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Harmonizing World Heritage and Climate Measures.

The Case of Lake Baikal

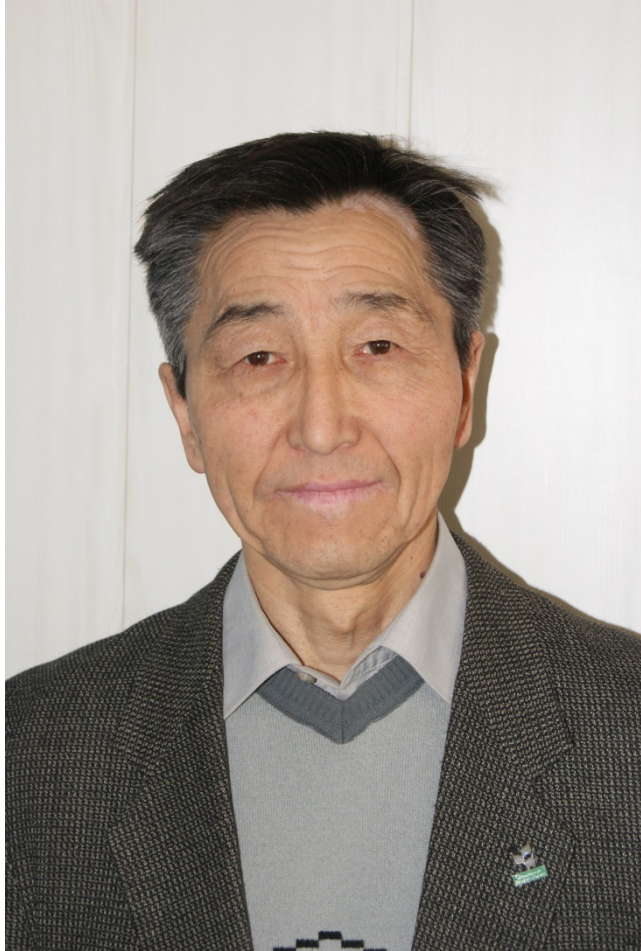
World Heritage Watch Forum of CSOs

- June 23, 2018 Manama, Bahrain



Sergey Shapkhaev

1948-2018



Sergey passed away on June 20, 2018. When we prepared this paper for the Forum he already knew he is mortally ill. This report was based on his original paper "Climate Change Threats and Perceptions: Choice of Priorities and Role of NGOs". published in January 2018. It reflects problems that fascinated him the most as scholar and activist in last 5 years. I was trying to relay his message as accurate as I could.

Threat perception and public participation

- *Perception of "external" nature-based hazards by various social groups often also points to existence of conflicts between different sectors of society advocating different development path.*
- The Civil Society has an important role in highlighting these problems and conflicts and urging business, governments and UN bodies undertake efforts for removing particular threats and harmonizing overall policies to benefit society and nature.
- Without involvement of concerned citizens, bureaucracies and business are likely to use "climate change rhetoric" to advance large infrastructure and energy projects and have many incentives to overlook threats the projects present to natural ecosystems and local communities.

Redefining "climate refugees"

- Sergey argued that the first 'climate refugees' appeared in countries where giant dams and hydroelectric power plants (HPPs) were built : the USSR, the US, Brazil, China, and others.
- Flooding fertile lands in river valleys for hydropower reservoirs resulted in involuntary mass resettlement of the local population.
- More than 300 communities with at least 101,500 residents had to be relocated from an area of 7,600 square kilometers to make way for the hydropower reservoirs on the Angara River in late 20th century
- One of reservoirs was Lake Baikal itself, which area was expanded by 500 square kilometers due to erection of Irkutskaya hydropower dam and many coastal communities resettled

On-going "Climate Crisis" at Lake Baikal

- Over the past 20 years, areas in Lake Baikal Basin in Mongolia and Russia experienced low-water inflow due to scarce precipitation and Russia suffers a subsequent drop in Baikal's water level, algal blooms and decline in fish.
- Rural communities experienced shortages of quality drinking water in wells and decrease in fisheries due to shrinking spawning grounds. Local people perceived the climate change as real and affecting their livelihoods.
- In late 2017 the Russian Government extended permission to exceed previously established "maximum and minimum water levels in Lake Baikal" for next 3 years, thus subjecting ecosystem to additional stress from dam.
- Currently observed "minimal flow volumes" of 1300 m³/sec are dictated primarily by needs of En+Group and are twice larger than would be the natural outflow from Baikal to Angara in winter this year. Water infrastructure owned by En+ requires adaptation to allow reducing outflow.

