountered many obstacles. Those were related, in particular, with the Indus Treaty (signed between Pakistan and India with the WB's mediation), status of Kashmir, and demands for close control from the Chinese side over progress in dam construction. Given high political risks and conditions for corruption in such projects, the Chinese officials wanted to get maximal control over the projects. This did not suit Pakistan, which, finally, terminated cooperation with PRC in construction of the largest Diemer-Bhasha dam.¹²⁴

Despite unprecedented pressure from PRC side for reversal of frozen construction of large-scale hydropower projects on the Ayeyarwady River (first of all Mytsone dam), Myanmar announced in 2017 that construction on large-scale hydropower projects would be stopped as the country undertook a strategic assessment of the energy sector, according to outcomes of which those projects did not fit well in the short-term development prospects.¹²⁵ In Myanmar, there are a dozen of "pending" large hydropower projects with Chinese investment in the basins of Salween and Irrawaddy rivers and more than 40 other planned hydropower projects with Chinese involvement. Official negotiations on possible export to Myanmar and Bangladesh of energy from stranded hydropower capacities in Chinese Yunnan province started in 2017.¹²⁶

The third widely discussed case of slowing down hydropower projects along the Silk Road

is the termination of contract with Chinese Gezhouba Company on construction of large 1200 W Budhi-Gandaki HPP in upper Ganges basin.¹²⁷ The contract was canceled by the Nepal Government on the ground that it was rewarded without tendering and on disadvantageous for the country terms. In December, Nepal got "tit-for-tat response" from Three Gorges Corporation claiming that it would leave the newly established joint company for 700 MW West Seti hydropower if the Nepalese government did not make tariffs more favorable for the company.

In Mongolia, the USD 1 billion loan of China Exim Bank, intended initially for the Egiin-Gol Hydropower Plant in the Baikal Lake Basin (China Gezhouba Construction Company), was redirected for other projects, including large transmission line to Gobi, wastewater treatment plant in the capital Ulaan Baatar, as well as projects in education and road construction.¹²⁸

Sudden attempt by the Hanergy Holding Co. to revive the Hinggan hydropower project on the transboundary Amur River was halted in 2017.¹²⁹ That company also co-owns one of pending hydropower dam project in Myanmar on the Salween River. The Hong Kong Court convicted the head of the Hanergy Holding of fraud, and he was banned from heading Hong Kong businesses for 8 years that seemingly rules out further attempts to initiate large-scale projects under BRI.

Those are only most well-known cases of terminating water and energy projects under BRI. As a whole, a large share of hydropower projects on which China has signed agreements with recipient countries are dormant projects, investments in which have not been made for years or which are undergoing preliminary studies that can end up in project rejection.

In conclusion:

The China's BRI Initiative may become a promising area of international cooperation for the Central Asian countries, if its projects are based on interests of CA countries and are

¹²³ <http://pc.gov.pk/uploads/cpec/LTP-Web-Document26-12-2017-final.pdf>; www.cpecinfo.com/cpec-news-detail?id=NDYwNw==

¹²⁴ www.globaltimes.cn/content/1040956.shtml

¹²⁵ "Pakistan, Nepal, Myanmar Back Away From Chinese Projects," Voice of America, December 4, 2017. www.voanews.com/a/threecountries-withdraw-from-chinese-projects/4148094.html

¹²⁶ www.stimson.org/content/letters-mekong-mekong-power-shift-emerging-trends-gms-power-sector

¹²⁷ www.transrivers.org/2017/2116/

¹²⁸ www.transrivers.org/2017/1922/

¹²⁹ www.transrivers.org/2017/1925/

subject to regulation and oversight of investments in line with the norms and principles of international law and best practices.

