An aerial photograph of a large concrete dam with multiple spillways. The dam is situated on a river, and the water is a deep blue. To the right of the dam, there is a lush green forest with some yellowing trees, suggesting an autumn setting. The overall scene is a mix of industrial infrastructure and natural environment.

# INSURING A NATURE-POSITIVE WORLD

**AN INSURERS' GUIDE TO HYDROPOWER**

ASSESSING AND MANAGING THE RISKS  
POSED BY HYDROPOWER TO PEOPLE, NATURE,  
AND THE ECONOMY

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## UN ENVIRONMENT PROGRAMME'S PRINCIPLES FOR SUSTAINABLE INSURANCE INITIATIVE



**Butch Bacani**

Programme Leader  
UN Environment  
Programme's  
Principles for  
Sustainable  
Insurance Initiative

UN Environment Programme's Principles for Sustainable Insurance Initiative (PSI) has developed pioneering guidance for the global insurance industry to help prevent and reduce the risk of biodiversity loss and ecosystem degradation—also known as “nature loss”. This includes the PSI's work with WWF and UNESCO in producing guidance to protect World Heritage Sites; the PSI's work with Oceana in producing guidance to combat illegal, unreported, and unregulated (IUU) fishing; and PSI guidance to tackle plastic pollution. Furthermore, these specific sustainability issues are embedded in the PSI's landmark guidance to manage a wider range of environmental, social and governance (ESG) risks in the insurance business.

The release of this guidance for insurers on hydropower is timely. It is being launched at the PSI's 10<sup>th</sup> anniversary event that would amplify sustainable insurance in this UN Decade of Action, and as insurers rally around the global goal of “nature positive by 2030”. This year, the 15th meeting of the Conference of the Parties (COP 15) to the UN Convention on Biological Diversity will be held in Kunming, China, to adopt the Post-2020 Global Biodiversity Framework. The framework recognises that urgent action is required to transform economic, social, and financial models so that the trends that have exacerbated biodiversity loss will stabilise by 2030 and allow for the recovery of natural ecosystems, with net improvements by 2050.

Solving climate change requires solving nature loss, and vice-versa. This is why insurers should commit to science-based, nature-positive insurance and investment strategies and targets, building on the work of the PSI's Net-Zero Insurance Alliance, and the work of the Net-Zero Asset Owner Alliance. This is why insurers should support the work of the Task Force on Nature-related Financial Disclosures (TNFD), building on the PSI's work in supporting the implementation of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

In this context, this guidance on hydropower is another important step as the PSI develops its global strategy and work programme that would shape and advance nature-positive insurance thinking and practices in insurers' core business activities. Reversing nature loss by 2030 is the priority, and each passing day counts in this decisive UN Decade of Action.

# INSURING A BRIGHTER FUTURE



**Stuart Orr**

WWF Global  
Freshwater Lead

Our planet faces a threat like no other in human history – climate change. The world must accelerate the renewable energy revolution and dramatically reduce greenhouse gas emissions to keep global warming below 1.5°C. But we must avoid harming communities and driving even greater nature loss in the process.

At the heart of this all-important debate is hydropower. Long the world's dominant renewable energy source, hydropower has provided stable, low carbon energy for communities and countries across the world but it has come at a high cost to rivers and the people and nature that depend on them.

Healthy, free-flowing rivers provide diverse benefits to societies and economies from mitigating flood risks to cities to sustaining freshwater fisheries that feed hundreds of millions, and keeping densely populated deltas above the rising seas. But only one third of long rivers remain free flowing and most of these are at risk from planned, high impact hydropower.

If these projects go ahead, they will speed up the loss of freshwater biodiversity and undermine efforts to secure a nature-positive future. Already, we have lost 84 per cent of freshwater species populations since 1970. It is the clearest sign of the damage we have done to the rivers, lakes and wetlands that underpin our societies.

Fortunately, we can now meet global climate and energy goals without driving greater nature loss, sacrificing the world's last free-flowing rivers, and harming communities – by investing in the right renewables in the right places.

Thanks to the renewable energy revolution – driven by the plunging price of solar and wind generation, and battery technology, alongside comprehensive planning tools for site selection – a net-zero, nature-positive future is possible. Countries can now opt for sustainable, 21<sup>st</sup> century solutions. They can build power grids that are LowCx3: low carbon, low cost and low conflict.

Low impact hydropower – including refurbishing and retrofitting existing dams, and off-river pumped storage – has a role to play. But the days of high impact hydropower must come to an end. Countries need to be more cautious with all hydropower – both big and small. Every project must be carefully screened to ensure it is part of the best energy mix for people, nature and the planet.

Insurance companies act as risk managers, insurers, and investors, and provide support for the development of hydropower projects in all three of these roles. Insurers, therefore, play a key role in facilitating the hydropower sector and their support will be critical to combatting harmful hydropower projects.

Climate change is also making hydropower an increasingly risky business as worsening floods and droughts threaten electricity generation and dam safety along a growing number of rivers. Indeed, an analysis using WWF's Water Risk Filter scenarios found that 61% of existing and planned hydropower projects will be in river basins with high risk of floods, droughts or both by 2050.

Our ambition is to start engaging in a dialogue with the insurance sector to raise its understanding of the risks associated with hydropower and the need to apply a very careful screening to hydropower projects to disadvantage and discourage the high impact ones. Although we recognize that the major responsibility lies with governments, all actors, including insurance companies, can contribute to accelerating the LowCx3 renewable revolution – helping to stabilize the climate and boost biodiversity.



# 1. EXECUTIVE SUMMARY

A recent study demonstrated that nearly two thirds of the world's longest rivers are no longer free-flowing, and that hydropower dams are the primary cause.<sup>1</sup> This loss of river connectivity is one of the major reasons behind the 84 per cent collapse in freshwater species populations since 1970.<sup>2</sup> Plans for an estimated additional 3,700 hydropower dams threaten most of the world's remaining free-flowing rivers and the diverse benefits they provide societies, economies, and ecosystems.<sup>3</sup>

Whereas previously the financial sector's focus has been largely on carbon emissions, the topic of biodiversity has recently gained increased visibility and momentum in the sector. The post-2020 global biodiversity framework recognizes that urgent action is required to transform economic, social, and financial models to halt biodiversity loss by 2030 and allow for the recovery of natural ecosystems, with net improvements by 2050. The insurance industry is set to play an important role and is currently rallying around the goal of a nature-positive insurance sector. Although we recognize that hydropower still has a role to play (although very different from just one decade ago, see [Connected and Flowing](#)<sup>4</sup>), support for high-impact hydropower is incompatible with such commitments and hydropower must be screened very carefully.

In addition to their impact on nature, hydropower projects are frequently controversial and high risk, impacting both local and downstream communities, and resulting in local and international opposition, as well as scrutiny from the press, NGOs, and governments. As a result, support for high-impact hydropower projects put insurers' reputations on the line.

Insurance companies act as risk managers, insurers, and investors, and provide support for the development of hydropower projects in all three of these roles. Hydropower projects are complex and costly infrastructure projects. In most cases, private companies will not engage in the construction of new hydropower projects without insurance coverage, and private investors will insist on relevant insurance being in place before committing to invest.

Insurers therefore play a key role in facilitating the hydropower sector and their support is urgently needed to prevent high-impact hydropower projects. They can act in several ways:

1. Support the transition to low-carbon, low-cost, and low-conflict energy by favouring renewable energy projects that are part of an integrated, system-wide renewable energy plan;
2. Create a company ESG policy for underwriting, and investments in, hydropower;
3. Decline cover for hydropower projects in Protected Areas;
4. Require an independent and credible social and environmental impact assessment;
5. Require that stringent frameworks and standards are applied;
6. Require calculations of a project's greenhouse gas emissions and set a maximum threshold; and
7. Consistently screen hydropower as a potential controversial activity in investment decision making.

Knowledge of the impacts of hydropower on people and nature is becoming clearer. At the same time, our understanding of its role in achieving an energy sector in line with limiting global warming to 1.5 degrees above pre-industrial levels is evolving. This guide provides an initial view of actions that insurers can take to protect nature and prevent high-impact hydropower. However, the recommendations will be adjusted over time as knowledge on both these topics develops. WWF welcomes the inputs of insurers as it continues to work on this topic.