Future "Climate Crisis" at Lake Baikal

- However, climate goes in cycles: older residents still remember catastrophic floods which used to occur every 20 -30 years, caused by monsoons from the Pacific Ocean hitting Mongolia. Next cycle of floods was expected by 2015, but instead drought exacerbated.
- But if\when floods finally come back, the City of Irkutsk and Irkutsk Hydro lack adaptations to handle high water inflow without compromising Lake Baikal's environmental health.

Dams Cause Changes in Climate System

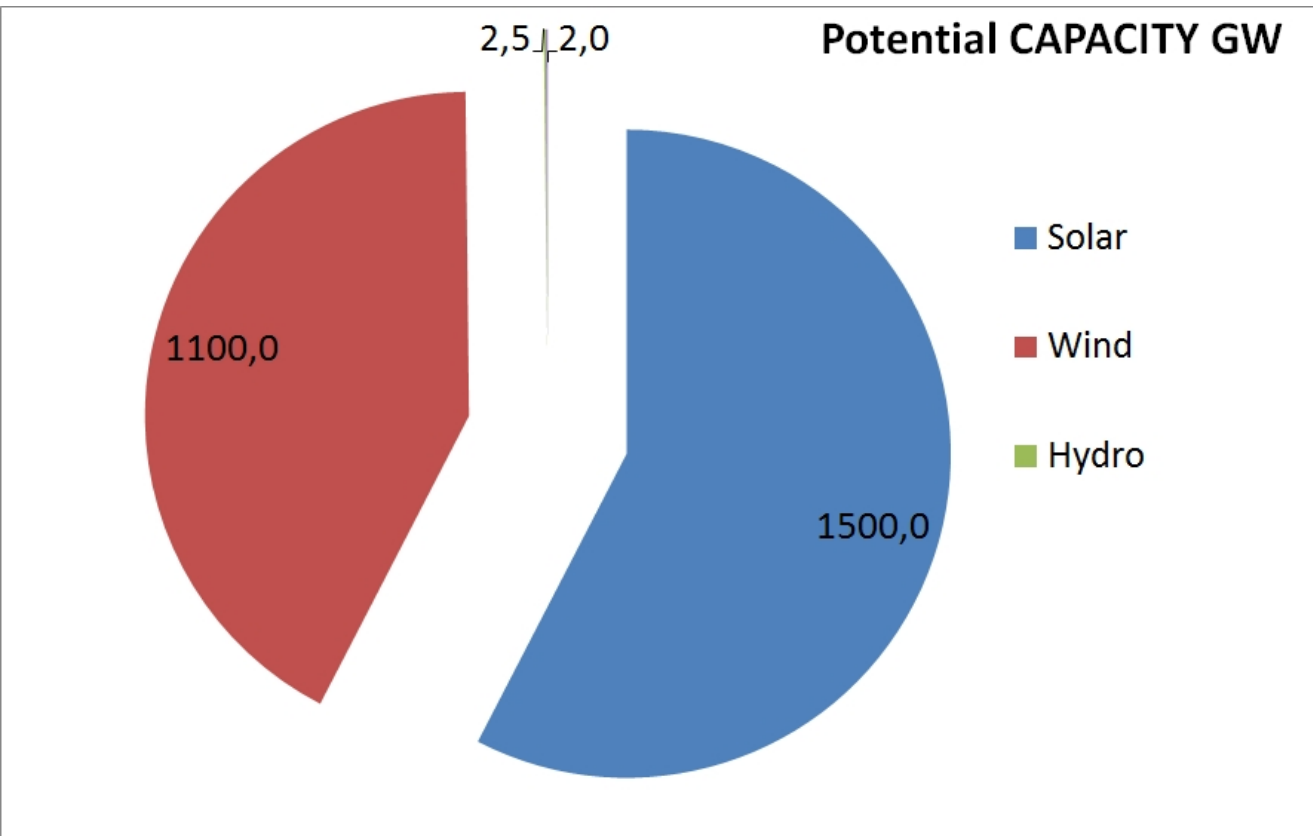
- Rivers and lakes belong to the Hydrosphere - important part of the Earth's climate system according to Article 1 of the UN Framework Convention on Climate Change (UNFCCC)
- River runoff volume and variability are climate indicators as important as concentration of various gases in the air.
- Rivers and lakes natural regimes of water and sediment flow and temperature are effectively distorted by damming long before other climate change effects take place.
- Most dam-based HPPs distort natural river runoff fluctuations with an impact on hydrosphere surpassing or comparable in scale to similar effects expected in future as a result of anthropogenic GHG emissions.