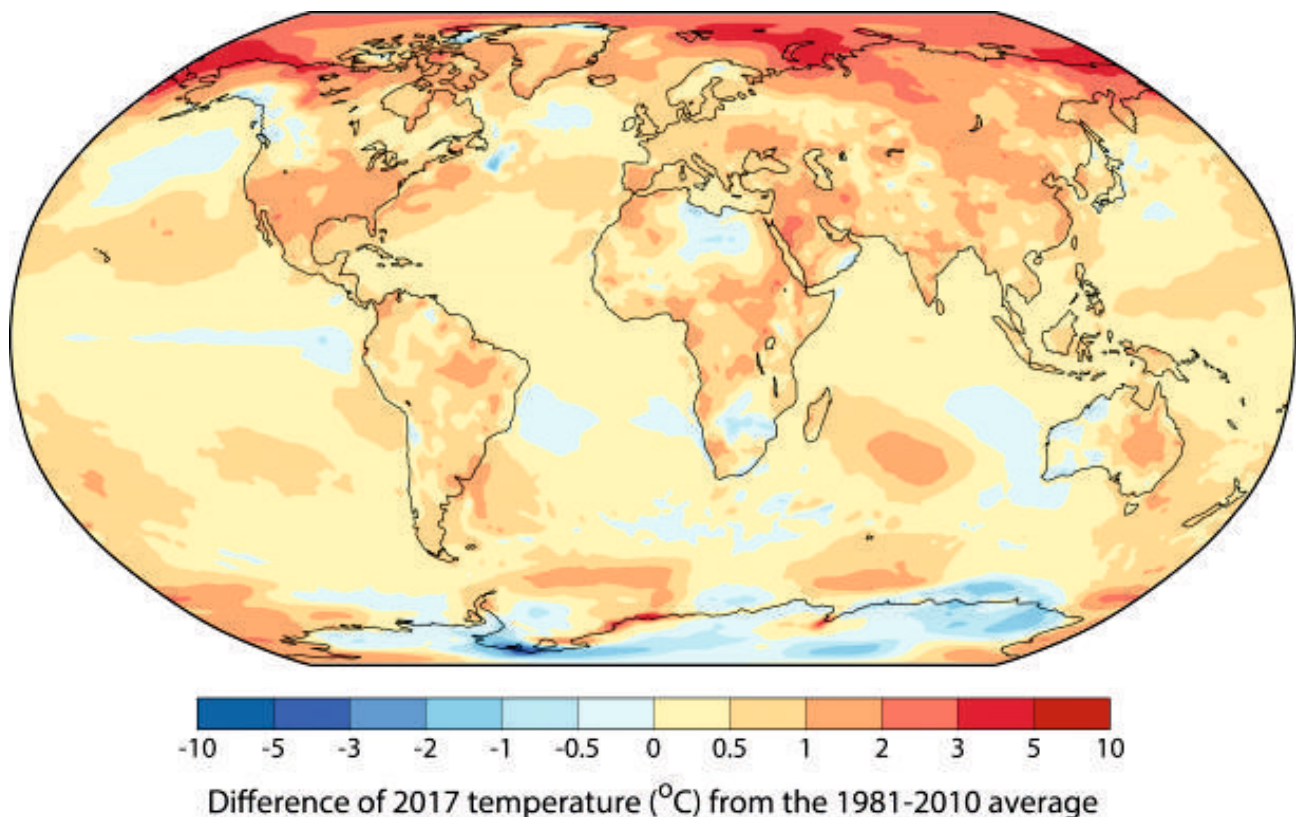
According to many experts, best prospects for cooperation with CA countries are in food production, water and environmental security. In the sphere of agriculture and food processing, CA countries can develop real competitive projects¹³⁰, while in environmental field there is scope for development of a cooperation mechanisms in science and green technology transfer.¹³¹

At the same time, there are multiple examples of water, energy and agricultural projects undertaken under BRI, implementation of which was terminated and/or suspended in view of high risks, weaknesses of strategic planning, and disagreements between riparian countries of transboundary basins.

Cooperation on "greening BRI" proposed by China in 2017 is an important chance for countries in the region to reduce risks and increase effectiveness of joint projects. This would require from the countries to study new Chinese approaches to green development and draft their own relevant project proposals and mechanisms of green BRI development to take full advantage of Green BRI policies.

It is also important to keep in mind that BRI is only one – although most ambitious – process of integration in the Eurasia continent. Therefore, its success will depend on sound harmonization with other integration processes, while meeting the national interests of concerned countries, and on effective utilization of the mechanisms of international conventions (e.g. UNECE conventions) that are already recognized in the region.

12.2. Climate Change



¹³⁰ Syroyezhkin K. Silk Road Economic Belt opens new opportunities for Kazakhstan // Web-site of the Central Communications Service of Kazakhstan. July 18, 2015. URL: <http://ortcom.kz/ru/news/ekonomicheskii-poyas-shelkovogo-uti-otkroet-novievozmoinosti-dlya-kazahstana--ekspert.6838>

¹³¹ Frolova I.Yu., senior researcher, Sector of Asia, Central Asia and Middle East, RISS. China's Project "Silk Road Economic Belt: development, challenges, and prospects. National Strategy Issues No 5 (38) 2016. <http://library.asue.am/open/art4637.pdf>

2017 was the warmest year without an El Niño.

