



Eugene Simonov (Rivers without Boundaries Coalition-RwB),
 Oleg Korsun (Zabaykalsky State University),
 Evgeny Egidarev (Pacific Institute of Georaphy and WWF-Russia)
Financial Advocacy Case-Studies. March 2015

The Amur-Heilong River Hydropower - Transsibirskaya Hydro Case-study

The transboundary Amur-Heilong River is the last remaining great free-flowing river in China without dams in the main stem. It is also one of the biggest river catchments in the world, with tremendous ecosystem diversity including seven freshwater ecoregions and 17 wetlands of international importance protected by the Ramsar Convention. Today, as a result of uncoordinated use of the river's resources the productivity and resilience of the Amur-Heilong ecosystem is gradually declining. The river and the communities it sustains are impacted by overfishing, diversion of river flows, unilateral construction of flood control structures, unsustainable development of hydropower, and discharge of untreated runoff, deforestation, and mining.

While damming the main stem of the Amur River would have hydropower benefits, it would destroy remaining fisheries, including salmon and the endemic Kaluga sturgeon, and would have many other negative consequences on sediment transport, aquatic and floodplain habitat, fisheries and wetland birds, water quality, and nutrient transport into the Pacific Ocean.



The Amur River Basin

on their development. NGOs including the Rivers without Boundaries (RwB) play a watchdog role and undertake new wave of awareness raising each time when a threat of Sino-Russian negotiations on Amur main stem dams emerges. Since 2012 such campaigns target not only Russian entities, but Chinese NGOs, hydropower companies and investors.

II. Hydropower Exports would bring Extensive Cumulative Impacts

Presently there are 20 existing large hydropower dams (2 in Russia, 18 in China) and at least another 80 large dams proposed for future development in the Amur-Heilong transboundary river basin. A significant part of the electricity currently produced in Russian part is exported to China, and future dam projects are driven by energy demands from China. Russian official planning documents now include a goal to export 23-60 billion kWh per annum to China, which is more than the total amount of power presently produced in Russian border provinces. Several new Sino-Russian transmission lines have been built to facilitate electricity import, including one 500 kV power line which is China's largest cross-border power line.

Existing hydropower projects in the basin, such as the Zeyskaya and Bureyskaya hydropower cascades which were built on main Amur-Heilong River tributaries in Russia, do not employ proper environmental safeguards and have already caused significant negative impacts on the freshwater ecosystem. The environmental and socio-economic impacts of new tributary hydropower dams and transmission infrastructure are complex and difficult to predict, and require comprehensive and cumulative impact assessments that take into account existing hydrological alterations. Yet virtually all dam projects discussed in relation to “flood protection” and electricity exports are based on designs produced in 1960s and 1970s that do not consider comprehensive environmental and ecological impacts.

Rivers without Boundaries International Coalition often petitions Russian government to revise energy export strategies and cooperates with provincial governments on designing alternative development scenarios. Most recently it also had to address companies and investors from China. Since the beginning we discovered that only one Chinese entity China Three Gorges Corporation (CTGC) is really actively exploring opportunities to dam the main stem of Amur-Heilong River and its tributaries in Russia as if it has mandate to do so from the PRC Government. Therefore most of our efforts were directed towards communication with CTGC, its subsidiary companies and investors.

III. Case Study. China Yangtze Power Company and Transsibirskaya Hydro on Shilka River.

2011 IPO. In 2010 the largest Russian private hydropower firm **EuroSibEnergo-ESE**(subsidiary of **En+Group**) and **China Yangtze Power Company-CYPC** (subsidiary of CTGC) created a joint venture “**Yes-Energo**” to develop 10,000 megawatts of new generation capacity in Eastern Russia, some of which will support exports to China. No specific dam locations were indicated in the proposal, which made our environmental groups very nervous. The new firm was actively initiating IPO at HK Stock Exchange, but overall economic environment was not very favorable for that, so IPO was postponed 2 times.

Direct communication with En+ did not help to clarify the firm's intentions and have shown relatively low level of corporate social responsibility. In early 2011 the RwB initiated an appeal to the Hong Kong stock exchange management, to banks organizing public offers and to potential investors to take into consideration the risks and abstain from participation in EuroSibEnergo's IPO (see [Appeal to Financial Institutions and Stock Exchange Operators](#)). Several international NGOs including Friends of the Earth (Adina Matissof) provided RwB with important information on IPO regulations and helped to form convincing appeal. Pacific Environment developed description of this case on the Banktrack web-site.