World Heritage vs Dams

(details described in June 22 presentation)

- 10% of all World Heritage sites are threatened by hydropower projects and other water infrastructure, many of which are justified as "Climate Adaptation & Mitigation Measures".
- For example, Lake Turkana (Kenya) and Lake Baikal (Russia) are both threatened by hydrological changes due to construction of large hydropower listed in countries' NDCs under Paris Agreement.
- "Landscapes of Dauria" (Mongolia and Russia) is threatened by proposal for water diversion from Onon to Ulz river framed as "climate adaptation".

Why Hydro in Mongolia has no future: Mongolia's Hydro-solar-wind technical potential



*"...**water should not uselessly flow away across the borders**"*

High Government Official

Despite its limited potential compared to other RE, the Government insists that the hydropower is the only source to provide maneuvering capacity to national energy system and create conditions for deployment of intermittent wind and solar power plants.

Climate Agreement: Mongolia's Nationally Determined Contribution Prioritize Large Hydro

Specific measures:

Installation of 675 MW capacity large hydro power facilities.

Installation of 354 MW wind power facilities.

Installation of 145 MW solar PV power facilities.

Other pledges:

Increase renewable electricity capacity from 7.62% in 2014 to 20% by 2020 and to 30% by 2030 as a share of total electricity generation capacity.

Reduce electricity transmission losses from 13.7% in 2014 to 10.8% by 2020 and to 7.8% by 2030.

Reduce building heat loss by 20% by 2020 and by 40% by 2030, compared to 2014 levels.

Reduce internal energy use of Combined Heat and Power plants (improved plant efficiency) from 14.4% in 2014 to 11.2% by 2020 and 9.14% by 2030.

Implement advanced technology in energy production such as super critical pressure coal combustion technology by 2030.

Paris Commitment: To Reduce by 14% GHG emissions compared to Business-as-Usual Scenario, but Mongolia still plans to add > 10 GW of COAL power plants

to a business-as-usual (BAU) scenario, excluding LULUCF.