## 2. GUIDANCE DEVELOPED IN COLLABORATION WITH THE INSURANCE INDUSTRY

This guide was developed with inputs and feedback from the insurance industry and with the support of the United Nations Environment Programme Principles for Sustainable Insurance (UNEP PSI). In-depth interviews were conducted with seven insurers, and 18 companies took part in an online survey on the topic.

This work builds on past insurance industry guidance, including the joint UNEP PSI, WWF and UNESCO guide to **Protecting World Heritage Sites**, which highlighted the important risk posed by hydropower projects to World Heritage Sites, as well as the UNEP PSI and Allianz guide to **managing environmental, social and governance risks in non-life insurance business**, which noted risks of environmental degradation and human rights abuses connected to hydropower projects.

Knowledge of the impacts of hydropower on people and nature is becoming clearer. At the same time, our understanding of its role in achieving an energy sector in line with limiting global warming to 1.5°C above pre-industrial levels is evolving. This guide provides an initial view of actions insurers can take to protect nature and disadvantage high-impact hydropower. However, the recommendations will be adjusted over time as knowledge on both these topics develops. WWF welcomes the inputs of insurers as it continues to work on this topic.

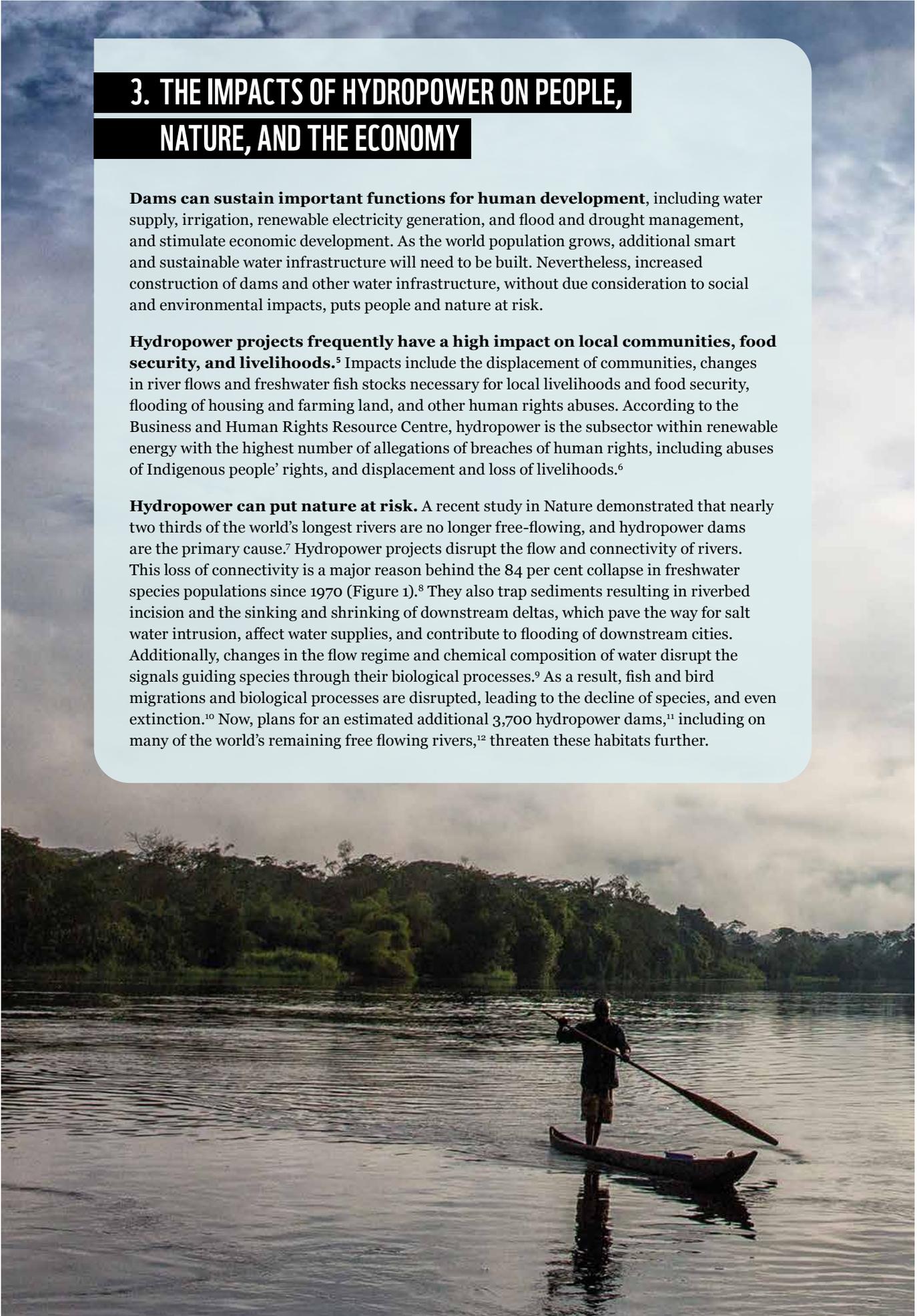


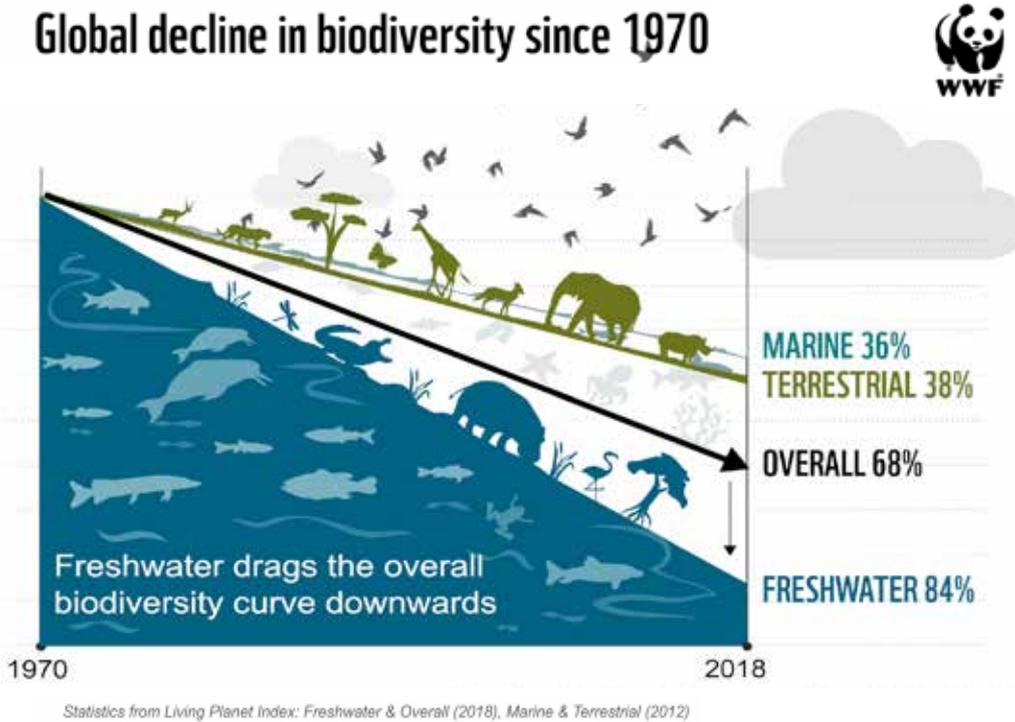
### 3. THE IMPACTS OF HYDROPOWER ON PEOPLE, NATURE, AND THE ECONOMY

**Dams can sustain important functions for human development**, including water supply, irrigation, renewable electricity generation, and flood and drought management, and stimulate economic development. As the world population grows, additional smart and sustainable water infrastructure will need to be built. Nevertheless, increased construction of dams and other water infrastructure, without due consideration to social and environmental impacts, puts people and nature at risk.