We used a mix of environmental and economic risk analysis to repel investors and our key point was that cancellation of dam project very much related to specific planned hydropower site and no sites have been specified by IPO organizers. Over the period 1992 – 2005 planning and construction of more than 30 hydro-power stations in Siberia was frozen due to mix of reasons, including environmental and social risks. So there is a fat chance this project fails due to site section held in secrecy. **We requested that**

HKSEx makes full information on risks available to participants in exchange trading and promote the holding of IPO of the most responsible candidates and prevent risks involved in dealings with questionable candidates even to refusal to hold an IPO.

Attracting Russian firms was high priority of the HKSE and the time, nevertheless the Stock exchange management several times asked for clarifications and then assured us that all those concerns they will discuss with the client, but cannot disclose to us results of this negotiations. Several banks responded to us referring to their specific corporate responsibility standards.

In a few weeks ESE-CYPC IPO was postponed for unknown period of time and never attempted again. We fully understand that our concerns were at best "the last drop" and this particular IPO had serious risks of failure even without our intervention. But adding the last drop we became the organizers of financial advocacy effort that was successful and damming threat that was postponed if not removed. That was an asset we used ever since.

However, in mid-June 2011 a 5 billion U.S. dollars-worth cooperation deal was signed between En+ Group and Export-Import Bank of China (China Exim bank or EIBC). The China Exim Bank would finance the construction of thermal and hydro power plants, the development of coal fields and iron ore mining as well as copper concentration projects in Eastern Siberia undertaken by such En+ Group companies as the EuroSibEnerg, Tuva Mining and SMR.

Basin-wide express-assessment. By early 2012 RwB and allied experts finished development and presented at World Water Forum 2012 and elsewhere relatively simple, but comprehensive [express-assessment method that allows to compare basin-wide environmental impacts](#) of various water infrastructure development scenarios. Methodology is based on semi-quantitative assessment of cumulative impacts of flow alteration, basin fragmentation and creation of anthropogenic water reservoir in place of natural river ecosystem. We analyze how these impacts from one or several dams affect known environmental values in a given river basin. All measures of impact we use were suggested in scientific literature and our innovation is in combining them in one effective and transparent assessment tool, that could be customized and adapted according to situation in a given basin under assessment. Assessment results also allow to compare how much impact is caused per unit of produced energy providing a rough measure of "environmental efficiency". Amur -Heilong river basin was selected to develop first strategic assessment and we have compared impacts of all existing and more that 60 planned damming projects. Ever since this serves us in dialogue with various stakeholders, including investors.

Our assessment tool was publicly praised for its objective methodology by Technical Directorate of RusHydro Co - biggest Russian hydropower firm, though they never attempted to use it. Besides this tool also responded to requirements set forth by China government in "[Provisional Measures for the Evaluation of River Hydropower Plans \(RHPs\) and Environmental Impact Statements \(EISs\)](#)" NRDC [2011] No. 2242. This regulation prescribed to make strategic assessment of all possible hydropower in a basin and develop a master-plan before pursuing single-dam projects. This was brought to our attention by Yi Yimin, then from Moving Mountains.

In 2012 En+\ESE-CYPC alliance reemerged with much more specific plans for 2 hydropower projects and one good-looking thermal plant on waste gases from oilfields. The owner of En+ESE the Russian billionaire [Deripaska claimed](#) that China and Russia could jointly develop large hydropower in Siberia and Russian Fareast to reduce China's dependence on coal. One of the proposed projects was Transsibirskaya hydropower plant on the lower Shilka River -source of the Amur.