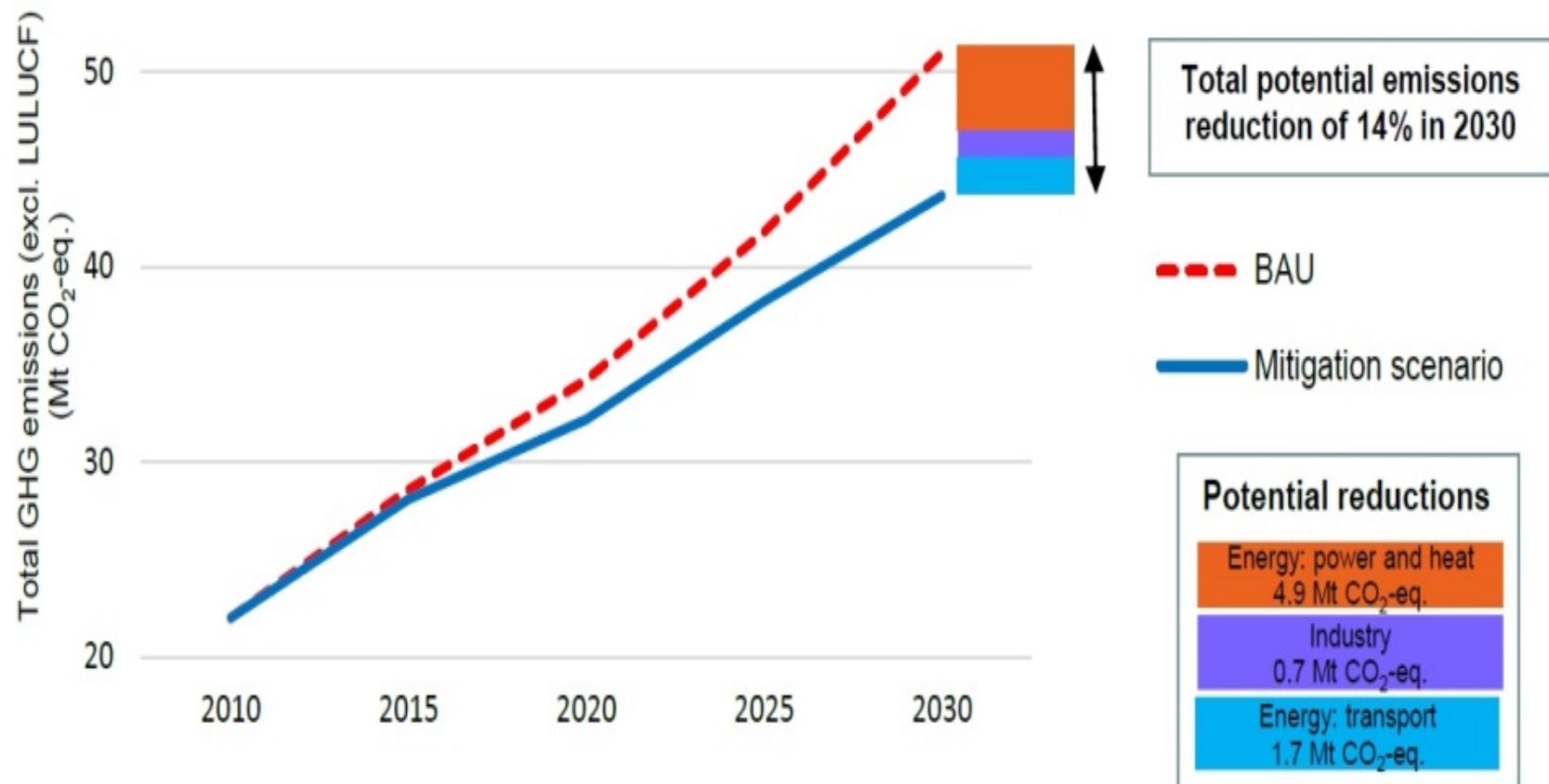


Figure 2. Indicative potential emission reductions of the measures compared to BAU emissions

Mongolian Dam Debate:

- NGOs claim that hydropower plans need independent assessment of dams' potential environmental effects, with a subsequent publication of findings and review by stakeholders including the WHC.
- Mongolia's mining and energy industry representatives, however, referred to the country's commitments under the Paris Agreement as an overriding priority and tried to deny necessity for international assessment.
- In contrast, Mongolian environmentalists and agricultural producers referred to other international agreements, such as the UN Convention Concerning the Protection of the World Cultural and Natural Heritage, the Convention on Biological Diversity, the Ramsar Convention on Wetlands, and Bonn Convention on Migratory Species. They argued that HPP construction would also contravene the key principles of the Paris Agreement as well as Mongolia's other international environmental obligations.
- **Debate outcome so far was influenced by activities of the WHC, the Government of China and NGOs**

2016 first out of 25 planned hydropower dams

Egiin Hydro financed by China EXIMBANK, Initial construction by China Gezhouba. **LOAN CANCELLED.**



Why China Abstained from Building Hydro in Mongolia?