**Hydropower projects frequently have a high impact on local communities, food security, and livelihoods.**<sup>5</sup> Impacts include the displacement of communities, changes in river flows and freshwater fish stocks necessary for local livelihoods and food security, flooding of housing and farming land, and other human rights abuses. According to the Business and Human Rights Resource Centre, hydropower is the subsector within renewable energy with the highest number of allegations of breaches of human rights, including abuses of Indigenous people's rights, and displacement and loss of livelihoods.<sup>6</sup>

**Hydropower can put nature at risk.** A recent study in Nature demonstrated that nearly two thirds of the world's longest rivers are no longer free-flowing, and hydropower dams are the primary cause.<sup>7</sup> Hydropower projects disrupt the flow and connectivity of rivers. This loss of connectivity is a major reason behind the 84 per cent collapse in freshwater species populations since 1970 (Figure 1).<sup>8</sup> They also trap sediments resulting in riverbed incision and the sinking and shrinking of downstream deltas, which pave the way for salt water intrusion, affect water supplies, and contribute to flooding of downstream cities. Additionally, changes in the flow regime and chemical composition of water disrupt the signals guiding species through their biological processes.<sup>9</sup> As a result, fish and bird migrations and biological processes are disrupted, leading to the decline of species, and even extinction.<sup>10</sup> Now, plans for an estimated additional 3,700 hydropower dams,<sup>11</sup> including on many of the world's remaining free flowing rivers,<sup>12</sup> threaten these habitats further.





**Figure 1.** Global decline in biodiversity since 1970. An 84% collapse has been experienced in freshwater species populations in this time, dragging the overall biodiversity curve downwards (statistics from the Living Planet Index: freshwater and overall (2018), marine and terrestrial (2012))

**BOX 1: SUPPORT FOR HIGH-IMPACT HYDROPOWER IS INCOMPATIBLE WITH COMMITMENTS TO A NATURE-POSITIVE INSURANCE SECTOR.**

Whereas previously the financial sector’s focus has been largely on carbon emissions, the topic of biodiversity has recently gained increased visibility and momentum in the sector.

In 2022, the Fifteenth meeting of the Conference of the Parties (COP 15) of the Convention on Biological Diversity will be held in Kunming, China, to adopt the post-2020 global biodiversity framework. The framework recognizes that urgent action is required to transform economic, social, and financial models so the trends that have exacerbated biodiversity loss will stabilize by 2030 and to allow for the recovery of natural ecosystems, with net improvements by 2050.

The insurance industry is set to play an important role and is currently rallying around the goal of a nature-positive insurance sector.<sup>13</sup> Several initiatives focusing on biodiversity risks for the financial sector have been established, including the Taskforce on Nature-related Financial Disclosures (TNFD). Regulatory and supervisory interest in biodiversity risks is also mounting. A scoping study by the Sustainable Insurance Forum of insurance supervisors, for example, found that the financial and economic risks associated with increasing loss of natural assets, could in principle threaten the insurance sector and broader financial stability.<sup>14</sup>

**ADDRESSING HYDROPOWER MUST BE A PRIORITY FOR INSURERS’ EFFORTS TO SUPPORT A NATURE-POSITIVE WORLD. BIODIVERSITY IS PLUMMETING IN FRESHWATER AT A FASTER RATE THAN IN ANY OTHER TYPE OF ENVIRONMENT AND THE LOSS OF RIVER CONNECTIVITY CAUSED BY HYDROPOWER IS ONE OF THE MAJOR REASONS BEHIND THIS COLLAPSE IN FRESHWATER BIODIVERSITY.<sup>15</sup> SUPPORT FOR HIGH-IMPACT HYDROPOWER IS THEREFORE INCOMPATIBLE WITH EFFORTS TO ACHIEVE A NATURE-POSITIVE INSURANCE SECTOR.**



Using the WWF Water Risk Filter to screen projected hydropower dams for biodiversity risk ([waterriskfilter.org](http://waterriskfilter.org)).

See the interactive version of these maps at <https://reamargo.shinyapps.io/HydropowerClimateChange>



Hydropower dams disrupt river flows and block migration routes, threatening iconic species such as salmon and river dolphins



© Adam Oswell / WWF-Greater Mekong

**HYDROPOWER DAMS CAN CONTRIBUTE TO CLIMATE CHANGE**



**The economy is impacted by degradation of ecosystem services.** Hydropower plants can undermine the health of critical ecosystems (such as floodplains, deltas, mangroves, and forests) and threaten key species (such as freshwater and coastal fishes, river dolphins etc.) on which a wide range of economic activity depends, including fisheries, agriculture, forestry, and ecotourism.<sup>16</sup> The fragmentation of rivers and alteration of their flow impacts on fish populations and, in turn, on the fishery sector. Freshwater fisheries alone sustain over 200 million people.<sup>17</sup> Disruption of the magnitude and timing of water and sediment flows can impact floodplain farms and agriculture. Floodplain forests are drying out due to riverbed incision, falling groundwater levels, and a lack of inundation by flood waters. This threatens floodplain trees, many of which are economically important and a valuable resource for local economies.<sup>18</sup> By trapping sediments, hydropower dams contribute to the sinking and shrinking of downstream deltas, including Asia’s densely populated, agriculturally productive, and economically critical deltas.

**Hydropower dams can contribute to climate change.** Reservoirs emit carbon dioxide, methane, and other gases, generally at a higher rate than the ecosystems that are being replaced. In certain circumstances (such as high temperatures, densely vegetated areas, or shallow reservoirs etc.), dam reservoirs can be net emitters of greenhouse gases.<sup>19</sup> Furthermore, changes caused by hydropower projects to groundwater levels, river flows, and the chemical and sediment composition of freshwater can result in deforestation in surrounding areas.

## 4. HOW INSURERS CAN ADDRESS HYDROPOWER RISKS

### The role of insurers

Insurance companies act as risk managers, insurers, and investors, and provide support for the development of hydropower projects in all three of these roles. Hydropower projects are complex and costly infrastructure projects. In most cases, private companies will not engage in the construction of new hydropower projects without insurance coverage, and private investors will insist on relevant insurance being in place before committing to invest. Finding appropriate insurance coverage and risk management support is therefore a vital step in developing most new hydropower projects. Once operational, hydropower projects face significant ongoing risks and their continuing operation and long-term success depend in part on being able to secure relevant insurance coverage and risk management support. Insurers are therefore a key facilitator of the hydropower sector and have an important role in preventing high-impact hydropower. This section outlines several important actions that insurers can take.



## 4.1 SUPPORT THE TRANSITION TO LOW-CARBON, LOW-COST, AND LOW-CONFLICT ENERGY.

### Background

To keep global warming below 1.5 degrees and limit the impacts of climate change, we need to move towards zero emissions by 2050. This will only be achieved with a rapid and massive expansion in renewable energy. To successfully meet both climate and nature challenges, the power sector needs to be low-carbon, low-cost, and low-conflict (with nature and people). A low-carbon energy sector is imperative for mitigating climate change. Low-cost, reliable power is vital for political and commercial acceptance and competitiveness. And low-conflict and low-impact power is required for acceptance by communities and to avoid loss of nature and people’s livelihoods.

High-impact hydropower projects negatively impact nature and communities. They frequently entail significant conflict, while

climate change poses increasing risks to their long-term profitability (see Box 2).<sup>20</sup> A low-impact, green energy transition – solving the climate crisis and providing energy for all – can be achieved without sacrificing nature, including free-flowing rivers.<sup>21</sup> The price of solar and wind power generation, as well as battery technology, is decreasing while their output is increasing. Wind generated energy, for example, increased by 17% between 2020 and 2021 alone.<sup>22</sup> High-impact hydropower can, therefore, be avoided.

Certain types of hydropower do have a role to play in the renewable energy transition. The rise of credible renewable alternatives should diminish the need for high-impact dams, but low-impact hydropower plants, which provide storage capabilities and flexibility, could become an important component of the world’s transition to power systems that are reliant on more intermittent renewable energies.

### Importance for insurers

Insurers are increasingly committing to reducing the carbon emissions of their portfolio. There is a risk that, in moving their underwriting and investment portfolios away from high polluting fossil fuels, insurers may see hydropower as a viable alternative to maintain their business in the energy sector. At the same time insurers have a powerful role to play in developing insurance solutions for truly low-impact and green power solutions as well as investing in the sector.