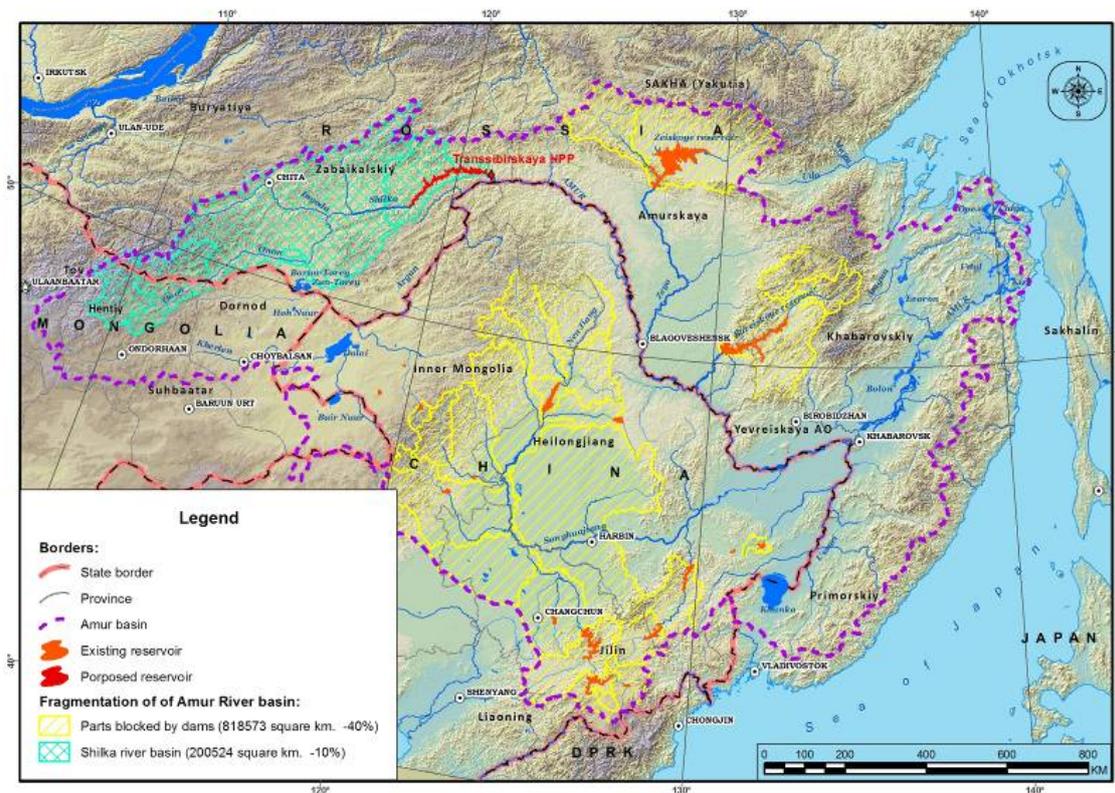
CYPC and Three gorges Co. likely consider this project in the headwaters of the Amur as a first step to build dams on the Amur River main transboundary channel. During last 10 years the plan to dam Amur River main channel remains as centerpiece of the long-term hydropower development Scheme for Northeast China and is supported by Chinese authorities despite huge environmental and social risks.

Amur River Headwaters, known as Dauria, has very poor and risky conditions for hydropower development due to relatively small rivers with highly variable flow with dramatic climate cycles, remoteness from large industrial consumers and other limitations. Despite several dozen perspective dam locations suggested there during the last century not a single hydropower plant has been built. But Transsibirskaya site is only 70 kilometers from China Border and would be easy to supply it with workforce, equipment and any other materials from China.

En+\ESE was tasked to develop feasibility study to obtain investment from EXIM Bank of China and other sources. In fact they were updating old project developed in 1990 and rejected at the time due to environmental and social risks.

Transsibirskaya Hydro in **Zabaikalsky Province**, on the Shilka River – the source of the Amur River would have 450 kilometer long reservoir, that in length will occupy roughly a half of the Shilka River proper. It will fully block the Shilka River watershed, disrupt important migration corridor between the Amur river and northern Dauria, exterminate floodplain communities unique for Dauria, drown 130 important historic sites and 20 settlements and most of local croplands . The are along the potentially inundated river represented best fishing, hunting and recreational areas used by local people. Reservoir will be contaminated with rotting wood and toxic substances from mining complexes upstream, it will exterminate local fish including giant Kaluga Sturgeon–endemic of the Amur.

Already existing hydropower has significant negative impact on Amur River Basin and adding a new plant on Shilka River may significantly worsen situation in the whole river basin. Therefore the Shilka project was continuously questioned by regional scientists and environmentalists. According to our basin-wide express-assessment adding Transsibirskaya HPP would be one of worst hydropower development scenarios.



Areas of influence of hydroelectric dams in Amur river basin. Map by E.Egidarev



Old settlements in Shilka River valley would be drowned by Transsibirskaya Reservoir. Photo by Oleg Korsun.

2012 Shilka Campaign. Winter 2011\2012 was spent by Rwb, WWF and Greenpeace in relatively fruitless negotiations with En+ and extensive monitoring effort at international, national and local level. Intelligence brought us good news that "unnamed investors" from China require thorough environmental justification for the project. Rwb collaborated with renowned scientists from Zabaikalsky province, who participated in preliminary EIA of that project in 1990 and published a series of popular and scientific articles in Russian describing potential risks of hydropower dam on Shilka River. This also helped to develop technical arguments for further discussions with companies, authorities and other stakeholders.