- **Very risky projects potentially harming World Heritage sites and other amenities. Clear message from World Heritage Committee.**
- Desire not to be caught in Russian-Mongolian argument over dams in Lake Baikal Basin. Clear message from Russian President
- **Low economic attractiveness of relatively small dams in remote locations. Mixed experience with small hydro in Western Mongolia**
- Significant local opposition both in Russia and Mongolia supported by NGOs and scientists. Clear messages sent from public meetings in the area to Chinese stakeholders
- **Loan redistributed to more sustainable ways to assist development of Mongolia**

Role of NGOs

- International NGOs acted as a bridge between local stakeholders in two countries and large international bodies such as World Heritage Center or World Bank.
- NGOs chose to exploit relatively high environmental and public participation standards of the World Bank whose loan supported Mongolia's HPP design. A complaint was sent to the WB Inspection Panel, which helped to push for further consultations and completely redefine assessments. Dam feasibility studies were cancelled.
- Another key element of success was regular dialogue with World Heritage Committee, World Heritage Center and Convention's advisory bodies.

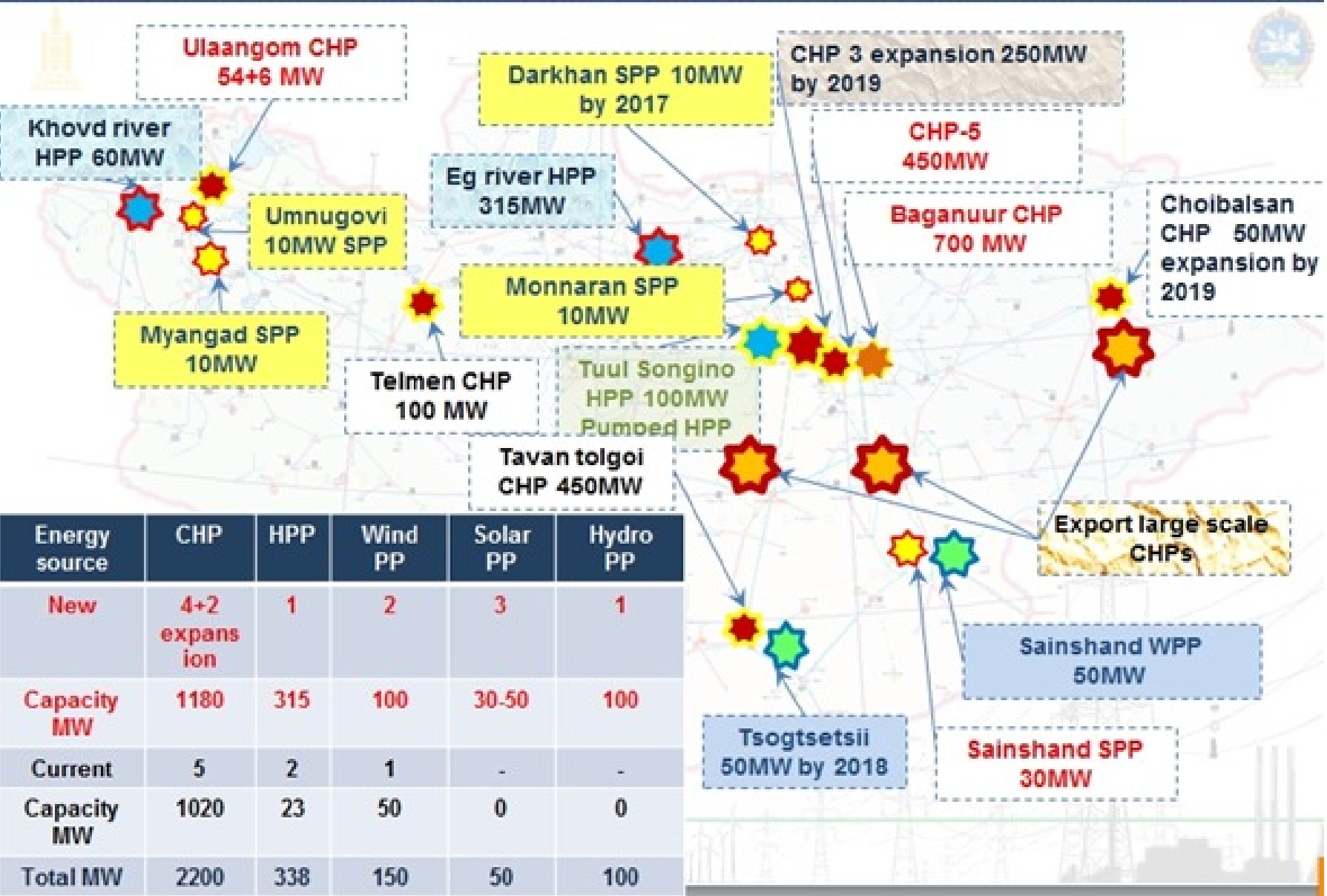


As a result in 2015-2017 the World Heritage Committee issued helpful decisions requesting assessment of impacts of each individual existing and planned dam as well as to undertake cumulative assessment of impacts and Strategic environmental assessment (SEA), including analysis of alternatives.

Photo S.Shapkhaev and A.Kolotov meet with Mongolia Green Movement

Late 2015 expectations of Mongolia Government:

New energy sources to be installed by 2020



Mongolia will fulfill 2020 NDC without hydro!!!

- NGOs always pointed to alternative solutions for Mongolia energy system, which presently has capacity less than 1.5 GW.
- CSO campaign supported by international agencies delayed hydropower projects, greenfield coal power generation projects were also stalled
- Thanks to private investors and European and Japanese banks wind and solar farms capacity exceeded 180 MW in May 2018
- In late 2017 Mongolia's Minister of Energy openly recognized that 2020 climate commitments will be met in 2019 just by new wind and solar farms.
- Mongolia may consider pumped storage, domestic smart grid, more equitable electricity trade with Russia and China and other means to acquire reactive capacity to regulate the electricity production and accommodate more renewables in the national grid. The Government recognizes that ...
- ...and officials still dream aloud about large hydropower!!!

Baikal's Clean Energy Debate in Russia

- Inconsistencies in the interpretation of "clean energy" in the context of Paris treaty remain a major challenge in international arena.