**INSURERS CAN PROMOTE INVESTMENT IN THE RIGHT RENEWABLES IN THE RIGHT PLACES**

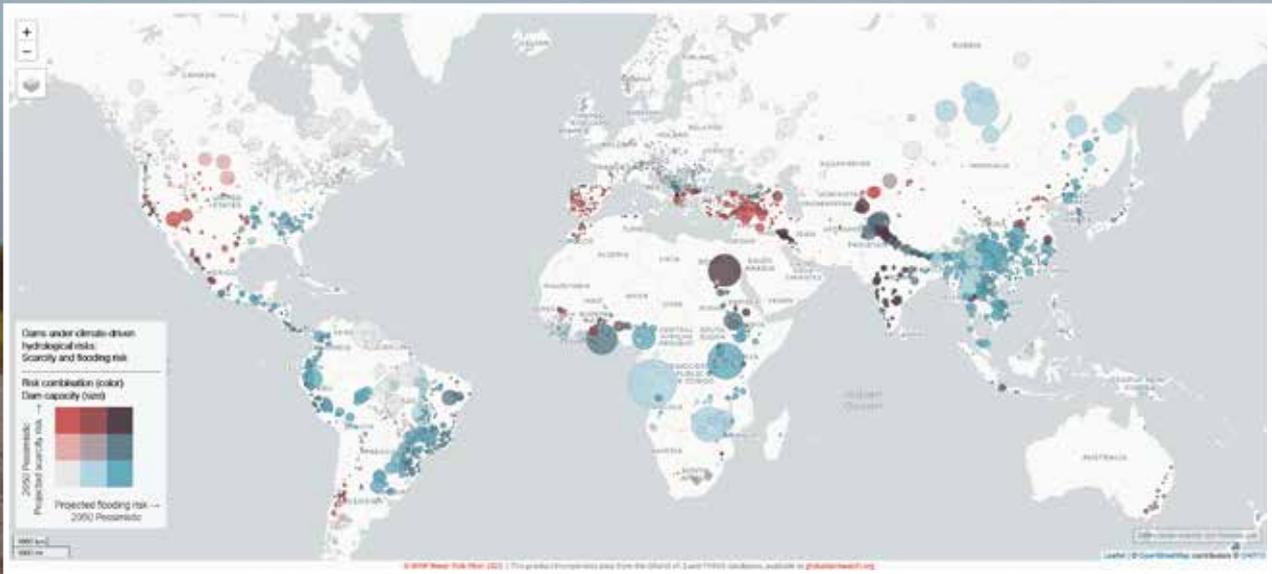
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### ACTIONS

**Take a critical stance on hydropower in the context of the renewable energy transition.** Insurers should assess individual projects carefully, and not assume that each project contributes to their commitments to green energy.

**Provide underwriting, risk management and investment support to low-impact, low-cost, and low-conflict energy.** Insurers can promote investment in the right renewables in the right places by providing insurance solutions, investment, and risk management solutions, as well as raising awareness on the varying risks and opportunities associated with renewable power technology and siting options.



Using the WWF Water Risk Filter to screen existing and planned hydropower dams with the combined projected risks of water scarcity and floods by 2050 ([waterriskfilter.org](http://waterriskfilter.org))

See the interactive version of this map at <https://reamargo.shinyapps.io/HydropowerClimateChange>

### BOX 2. HYDROPOWER PROJECTS ARE AT RISK FROM CLIMATE CHANGE.

Hydropower projects are facing increased risks of both flood and drought because of climate change. Although only 4% of existing hydropower dams are currently in river basins with the highest level of flood risks, this will increase to 20% by 2050.<sup>23</sup> Meanwhile, it is expected that by the same year, 32% of existing hydropower dams will be in river basins with higher risk of water scarcity. Overall, more than 60% of all existing and planned hydropower dams will be in river basins with very high to extreme risk of floods, water scarcity or both by 2050.<sup>24</sup> While floods disrupt hydropower facilities, droughts decrease or stop their output, both reducing profitability.<sup>25</sup> In fact, some countries with high dependence on hydropower have already experienced significant energy shortages, impacting the ability of projects to generate revenue, as well as on the communities and businesses that depend on the electricity provided.<sup>26</sup>

New hydropower projects are costly and politically complex projects. They often have a lifecycle of up to 100 years and are profitable based on assumptions of long-term operation, which is vulnerable to climate change. Globally, much of the private sector and many governments are recognizing these risks and moving away from hydropower. Private financing for new hydropower projects has been declining, while multilateral banks and non-traditional lenders are approaching individual hydropower projects selectively, with a focus on ESG issues.

## 4.2 CREATE A COMPANY ESG POLICY FOR UNDERWRITING AND INVESTMENTS IN HYDROPOWER

### Background

High-impact hydropower projects are high risk, unpredictable, and frequently delayed or cancelled.<sup>27</sup> The controversial nature of high-impact hydropower projects, and their myriad impacts on people, nature, and livelihoods, frequently result in conflict and opposition. This is especially true where projects do not follow international standards, do not complete thorough impact analyses, and do not conduct adequate processes of public consultation and free, prior, and informed consent. Protests and local opposition can result in delays and even cancelled projects, and cost overruns.<sup>28</sup>

<sup>29</sup> In Panama, for example, Indigenous people protested the construction of the Barro Blanco project for years and, although unable to stop the project, they delayed it by four years.<sup>30</sup> In 2013, protests by Indigenous people in Brazil’s Amazon region resulted in delays to major projects, which cost as much as US\$1.4 million a day.<sup>31</sup>

Hydropower projects differ enormously in terms of carbon emissions, cost, and conflict. They range considerably in size, location, and design. From micro-projects to the largest power plants in the world, from run-of-river to pumped-storage, from stand-alone projects to complex cascades, from projects in pristine environments to those on previously degraded rivers, there are huge differences in their impact on the environment and communities. This is why every project must be carefully screened.

### Importance for insurers

Conflict and protests draw scrutiny from the press, NGOs, and governments. Campaign groups and NGOs are becoming increasingly sophisticated in their campaign tactics, focusing their activities and public criticism not only at those directly involved in construction, but also those involved in financing and insuring such projects. This kind of negative publicity discourages clients and investors and increases public, government, and regulatory scrutiny.

At the same time, many global insurers have positioned themselves as supporters of the environment and of clean energy. Increasingly, the public is becoming aware of the impacts of hydropower projects and insurers’ support for hydropower will be scrutinized in relation to their environmental commitments. The risks of being targeted with sustained campaigns and negative press are therefore increasing for insurers that lack stringent policies on hydropower.