We developed very important link between damming the main stem of Amur River proper already unacceptable to Russian society due to our long-term efforts and the intended damming of the main source of Amur Shilka River, which also can be viewed as main stem of this river system. This symbolism was important because many of our potential opponents, including RusHydro and En+, in previous years have already stated in public that they are not going to plan dams on the main stem of the river. We wanted to extend this restraint on the Shilka River.

In March 2012 a "[Week of Actions in Defense of the Shilka River](#)", initiated by Svetlana Titova of WWF Amur Branch and supported by many local NGOs, rolled through the cities and towns of Amur River basin and it forced hydropower company to start dialogue with NGOs. It started on March 14 with rallies in each sizeable town of Amur river basin and continued with multiple statements from governors, water agency people and other authority figures denouncing the Transsibirskaya project.

This display of dissent led to a clear change in attitude of En+ and its investors and allies. They started talking business with environmental NGOs and local public.

Assessment by WWF and En+\ESE. On 2012 World Water Day En+ Group and WWF Russia signed agreement to hold a joint comprehensive study to assess the impact of hydroelectric plants on the ecosystem of the Amur River Basin. The purpose of the study is to produce a balanced account of all the key factors, including environmental and socio-economic, that should be considered when deciding on the possible development of hydropower potential of the Amur River basin and construction of new hydroelectric plants. Such a comprehensive strategic basin-wide environmental assessment will be conducted for the first time in the history of hydropower in Russia and the Soviet Union.

In **March 2015** this assessment is still being finalized. Environmental part is based on express-assessment methodology suggested by RwB and allied experts and has been already completed in early 2014. However presently ESE lacks data for completion of economic part of the assessment.

Prior to the completion of studies and discussing its conclusions with the public En+ EuroSibEnergO promised to **suspend all planning and negotiations on the Trans-Siberian hydropower project** on the Shilka River. The decision on the future of the Trans-Siberian hydropower project company should be based on the conclusions of a comprehensive environmental assessment.

*In October 2013 Russian state-owned **RusHydro** and **China Three Gorges Corporation** announced their common interest in constructing flood storage hydroelectric projects on tributaries of the Amur River in Russia.*

Excluding dam on Shilka from investor priorities. Being eager to build on success of Shilka Week and facing great uncertainty regarding future of IPO and other funding sources for Sino-Russian hydropower RwB prepares and sends to investors in Summer 2012 a new information package on potential risks with an offer to respond to any further inquiries. From 12 potential investors including BOC and China Exim Bank no one followed up with further questions, but no-one declined the offer.

Meanwhile our activities curtailed very important concern - a new governor of Zabaikalsky Province openly dismissed Shilka project, suggested alternative energy development plan in cooperation with China State Grid, and therefore for the time being we at least do not need to worry about search for China investment by provincial government. As a result of this dialogue with authorities in 2014 WWF and RwB were invited to design and implement a Strategic Environmental Assessment of Zabaikalsky Province Development Plans, which despite of crisis is still scheduled to start in 2015.

Celebrating the Day of Action to save Rivers in March 2013 [RwB continued to address](#) investors, namely [CYPC](#) and the China Exim Bank, specifically asking to disclose CSR issues related to intended dam building in Russia. In response we got a letter from Zhang Cheng, General Manager, that stated that the CYPC adheres to highest EIA standards and "*hopes to promote mutual understanding through more communication and exchange, and jointly work on the coordination for natural resources management and environmental protection*".

Reacting to large flood in Amur-Heilong river basin in September 2013, Russian President Vladimir Putin issued an order to develop a Program for construction of new "flood-prevention hydropower facilities" on tributaries of the Amur River by the end of 2013. Since August 2013 till today RwB developed a series of appeals, inquiries to agencies, assessment reports, fact-sheets and media-articles to insist that construction of hydropower dams is not an effective means for reducing flood risks and that in particular Transsibirskaya dam on Shilka river cannot be included in such program. Some of these assessments were sent to CYPC and CTGC management.

Simultaneously Zabaikalsky Province Government, WWF Amur Branch, RwB and local scientists were rapidly undertaking all necessary assessments and negotiations to establish a wildlife refuge covering all spots where a dam could be built on Shilka river and thus making future dam planning and development legally prohibited. On March 14 2014 [public hearings in Mogochoa District](#) approved a plan to establish and then expand the new wildlife refuge.