According to WMO, the global average surface temperature in 2017 was approximately 1.1° Celsius above the pre-industrial era. 2015, 2016 and 2017 have been confirmed as the three warmest years on record. 2016 still holds the global record, whilst 2017 was the warmest year without an El Niño, which can boost global annual temperatures. The long-term temperature trend is far more important than the ranking of individual years, and that trend is an upward one. Seventeen of the 18 warmest years on record have all been during this century, and the degree of warming during the past three years has been exceptional. The warmth in 2017 was accompanied by extreme weather in many countries around the world. WMO will issue its full Statement on the State of the Climate in 2017 in March 2018.¹³²

Youth filed their constitutional climate lawsuit against the U.S. government.

In 2017, this unique case called *Juliana v. U.S.* continued. 21 American youths from 9 to 20 years old filed a class action lawsuit against the U.S. government. Their complaint asserts that, through the government's affirmative actions that cause climate change, it has violated the youngest generation's constitutional rights to life, liberty, and property, as well as failed to protect essential public trust resources.¹³³

In September 2017, the Intergovernmental Panel on Climate Change has agreed the outline of its Sixth Assessment Report (AR6),

which will all be delivered in 2021. The next step for the IPCC is to invite nominations through Governments for authors from among the international research community, who will prepare the report.¹³⁴

2017 marked 10 years since opening the debates in the UN Security Council on the links between energy, security and climate.

Since then, the climate related threats to security has become more evident and, therefore, have been addressed at the Council's meeting more frequently. Resolution 2349 adopted in May 2017, on the Lake Chad basin region, recognized the adverse effects of climate change among other factors on the stability of the region. On 30 October 2017, during the SC

briefing, the Secretary General told how poverty and climate change contributed to humanitarian crisis in Sahel.¹³⁵ (See also [Security Council](#)).

Paris Climate Agreement

170 countries have already ratified the Paris Agreement, which came into force less than a year ago – a modern record for such a global treaty. Many nations have drawn up and are now moving to implement their national climate action plans under the Paris Agreement. Some areas are advancing quickly: new evidence indicates that global growth in renewable energy like wind and solar is doubling every 5.5 years.¹³⁶

Uzbekistan has joined the Paris Agreement

on climate change. The signing ceremony took place on the 19th of April at the UN headquarters in New York.¹³⁷

U.S. withdraws from the Paris Agreement.

On 4 August 2017, the UN Secretary-General received a communication from the Permanent Representative of the United States of America expressing the intention of the United States to exercise its right to withdraw from the Paris Agreement. Analysts state that abolishment of climate change actions was one of major campaign promises of Donald Trump. He told that the so-called Clean Power Plan adopted during presidency of Barack Obama in 2014–2015 hampered American industry with its excessive environmental requirements that imposed high costs to coal, automobile and oil-and-gas corporations. The plan stipulated 25% reduction of greenhouse gases in the U.S. According to UN, the decision by the United States to withdraw from the Paris Agreement is a major disappointment for global efforts to reduce greenhouse gas emissions and promote global security.¹³⁸

Major global climate change related events

The international EECCA NWO [conference](#) “Challenges of river basin management in the context of climate change” was held on 18-19

¹³² <https://public.wmo.int/en/media/press-release/wmo-confirms-2017-among-three-warmest-years-record>

¹³³ Our children's trust. *Juliana v. U.S. Climate Lawsuit*. www.ourchildrenstrust.org/us/federal-lawsuit/

¹³⁴ public.wmo.int/en/media/news/ipcc-agrees-outlines-of-sixth-assessment-report

¹³⁵ www.securitycouncilreport.org

¹³⁶ www.unenvironment.org/news-and-stories/story/two-years-after-paris-one-planet-summit-aims-galvanize-new-action-climatec

¹³⁷ www.gazeta.uz/ru/2017/04/20/paris-agreement/

¹³⁸ www.un.org/sg/en/content/sg/note-correspondents/2017-08-04/note-correspondents-paris-climate-agreement

May in Moscow. The conference brought together researchers and experts from Russia, Belarus, Moldova, Azerbaijan, Armenia, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, France, Switzerland, and Australia.