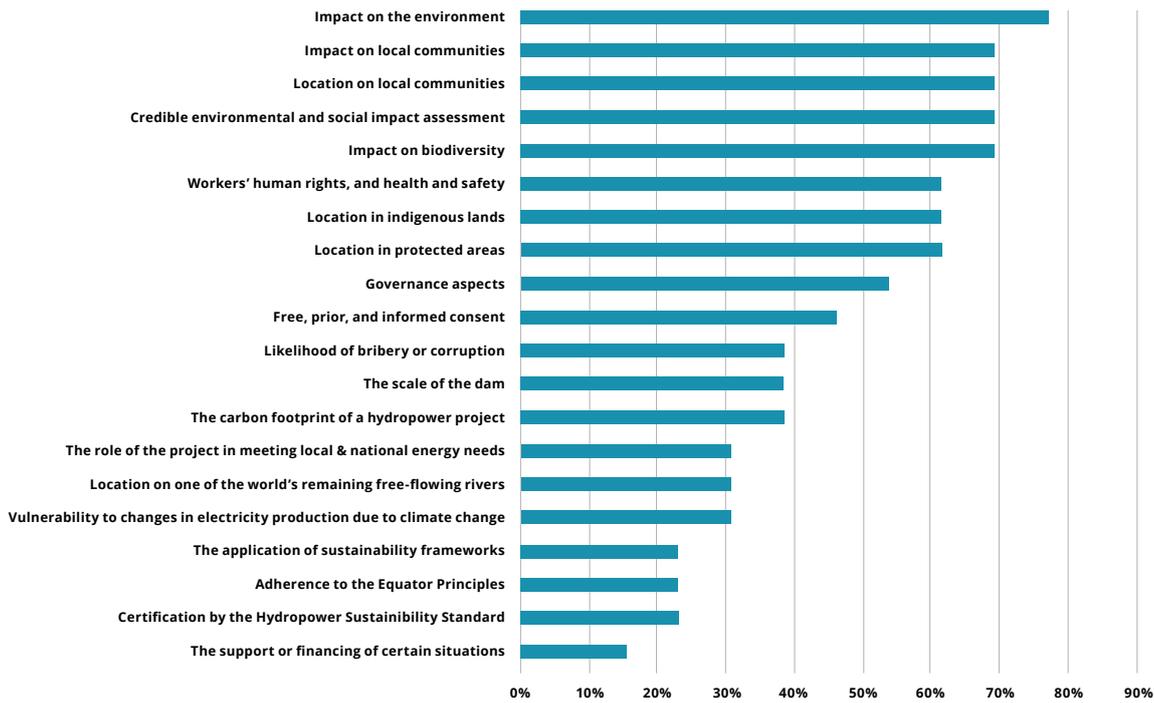


© Zig Koch / WWF

### ACTIONS

**Design a company ESG policy.** To avoid becoming involved in contentious and damaging projects, and the associated reputational risks, it is vital that insurers thoroughly assess environmental and social risks when making underwriting and investment decisions. To ensure that this is done in a consistent way, each insurer should have an ESG policy for underwriting, and investments in, hydropower. This might be a standalone policy, or clear hydropower criteria included within a broader policy.

Of the insurers that responded to the survey on hydropower during the development of this guide, half reported having an ESG policy in place related to hydropower. These existing policies covered a range of ESG issues. The proportion of respondents that reported using various criteria to make decisions on hydropower is shown in Figure 2.



**Figure 2.** The proportion of survey respondents reporting the use of various criteria in underwriting or investment decisions related to hydropower

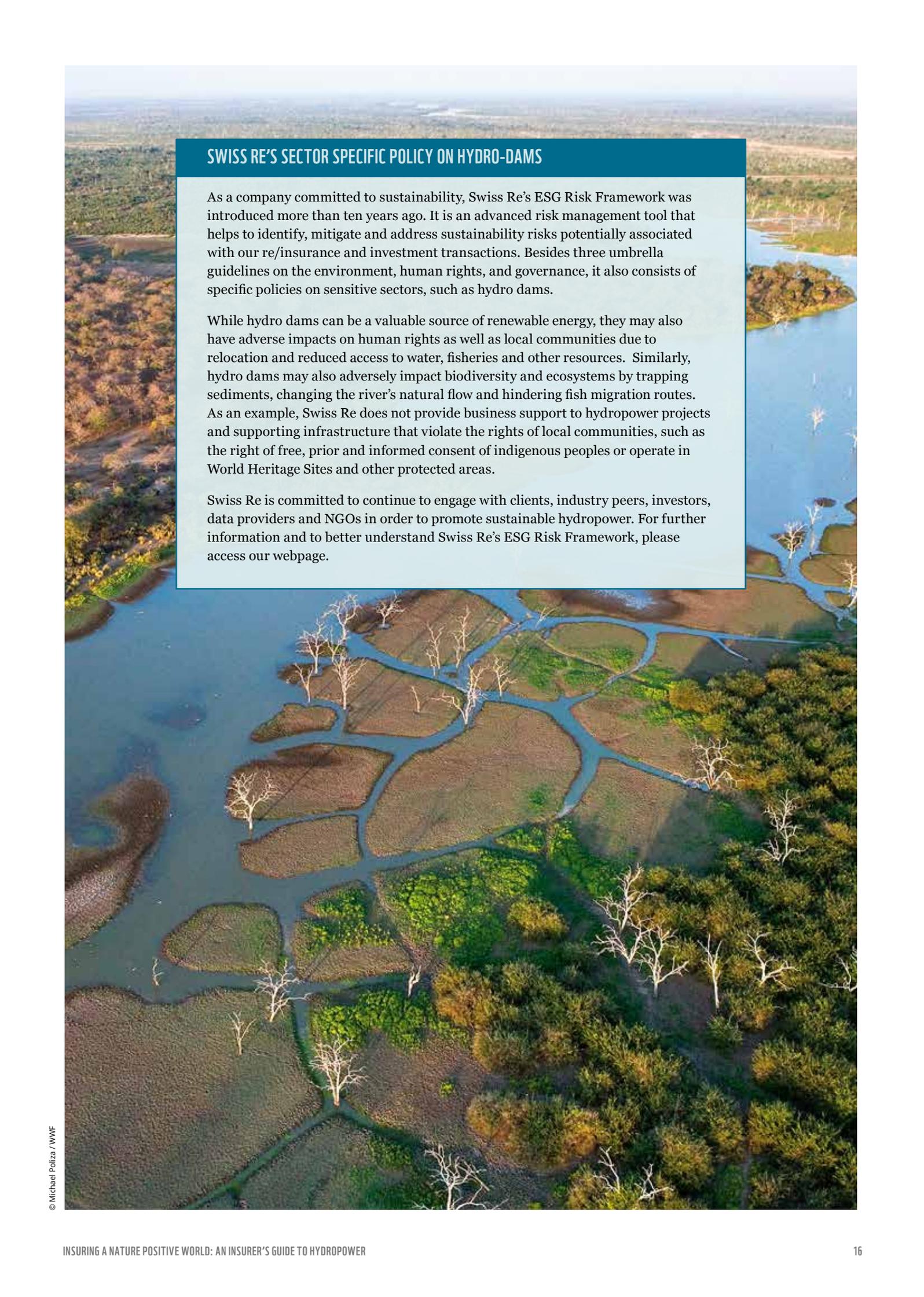
Insurers have access to a wealth of information on projects, which is analyzed in depth to reach underwriting decisions, making them well-placed to conduct a detailed ESG assessment. This is both practical and worthwhile, given the relatively small number of hydropower projects considered by an insurer in any year, the high value of these projects, and the high potential for reputational and other risks associated with supporting damaging and unsustainable hydropower projects.

To support insurers in developing their own ESG policies on hydropower, an assessment matrix is provided in Annex 1. This includes information on red flags, recommended requirements or assessment criteria, and suggested questions for engaging with hydropower clients across a range of ESG topics. This matrix does not include all issues or detailed assessment criteria. It should be used as a starting point for insurers to develop their own policies and tools to assess ESG risks for hydropower projects.

### BOX 3. ASSESSING OLDER HYDROPOWER PROJECTS

Older hydropower projects often come with a host of legacy issues, such as outstanding claims for compensation from displaced communities or the need to modernize facilities to reduce risks. In principle, insurers' support for old hydropower facilities undergoing rehabilitation and modernization is positive, as it reduces the need for new hydropower projects. However, underwriting existing dams with significant legacy issues and without credible plans to address them sends out the wrong signal to future hydropower projects and supports continued harm to local communities and the environment.

When assessing older hydropower dams, it is essential that insurers follow a rigorous ESG assessment and verify that credible plans are in place, and being acted on, to address legacy issues. Progress against these plans should be assessed during underwriting and policy renewal.

An aerial photograph of a river delta, likely the Okavango Delta, showing a complex network of water channels and islands. The water is a deep blue, and the surrounding land is a mix of green and brown, indicating a mix of vegetation and possibly some dry areas. The sky is clear and blue. A central text box is overlaid on the image, containing the title and three paragraphs of text.

## SWISS RE'S SECTOR SPECIFIC POLICY ON HYDRO-DAMS

As a company committed to sustainability, Swiss Re's ESG Risk Framework was introduced more than ten years ago. It is an advanced risk management tool that helps to identify, mitigate and address sustainability risks potentially associated with our re/insurance and investment transactions. Besides three umbrella guidelines on the environment, human rights, and governance, it also consists of specific policies on sensitive sectors, such as hydro dams.

While hydro dams can be a valuable source of renewable energy, they may also have adverse impacts on human rights as well as local communities due to relocation and reduced access to water, fisheries and other resources. Similarly, hydro dams may also adversely impact biodiversity and ecosystems by trapping sediments, changing the river's natural flow and hindering fish migration routes. As an example, Swiss Re does not provide business support to hydropower projects and supporting infrastructure that violate the rights of local communities, such as the right of free, prior and informed consent of indigenous peoples or operate in World Heritage Sites and other protected areas.