- Various players, often acting on behalf of transnational corporations, cheated claiming use of "clean" 'green' energy blessed by the Paris Agreement.
- For example En+Group (belongs to aluminum tycoon Oleg Deripaska) claimed at its IPO in London Stock Exchange in November 2017, that it produces "green aluminum brand ALLOW" with the help of clean hydropower energy from Angara Cascade.

Little progress in Russia

- Following NGO criticism and an inquiry from UK Listing Authority the En+Group in its Prospectus for IPO in London acknowledged that it has to undertake measures to reduce negative impacts on the Lake Baikal.
- Nothing has been done to implement this promise and the Group has been actively bullying its CSO critics in press and denying its dams have any such negative impact.
- International marketing of "Green Aluminum" goes on despite obvious contradictions with good environmental practices.
- At the meeting with President Putin in early 2018 scientists complained about old-fashioned and compartmentalized "ecological monitoring" at Lake Baikal and were encouraged to propose improvements. Obvious lack of consistent monitoring makes us question validity the Russian Government claim that "up to date ...anthropogenic influence has not led to significant changes in the hydrochemical regime on the scale of lake Baikal".
- One of the most alarming trends is that Russia does not analyze climate adaptation options in Lake Baikal management and therefore is less and less prepared to confront future challenges.

Conclusions:

- The way society perceives threats can lead to ambiguous conclusions and priority-setting challenges. The role of NGOs could lie in providing independent expert review, that ensures protection of World Heritage along with other universal values. Based on legally-defined procedures, these would thus serve as sources of evidence to inform society's choices and well-founded solutions.
- **Ill-designed "climate mitigation and adaptation " projects may present threat to OUVs of World Heritage sites and require measures to prevent them. If process goes unchecked - more site will be affected ;**
- Formal coordination mechanism between World Heritage convention, Bonn convention, and other biodiversity conservation conventions on one side and the Secretariat of the UN Framework Convention on Climate Change is highly advisable to harmonize their activities and ensure that adaptation and mitigation measures do not inflict harm on World Heritage Sites;
- **Clear-cut criteria should be included for selecting environmentally acceptable low-carbon energy sources for countries' NDC development. The appeals made by civil society actors in different countries to the UNFCCC Secretariat calling for a ban on initiatives\solutions which threaten ecosystems;**