In October 2013 Russian state-owned **RusHydro** and **China Three Gorges Corporation** announced their common interest in constructing flood storage hydroelectric projects on tributaries of the Amur River in Russia. However Shilka Hydro and 3 other most dangerous projects were removed from the list of potential "anti-flood" dams by spring 2014. Remaining list of 4 "anti-flood" dams has only one project fully unacceptable to Russian environmental groups.

In January 2014 RwB and Pacific Environment presented "Threats to Amur - the last free flowing river of China" to the Green Journalist club in Beijing, trying to reintroduce Amur river into active platform of China anti-dam movement. Apparently we do not have enough capacity to make it happen.

Finally with assistance of TNC-China and International Rivers China Programme on March 20, 2014 RwB and IR were invited to a [meeting with all key officials of CTGC\CYPC](#) and presented their concerns. At that meeting CTGC vice-president Lin Chuxue clearly emphasized that that CTG will comply the local laws and regulations of host country and Chinese government guidelines for overseas investment. CTGC supports basin-wide planning of hydropower and comprehensive water management schemes as precondition to development of particular hydropower projects. CTGC understands that Amur River is an area with a very high investment risk because of many complicated transboundary issues. CYPC (Int) President Qin Guobin informed RwB that hydropower project on Shilka River was removed from the list of investment priorities after CTGC received [a letter from RwB](#) and discussed the issue in a meeting with Russian En+Group.

So far this is the status of the Transsibirskaya Hydro Project and advocacy efforts to prevent it from happening as of March 7, 2015.

IV. Towards the Future: Sustainable Development and Management of the Amur-Heilong River Basin

The main recommendation is implementation of acceptable environmental management and mitigation standards on existing hydropower plants in the Amur-Heilong basin as a mandatory first step prior to consideration of development of new dams. Only after environmental flows to protect fish species and other mitigation measures are implemented on existing projects (such as the Zeyskaya and Bureyskaya hydropower cascades) can a rational decision be made on the feasibility of continued hydropower development in the Amur River basin.

The Amur-Heilong River is sensitive due to its transboundary position and only projects that make use of the best environmental planning, management, and mitigation standards should be considered. Moving forward, comprehensive river basin planning and management should include use of advanced environmental standards, and taking steps to maximize efficiency of existing facilities in terms of power production, flood prevention, and fisheries safeguards.

The following planning principles are essential for reaching the target of sustainable development in the Amur-Heilong River basin:

- ✓ Prevention of loss of large free-flowing river ecosystems and surrounding primeval forest due to unchecked hydropower development;
- ✓ Defining limitations for allowable impacts of existing and proposed hydropower on natural river ecosystems and incorporate necessary measures into integrated river basin management and reservoir operation rules ("baseline limits");
- ✓ Conduct basin-wide assessments of water infrastructure development to determine baseline limits and the least ecologically damaging and most efficient development options;
- ✓ Institute and implement environmental flow norms and other mitigation measures at all existing and new hydropower facilities;
- ✓ Prevent and mitigate impacts on indigenous peoples' cultures and livelihoods;
- ✓ Always involve local communities in decision making from the earliest stages of planning.

Additional information in English:

1. [Amur-Heilong River Basin Reader \(PDF, 15.3 Mb\)](#)- situation before 2008
2. [Appeal to HKEx on EuroSibEnergo plans to seek investors](#) 2011
3. [Letter to Prime minister of China on negative impacts of Hydropower Development](#) 2011
4. [Sino-Russian Hydropower in Amur River Basin: Options for the Future](#) (in depth review)2012
5. [Threats of Transsibirskaya Hydropower project on Shilka River ”](#) 2012

6. [Shilka Hydro – a week of protests results in constructive outcome](#)-March 2012

7. [Hydro on Shilka suspended?](#) Apr 2012

8. [Sino-Russian export of disaster both ways](#) April 2013

9. [Letter to China EXIM Bank \(PDF\)](#)**2013**
10. Letter to [China Yangtze Power Co. \(PDF \)](#)**2013**
11. [Why En+ promises to deliver electricity to China are hard to fulfill \(PDF\)](#)**2013**
12. [Acting Governor of Zabaikalsky Kray disapproves Hydropower Plant on Shilka River](#) 2013

13. [NGOs Meet with the China Three Gorges Corporation on Russian Projects](#) March 2014 |