Swiss Re is committed to continue to engage with clients, industry peers, investors, data providers and NGOs in order to promote sustainable hydropower. For further information and to better understand Swiss Re's ESG Risk Framework, please access our webpage.

**Engage with hydropower clients on ESG risks throughout the period of cover.** An ESG policy should not only be applied when considering a new hydropower client. Insurers have an important ongoing role engaging clients on hydropower risks. Hydropower projects are highly sensitive and their ESG risks evolve throughout construction and operation. It is therefore important that ESG issues are considered at the renewal stage, just as they are when underwriting a new risk. Insurers should review their original ESG assessment, checking for any issues that may have arisen, such as new controversies with local communities, new environmental issues raised by NGOs or campaigners, or protests on the part of workers. At the same time, they should be aware of important ESG commitments made and actions planned for a project and ensure that these are being implemented, including commitments to affected communities or mitigation measures to reduce environmental damage. A list of questions for engagement with insurance hydropower clients is included in the table in Annex 1.

**Explore existing ESG risk assessment tools to better understand the risks**

**associated with hydropower projects.**

When assessing ESG risks, insurers can explore corporate and portfolio-level screening tools – like WWF’s **Water Risk Filter** and WWF’s **Biodiversity Risk Filter** (which will be available in 2023) – that enable companies and investors to assess water and biodiversity risks, and prioritize actions to address them. Insurers can use the Water Risk Filter tool by entering information on the portfolio of hydropower projects that they insure or on an individual project. The tool will generate information on physical, regulatory, and reputational risks. The Water Risk Filter also includes climate and socio-economic scenarios for 2030 and 2050. This free online tool can be used to identify and engage with clients on relevant risks and mitigation measures.

In addition, biodiversity screening tools, such as the Swiss Re **Biodiversity and Ecosystems Services (BES) Index**, can provide a first assessment of possible biodiversity risks related to hydropower projects, although it should be noted that the BES tool primarily captures terrestrial ecosystem risks, and does not fully reflect impacts on freshwater species, particularly migratory species.

### 4.3 DECLINE COVER FOR HYDROPOWER PROJECTS IN PROTECTED AREAS

#### Background

Protected areas are designated as some of the last refuges in the world for biological and cultural diversity, and their protection must be a priority. The preservation of Indigenous peoples’ lands is vital to protect the human rights of Indigenous peoples, and these lands are often also key areas for the conservation of nature.

Geographical location is key to the impacts of hydropower. Once a poor site decision is made – placing a hydropower project in an area that is sensitive for environmental or social reasons – the potential to lessen its destructive impact and related conflict and controversy is very limited. The negative impacts of hydropower are especially harmful when dams are built in or near high conservation value areas. Despite this, 509 dams are planned or under construction in protected areas around the world.<sup>32</sup>

#### Importance for insurers

Thorough analysis of potential sites is often not carried out by companies or governments, and many environmental and social impact assessments fail to fully reflect the importance of site choice in assessing projects. Insurers therefore need to carry out their own analysis of a project’s location.

Risks of social and environmental impact, and the associated reputational risks for insurers, are particularly high for hydropower projects that are built in, or impact on, protected and conserved areas. World Heritage Sites and Ramsar Wetlands of International Importance are protected under international conventions, and insurers run a particularly high reputational risk in supporting projects that may impact these sites. Indeed, the insurance sector has already jointly recognized the risks posed by hydropower to World Heritage Sites. According to



**PRESERVATION OF INDIGENOUS PEOPLES’ LANDS IS VITAL TO PROTECT THEIR HUMAN RIGHTS**

“Protecting our World Heritage, insuring a sustainable future”, a joint guide from UNEP PSI, WWF, and UNESCO, high-impact hydropower is considered a “severe risk” sector just like oil and gas, meaning that it is linked to potential or actual negative impacts on the outstanding universal value of a World Heritage Site. The guide details how to develop and implement a World Heritage Sites risk approach for “severe risk” projects and provides a proposed check list and escalation steps, indicating that large-scale hydropower in a World Heritage Site or its buffer zone should be declined (Figure 3).

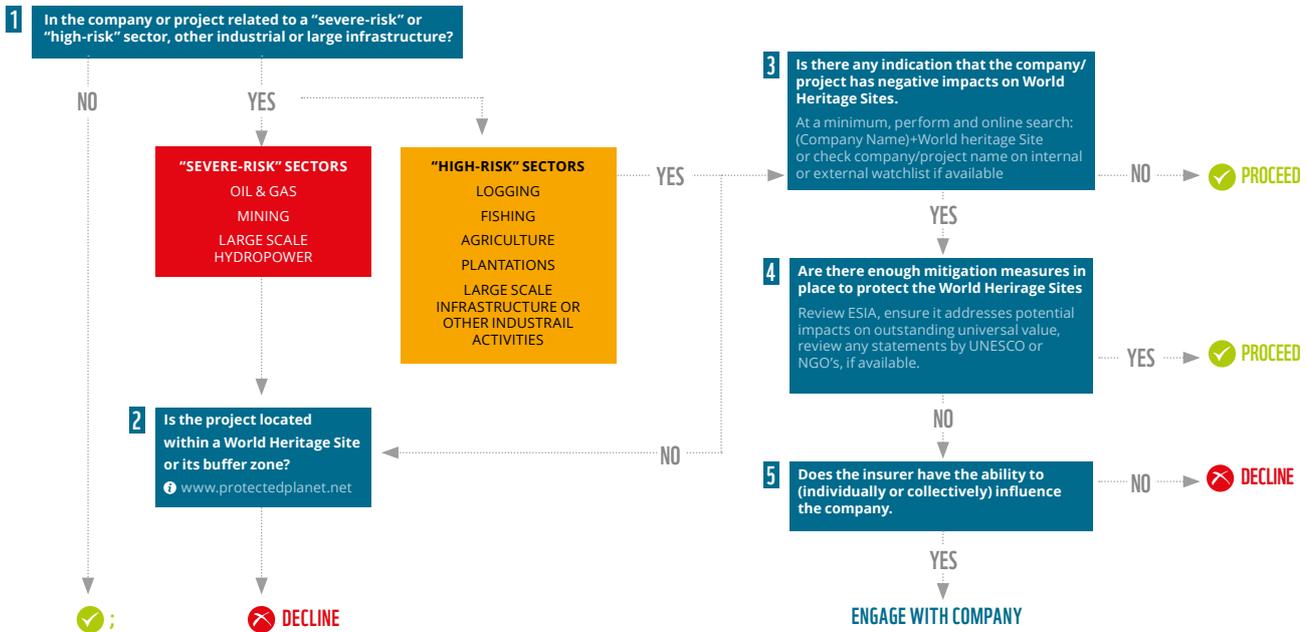


Figure 3. Example of a world heritage sites risk assessment checklist including hydropower from “Protecting our World Heritage, insuring a sustainable future”

**ACTIONS**

**Screen project location coordinates against protected and conserved sites and decline cover for projects impacting on those sites.** Hydropower projects planned in or impacting protected and conserved areas, such as Key Biodiversity Areas (KBA) and National Reserves and Parks, among many others, should not be supported. Geographical criteria are relatively straightforward to introduce, since proposed projects with location coordinates can be screened for overlaps against a series of sensitive areas, for which maps of locations are largely available. Information on the geocoordinates of existing and planned hydropower projects can be found on the [Global Dam Watch](#) site, which maintains the world’s most comprehensive and freely available databases of global dam data.

An initial check can be made against the list of 500 dams planned in protected areas and 1,200 already built in protected areas, which was put together in a recent WWF study.<sup>33</sup> However, this list represents only a snapshot in time. Inclusion on this list is certainly a red flag, but insurers still need to investigate further when a project does not feature on the list, as the list is not kept updated and new projects endangering protected areas may have been planned since it was created.<sup>34</sup>

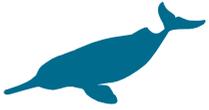
The best source of information on Protected Areas and their locations is the [Protected Planet database](#). In the context of hydropower, insurers should pay particular attention to Indigenous Peoples’ Lands, Ramsar Wetlands of International Importance, UNESCO World Heritage Sites, National Reserves and Parks, important habitats for species on the IUCN Red List, Biosphere Reserves, Natura 2000 sites and Emerald Sites. Insurers should also carry out screening against the [map of Key Biodiversity Areas](#), which is not included in the Protected Areas database.