Conclusions 2

- Expert support and discussion with the States Parties are required, in particular using the Non-State Actor Zone for Climate Action (NAZCA) of Paris Agreement and platforms for sharing the lessons and best practices of indigenous people and local communities.
- We urge the UNESCO World Heritage Committee to address these matters and request Advisory Bodies to convene a workshop or expert meeting with participation of representatives of other international conventions' secretariats and NGOs to discuss options for action, synergies and suggest concrete steps for efficient problem-solving.
- *Our recommendations specific to Lake Baikal World Heritage Site are presented in our April 2018 submission to the World Heritage Center and IUCN, 2018 WHW Proceedings and special Draft Resolution presented at this Forum.*

Thank you for Your attention!



Addendum by Eugene Simonov

The GEI - an example of mega-infrastructure initiative disguised as climate solution

As a part of "Belt and Road" China State Grid Co. is promoting the "Global Energy Interconnection" (GEI) - a transboundary supergrid enabling deployment of large "clean energy" sources in remote wilderness.

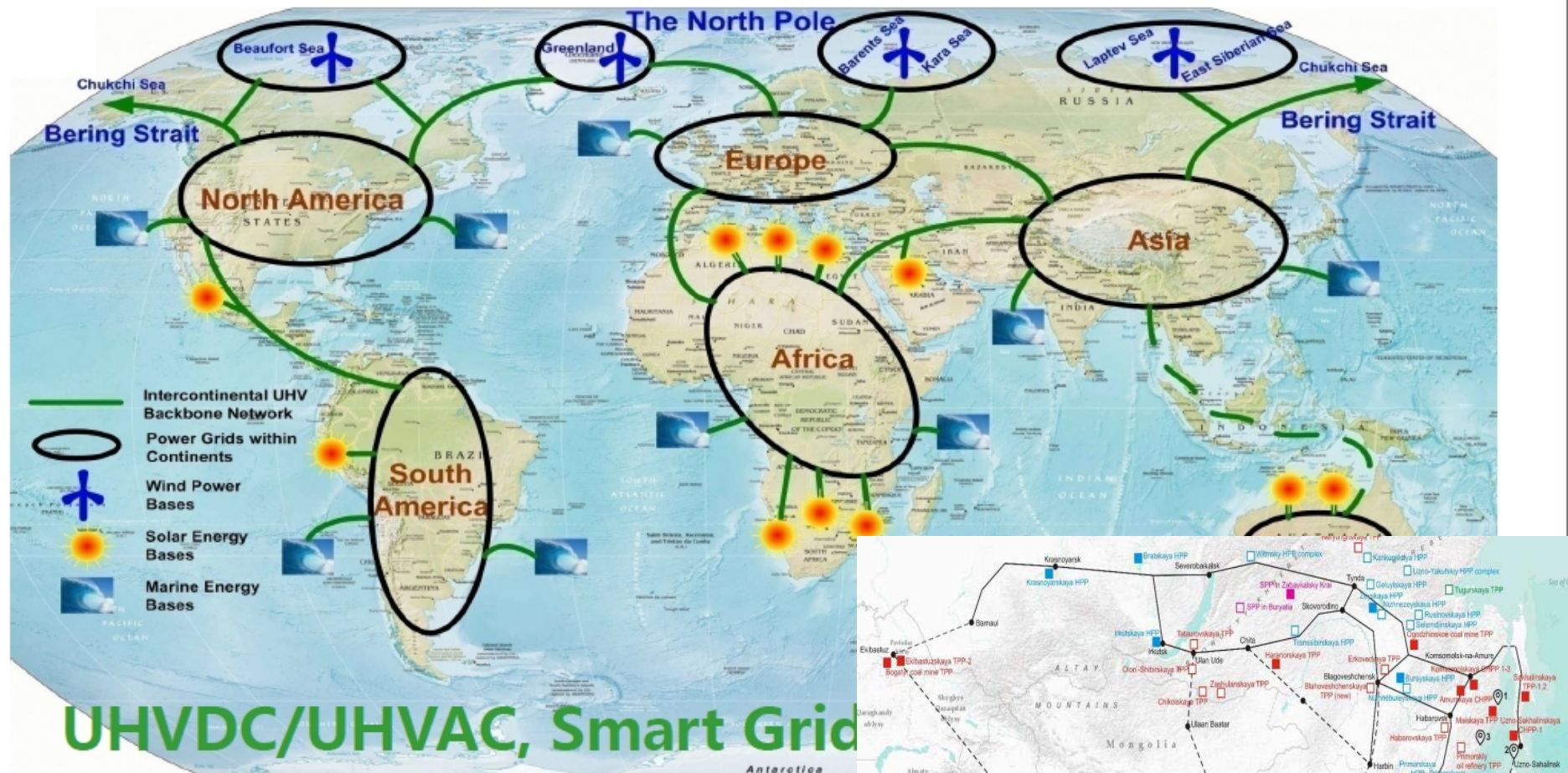
Hundreds of companies, NGOs, agencies joined the GEI, legitimizing it and triggering Northeast Asia Supergrid and other pilots.