23rd Conference of the Parties (COP 23) to the UN Framework Convention on Climate Change was successfully held on 6-17 November. As long as during two weeks Bonn was in the focus of world diplomacy and climate change. COP 23 presided by the Government of Fiji was attended by more than 27,000 participants.¹³⁹

One Planet Summit was held on 12th of December. It was to promote new initiatives in the context of climate change. The President of the French Republic, Mr. Emmanuel Macron, the World Bank President Mr. Jim Yong Kim and the UN Secretary-General Antonio Guterres drew attention to the global critical environmental situation by gathering together the leaders of international community and concerned parties all over the world. Major focus was put on mobilization of public and private funding in support and for speeding up of our common efforts in fighting climate change.

The third **Planetary Security Conference** was held on 12-13 December and resulted in the adoption of the Hague Declaration on Planetary Security. The declaration presents climate change as the key factor global insecurity and conflict and sets an Agenda for Action, which includes: creating an institutional home for climate security; coordinating migration and climate change responses; promoting urban resilience; supporting three climatic hotspots (Lake Chad, Mali, and Iraq).¹⁴⁰

Events in the countries of Central Asia

A **Central Asian Regional Glaciological Center** was established after the president of the Republic of Kazakhstan, Nursultan Nazarbayev, ratified an agreement in March 2016 between his country and UNESCO. The center is located in Almaty and has the objective to both contribute to the research of glaciology and improve the scientific understanding of the impacts of climate change on glaciers and the water cycle in the region. As stated by UNESCO, the center will improve coordination of research

projects and information sharing between regional institutions currently working on glaciers. Moreover, it will aim to increase the capacities of Central Asian specialists in the field of glaciology.¹⁴¹

The conference presenting the **National communication of the Republic of Kazakhstan** to the UN Framework Convention on Climate Change was held on **29th of November in Astana**. According to the calculations shown in the national communication, even under non-extreme climate change scenario, by 2050 water resources in upland basins of Kazakhstan may increase on average by 7%, while those in lowland rivers may decrease by 3.8%. Thus, increase of water in south and east of Kazakhstan, where rivers are fed by glaciers, may lead to intensification of mudflows and landslides. While in the lowland area in western, northern and central Kazakhstan desertification processes could be observed because of reduction of runoff. Additionally, according to UNDP's forecasts, grain yields may decrease to 40% by 2050.

On **17-18 April**, a regional **workshop** on climate change in CA was organized in **Almaty** by CAREC, USAID, WB and IFAS as part of the CAMP4ASB Project. The workshop heard from international consultants from AbtAssociates engaged by USAID for presentation of recent major climate-related changes in global policy since the adoption of the Paris Agreement, as well as of those opportunities that are opened before the CA countries in application of the Agreement's mechanisms. Representatives of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan reported on progress in adaptation to climate change.

A **regional Central Asian meeting** to inform the public on issues related to climate change and security in the region was held on **27th of March in Almaty**.

International forum "Climate change and water cooperation in the context of sustainable development in Central Asia" was organized by the State Committee for Environmental Protection and Land Resources of Turkmenistan and CAREC on **5-7 June in Ashkhabad**. The objective was to enhance overall dialogue on environmental protection between public agencies, international community, academia

¹³⁹ www.cop-23.org/

¹⁴⁰ www.planetarysecurityinitiative.org

¹⁴¹ <http://glacierhub.org/2017/11/30/new-glaciological-center-kazakhstan-tackle-glacier-retreat-region/>

and businesses in CA for consolidation of joint efforts and elaboration of a common vision of sustainable development in the region.

The [sixth meeting](#) of the EU – CA Working Group on Environment and Climate Change was held on **10th of July in Astana**. The participants discussed such matters as strengthening of regional cooperation in environment, water management and climate change, leveraging of international financing for infrastructure and climate projects, and the related needs of CA countries for capacity building and training.

In **August 2017**, the Center on Climate Finance was established in **Kyrgyzstan**. The key

objectives of the Center are mobilizing financing and investments from the Green Climate Fund and international organizations and promoting investments, projects and programs in the field of climate change.

On 18th of August UNDP and the State Committee for Environmental Protection and Land Resources together with national partners discussed in **Ashkhabad** [results of the project](#) “Addressing climate change risks to farming systems in Turkmenistan at the national and community level” funded by the Adaptation Fund.