# Over 500 dams are planned or under construction in protected areas

The wrong dam in the wrong place can change how a river flows and cause blockages. Species that move to find food, reproduce, or seek new habitat as the seasons change—such as salmon and river dolphins—can no longer do so. This threatens important freshwater ecosystems and people and wildlife who depend on them for survival.



Map created from Figure 3 in Peters, W.L., D. Alvarado, S. Qin, P.J. Jordan-Keepe, S. Larson, S. Park, K. Tolson, C. Carl, W. Srinivasan and M.D. Meade. 2020. Dams and protected areas: Quantifying the global and national extent of global dam construction within protected areas. Conservation Letters, 13(6): e12779. © World Wildlife Fund



**THE WORLD'S REMAINING FREE-FLOWING RIVERS ARE PARTICULARLY VALUABLE FOR THE PRESERVATION OF FRESHWATER SPECIES**

**Avoid projects outside of but impacting on protected and conserved sites.** In addition to projects directly within protected areas and Indigenous lands, insurers should be very wary of supporting projects close to, or impacting, freshwater ecosystems upstream or downstream of these areas, as such projects can alter these protected areas in significant ways. For example, upstream or downstream projects can change river flows or act as barriers to fish migration.

Insurers will need to carefully analyze impacts on upstream or downstream sites and should request this information from social and environmental impact assessments (as explored in more detail in the following section).

**Ensure free, prior, and informed consent has been secured for projects planned on Indigenous**

**people's lands.** For any projects within Indigenous peoples' territories, Indigenous communities must provide free, prior, and informed consent. There have been multiple negative experiences with hydropower projects falsely claiming to provide benefits to local communities, including Indigenous peoples,<sup>35</sup> and insurers should address such claims with scepticism and high levels of scrutiny.

**Protect the world's remaining free flowing rivers.** The world's remaining free-flowing rivers are particularly valuable for the preservation of freshwater species and the health of ecosystems that they flow through, and insurers should be particularly wary of projects planned on these rivers. At the same time, further degradation should be avoided in areas that are already intensely impacted by hydropower.<sup>36</sup>



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## 4.4 REQUIRE AN INDEPENDENT AND CREDIBLE SOCIAL AND ENVIRONMENTAL IMPACT ASSESSMENT

### Background

Social and environmental risk or impact assessments are now standard for new hydropower projects. However, certain projects designed with little regard for environmental and social outcomes, or even financial sustainability, have produced social and environmental assessments of very poor quality.<sup>37</sup> Others are of limited scope and fail to reflect the full impacts of hydropower projects on Indigenous and vulnerable populations, as well as

compound impacts of projects or those experienced downstream.

### Importance for insurer

Although insurers usually request social and environmental impact assessments when considering a project, assessments of limited scope or poor quality may not address the full risks and potential damage that could be caused by a project. Poorly assessed projects are likely to be associated with higher risks and conflict.

### ACTIONS

#### **Insist on standards for independent and credible assessments.**

Insurers should refer to guidance such as the **International Best Practice Principles series** produced by the International Association for Impact Assessment (IAIA). In particular, insurers should verify that the assessment follows the following principles, which are among those proposed by the IAIA:<sup>38</sup>

- **Purposive** – the process should inform decision making and result in appropriate levels of environmental protection and community well-being.
- **Rigorous** – the process should apply “best practicable” science, employing methodologies and techniques appropriate to address the problems being investigated.
- **Participative** – the process should provide appropriate opportunities to inform and involve the interested and affected public, and their inputs and concerns should be addressed explicitly in the documentation and decision making.
- **Interdisciplinary** – the process should ensure that the appropriate techniques and experts in the relevant bio-physical and socio-economic disciplines are employed, including use of traditional knowledge as relevant.
- **Credible** – the process should be carried out with professionalism, rigor, fairness, objectivity, impartiality, and balance, and be subject to independent checks and verification.
- **Integrated** – the process should address the interrelationships of social, economic, and biophysical aspects.
- **Transparent** – the process should have clear, easily understood requirements; ensure public access to information; identify the factors that are to be considered in decision making; and acknowledge limitations and difficulties.
- **Systematic** – the process should result in full consideration of all relevant information on the affected environment, of proposed alternatives and their impacts, and of the measures necessary to monitor and investigate residual effects.

Insurers can also consider the assessment criteria developed, for example, through the Riverscope tool, a geospatial analysis tool, which identifies indicators of ESG risks and their impact on the financial viability of hydropower projects.

#### **Ensure that assessments consider a broad area of influence of a project.**

It is important that impact assessments pay special attention to ways in which projects outside of protected areas may nonetheless impact protected or other high conservation value areas. Any impact assessments that narrowly define the area of influence of projects should be rejected.

### BOX 4: WHAT ABOUT PUMPED STORAGE HYDROPOWER?

Pumped storage hydropower (PSH) systems are made up of two reservoirs at different elevations with a pump and turbine linking them. During periods of surplus electricity from another source (for example, when the sun is shining on a solar power facility located alongside the PSH), water is pumped from the lower reservoir to the upper reservoir. Then, during periods of high electricity demand, water is fed from the upper reservoir through the turbine to the lower reservoir to generate the required electricity.

PSH can be just as damaging as other hydropower projects. However, in some cases, PSH development can be designed to have reduced impacts. For example, off-river PSH developments in brownfield sites, including abandoned mines and pre-existing hydropower facilities, are likely to have significantly lower environmental and social impacts than other PSH developments, especially when they are constructed as closed-loop systems (in closed-loop systems the two reservoirs act as self-contained dams, with neither connected to a river or other naturally flowing water).

All the measures outlined in this guide apply equally to PSH projects, and insurers should ensure that any PSH developments are vetted as carefully as other hydropower projects. Given the wide range of sites in which PSH development can be set up, insurers should ensure that the chosen site for a PSH development has been carefully selected to avoid conflict and environmental impacts.

## 4.5 REQUIRE THAT STRINGENT FRAMEWORKS AND STANDARDS ARE APPLIED

### Background

Hydropower sustainability frameworks and standards can play an important role in increasing transparency and improving standards in the sector. These include the Hydropower Sustainability Council's **Hydropower Sustainability Standard**, the US-based Low Impact Hydropower Institute's **Low Impact Certification**, the Swiss standard **Naturemade Star**, and the **EKOenergy label**, among others. General frameworks, such as the Equator

Principles or IFC Performance Standards, can also be used although they are not specific to hydropower.

### Importance for insurers

Frameworks and standards will be most effective if they become standard requirements for hydropower projects. The insurance industry can play a powerful role by making insurance conditional on certification by a recognized body or evidence of the application of international frameworks.

### ACTIONS

**Require that stringent national or international frameworks and standards are applied as a condition for insurance coverage.** As far as possible, evaluations against such standards and frameworks should be made publicly available, and expert evaluators with knowledge of hydropower should be used to ensure that hydropower-specific issues are considered.

**Consider these frameworks and standards as a baseline and implement stronger criteria.** Nevertheless, on their own, even rigorous, independent assessments should never be viewed as a greenlight for insurers and should not be used in place of an insurers' own assessment of a project. In addition, given that certification and standards operate at the site level, they are insufficient to form the basis for an insurance decision. WWF strongly recommends that in all cases stronger criteria are applied than those generally used, such as the rejection of any projects in protected and conserved areas.

## 4.6 REQUIRE CALCULATIONS OF A PROJECT'S GREENHOUSE GAS EMISSIONS AND SET MAXIMUM THRESHOLD

### Background

Hydropower projects are often valued as an alternative to high-polluting energy sources. However, the greenhouse gas emissions of hydropower are often not sufficiently assessed. Emissions from hydropower are primarily related to their reservoirs and, to a lesser degree, to construction materials.<sup>39</sup> Reservoirs emit carbon dioxide, methane, and other gases, generally at a higher rate than the ecosystems that are being replaced, and greenhouse gases are also embedded in the cement, steel, diesel, and other materials consumed during construction. The level of emissions is highly dependent on the site and there is a wide variation in emissions among hydropower projects, making it particularly important that levels are assessed.