3. Global Energy Interconnection

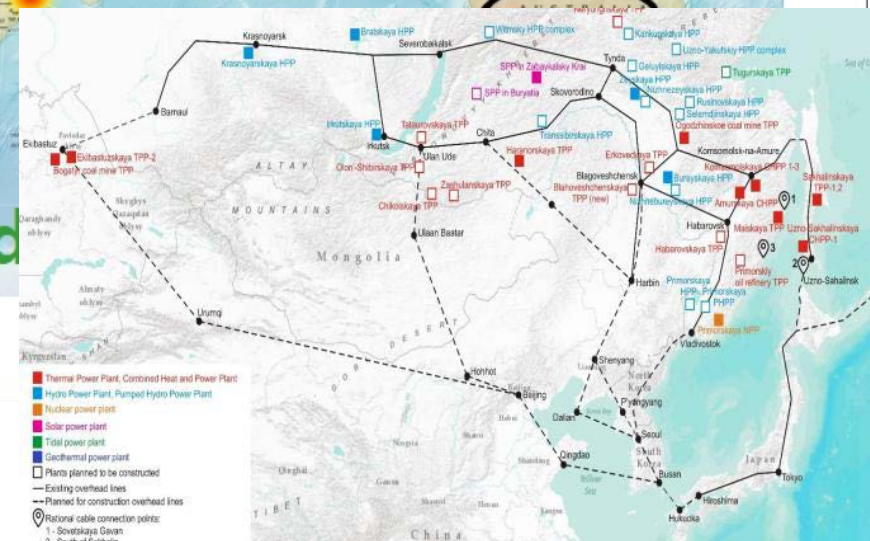


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Global and Northeast Asia plans



GEI - related issues:

- Large scale industrial development of giant facilities (as opposed to distributed generation)
- High-voltage direct current transmission lines make profitable destructive megaprojects in remote wilderness (e.g. Belo-Monte in Brazil)
- Great dependence of clients on providers (e.g. issue of national security).
- GEI scheme is successfully marketed to governments, corporations, UN-bodies as an a sure pass into "low-carbon future".
- The long-distance transmission scheme underperforming in China so far.

Dialectics of transmission lines:

- While we see GEI at large as "the imperialist green chimera" and call for Strategic assessment
- Development of electricity interconnection between specific countries may still result in growing efficiency, less need for new generation facilities, lower prices, etc.
- However this theory has not been put in practice yet outside Europe and the former USSR
- Our (and State-sponsored:) candidate for trial in Asia is Russia Mongolia-transmission that substitutes for Hydropower in Baikal Basin.

GEI - great reason to develop CSO's

Vision for Global Green Energy

- To effectively influence decision-making the CSOs have to promote solutions not only on particular types of energy generation, but on sustainable development of energy systems. Constructive critique of GEI may help us to form common alternative vision.
- If contributes to develop without public oversight the GEI presents huge potential obstacle to more sustainable energy system alternatives
- GEI is aimed at creating huge "renewable energy" facilities in many vulnerable wilderness places and needs to be channelized towards less destructive solutions by strict environmental assessment criteria