12.3. Sustainable Development Goals: Reviewing Progress

In September 25, 2015, the UN member countries adopted the 2030 Agenda for Sustainable Development. It includes the 17 interconnected Sustainable Development Goals, supported by 169 specific targets. A system of 230 global indicators was adopted in March 2016 to monitor SDGs. The countries were expected to create their own system of monitoring through regular comparison of statistics with 230 indicators. Yet none of CA countries has established such system.






According to UN report¹⁴², implementation of SDGs in Central Asia can be described as follows:

- Water load in CA exceeds threshold by 60% indicating to high probability of water scarcity in the future.
- By 2016, the CA countries achieved substantial progress on most indicators of SDGs, thus quickly progressing to better indicators in achieving SDGs and reducing existing lag behind. Nevertheless, the countries face serious challenges, though in varying degrees, in achieving SDGs; significant lags in degree of achieving exist in most cases (Table 1).





- SDG 6 (water) is the only goal set as a national priority in all CA countries. It is followed by SDG 7 (energy), SDG 9 (infrastructure), and SDG 13 (climate) (Table 2).
- Virtually all CA countries adopted national strategies or programs for sustainable development and, in general, harmonized their national goals with SDGs.

¹⁴² The Sustainable Development Goals Report (UN, 2017); Achieving the Sustainable Development Goals in North and Central Asia (UNESCAP, 2017); UNECE Background paper «Promoting innovation in Central Asia – shaping new markets» (SPECA, 2017)..

Table 1. Indicators of SDGs achievement in CA countries



	Sustainable Development Goals					
1.	No poverty	Green	Green	Orange	Green	Orange
2.	Zero hunger	Red	Orange	Red	Orange	Orange
3.	Good health and well-being	Red	Red	Red	Red	Red
4.	Quality education	Yellow	Orange	Yellow	Yellow	Yellow
5.	Gender equality	Yellow	Orange	Orange	Orange	Orange
6.	Clean water and sanitation	Yellow	Yellow	Orange	Orange	Orange
7.	Affordable and clean energy	Yellow	Yellow	Yellow	Orange	Yellow
8.	Decent work and economic growth	Yellow	Red	Red	Orange	Orange
9.	Industry, innovation and infrastructure	Red	Red	Red	Red	Red
10.	Reduced inequalities	Green	Green	Yellow	Red	Orange
11.	Sustainable cities and communities	Yellow	Yellow	Orange	Red	Red
12.	Responsible production and consumption	Orange	Orange	Orange	Orange	Orange
13.	Climate action	Yellow	Yellow	Yellow	Red	Yellow
14.	Life below water	n.a.	n.a.	n.a.	n.a.	n.a.
15.	Life on land	Orange	Orange	Orange	Orange	Orange
16.	Peace, justice and strong institutions	Red	Red	Orange	Red	Red
17.	Partnerships for the goals	Red	Orange	Yellow	Red	Green

Note:

	SDG achievement, and is assigned to a country on a given SDG only if all the indicators under the goal are rated Green
	Yellow
	Orange
	and Red indicate increasing distance from SDG achievement.

Source: SDG Index and Dashboards Report 2017 prepared by Bertelsmann Stiftung and Sustainable Development Solutions Network.

Table 2. SDGs set by CA countries as national priorities

Sustainable Development Goals		SDGs set as national priorities				
						
1.	No poverty					
2.	Zero hunger					
3.	Good health and well-being			X		
4.	Quality education	X		X		
5.	Gender equality	X	X	X		
6.	Clean water and sanitation	X	X	X	X	X
7.	Affordable and clean energy	X	X	X		X
8.	Decent work and economic growth		X	X		
9.	Industry, innovation and infrastructure	X	X		X	X
10.	Reduced inequalities		X	X		
11.	Sustainable cities and communities					
12.	Responsible production and consumption		X	X		
13.	Climate action	X	X		X	X
14.	Life below water	X			X	
15.	Life on land		X		X	X
16.	Peace, justice and strong institutions			X		
17.	Partnerships for the goals	X	X	X		

Source: Report on preparation to implementation of SDGs in the SPECA sub-region (author: A.Aljanova, UNECE consultant), March 2017.

Source: Implementation of Sustainable Development Goals in the SPECA region. (author: A.Aljanova, UNECE consultant), Dushanbe, Tajikistan, 6 December 2017.