### Importance for insurers

The greenhouse gas emissions of hydropower projects are especially relevant considering insurers' commitments, and increasing pressure on the industry, to disclose greenhouse gas emissions and set ambitious reduction targets across their portfolios. To make sure that they are not underwriting high-emission projects, insurers need to address greenhouse gas emissions of hydropower projects when considering underwriting them.

This has become particularly important in recent years as tools have become available to measure emissions of hydropower projects, and as these are increasingly required by those financing projects.

### ACTIONS

#### **Require that hydropower projects disclose their greenhouse gas emissions.**

Methods to estimate emission levels for hydropower projects, such as the G-res tool,<sup>40</sup> are readily available and their application represents a reasonable request for potential insurance clients.

**Set a threshold for maximum emissions in relation to energy produced and to reject projects exceeding the level established.** WWF asks financial institutions, including insurers, to only support new hydropower projects with estimated greenhouse gas emissions under 50g CO<sub>2</sub>e/kWh, averaged over the lifetime of the project, or, alternatively, a reservoir surface with a power density greater than 10W/m<sup>2</sup>. These thresholds are designed to exclude outlying hydropower projects with particularly high emission levels and are consistent with the thresholds adopted by the Climate Bonds Initiative.<sup>41</sup>



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## 4.7 CONSISTENTLY SCREEN HYDROPOWER AS A POTENTIAL CONTROVERSIAL ACTIVITY IN INVESTMENT DECISION MAKING

### Background

Conflict and controversy can occur around a range of actors involved in hydropower projects, including the construction company and direct project investors, but also engineering companies, utility companies that operate dams, companies that service dam machinery, and service companies supporting ongoing operation.

### Importance to insurers

Insurers’ investment portfolios are largely

low-risk, and they would not typically be direct investors in a hydropower project. Indeed, none of the insurers responding to our survey reported direct investment in hydropower projects. Almost a third, however, reported investments in companies involved in hydropower construction or operation. In these cases, it is important to identify companies that insurers invest in that derive a significant portion of their income from hydropower-related activities.

### ACTIONS

**Screen hydropower as a potential controversial activity.** Insurers typically define a list of “controversial activities” and set a percentage threshold. If the proportion of a company’s income coming from these controversial activities exceeds that percentage, then investments in that company would require further review. For example, some companies have established thresholds of 5 per cent for controversial activities such as coal.

We strongly recommend that all hydropower is considered a potential controversial activity and that investments in any company with significant income from hydropower (over the percentage threshold established by the insurer for other controversial activities) should be flagged. These flagged investments should then be analyzed following the company’s ESG policy for hydropower and applying the factors outlined in this guidance.

Where it is not possible to determine the share of a company’s income coming from hydropower, due to limitations in available data, insurers should at least search for possible controversies associated with the company in relation to hydropower. Where these are identified, the recommendations outlined in this guide should be applied. At the same time, insurers should request data providers include hydropower in data on “controversial activities”.



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## 5. INSURING A NATURE-POSITIVE WORLD: A CALL TO ACTION

As risk managers, insurers and investors, the insurance industry can play a key role in protecting nature. To do so, addressing high-impact hydropower – a principle cause of plummeting biodiversity in freshwater ecosystems – is vital. This guide is a first step in demonstrating the importance of the insurance sector in preventing high-impact hydropower and outlining steps insurers can take to support these efforts.

This work is ongoing, and WWF welcomes the inputs and support of insurers in further developing this guidance, and in supporting efforts to understand and prevent the risks of hydropower to nature.

WWF is aiming to develop, in collaboration with the insurance sector, an insurers' commitment on hydropower for a nature-positive world. This commitment will provide a strong industry statement on the importance of protecting nature and on insurers' actions to address high-impact hydropower. We look forward to working with insurers on this next step.



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# ANNEX 1:

Red flags, recommended requirements or assessment criteria, and possible engagement questions for ESG analysis of hydropower

Assessment category	Red flags <sup>42</sup>	Recommended requirements or assessment criteria	Engagement questions for potential and current clients
<b>Engagement questions for potential and current clients</b>	Environmental and social impact assessment not conducted or not made public for new hydropower projects.	Public and credible environmental and social impact assessment which demonstrates minimal adverse impacts and the implementation of credible mitigation measures.	Has the impact assessment been made public? Why not? When will it be made public? Who conducted the assessment? Are they a respected and independent body? How will the company respond to minimize the impacts identified? By when? How can we assess that these actions are being taken?
<b>Project location</b>	Project planned or already present in World Heritage sites, remaining free-flowing rivers, indigenous lands, High Conservation Value forests, High Carbon Stocks forests, wetlands protected by the Ramsar Convention, IUCN list of protected areas, habitats for the species on the IUCN Red List, and protected areas under national designation (such as National Parks).  Countries with a low governance or high corruption index or with extensive histories of malpractice and controversy in hydropower implementation	Geographical exclusions including World Heritage sites, remaining free-flowing rivers, Indigenous lands, High Conservation Value forests, High Carbon Stocks forests, wetlands protected by the Ramsar Convention, IUCN list of protected areas, habitats for the species on the IUCN Red List, and protected areas under national designation (such as National Parks).	Project location is typically chosen before insurers are engaged. Nonetheless, insurers can explain the reasons behind their decision to reject projects in a certain geographical area.
<b>Application of international standards, frameworks, and certifications</b>	No application of international frameworks or standards.	Evidence of the application of an international sustainability framework or standard, such as the Equator Principles, the IFC Performance Standards, or the Hydropower Sustainability Tools.  Certification through bodies such as the Hydropower Sustainability Standard, the Low Impact Hydropower Institute's Low Impact Certification, or Naturemade Star.	Which sustainability frameworks or tools have been used in the planning of this project? Can you share the analysis? How was the framework or tool used to improve sustainability? What changes were made as a result?  Is the project certified by a credible body? Do you intend to achieve certification? By which year (policy renewal can be made dependant on doing so)?
<b>Free, prior, and informed consent and the rights of Indigenous people</b>	No publicly documented process for free, prior, and informed consent.  Controversies in local and national media.  Local protests.	Public and documented process of free, prior and informed consent of displaced or affected communities.  Assessment of the delivery of commitments in terms of mitigation, compensation and benefits to affected communities at the point of insurance policy renewal.  Ongoing and documented engagement with Indigenous people and other affected communities and open procedures for addressing grievances.  In the case of projects with legacy issues, a credible plan for addressing these issues, addressing demands of displaced or affected communities.	What is the process planned or followed for free, prior, and informed consent? Was this carried out publicly and with participation of all impacted groups?  What agreements were reached? How will they be fulfilled and in what time frame? (Policy renewal can be made dependent on evidence of fulfilment of these commitments to communities.)  How is ongoing engagement being carried out? How do grievance mechanisms function? What grievances have been received and how have these been addressed?  How are legacy issues being addressed? What actions will be implemented and by when? How is progress being made on this plan?  Can you share documentation of: the engagement plan, grievance mechanism, consultation reports, analysis and evidence of stakeholder support, compliance reports, monitoring and auditing reports, and evidence that positive benefits for communities are achieved?

Assessment category	Red flags <sup>42</sup>	Recommended requirements or assessment criteria	Engagement questions for potential and current clients
<b>Carbon footprint</b>	No calculation of carbon footprint; or carbon footprint over established limit.	Calculation of carbon footprint, which should fall within the limit set by the insurer.	What is the carbon footprint of the project? Has the project explored alternatives and possible mechanisms to reduce the carbon footprint?
<b>Vulnerability to climate change</b>	No credible assessment of risks to ongoing electricity production and to safety and sustainability because of climate change.	Site choice and technology choice made based on assessments of vulnerability to climate change and risk mitigation measures are in place.  Assessment conducted of risks to ongoing electricity production and safety and sustainability because of climate change.	How were climate change risks considered in site and technology selection?  Has the vulnerability of this project to climate change been assessed? What are the long-term risks identified? How have these been addressed?
<b>Impact on biodiversity</b>	Campaigns against the project on biodiversity grounds by local or international NGOs or campaign groups.  No credible assessment of biodiversity impacts in the environmental and social impact assessment.	These should be assessed on the basis of the environmental impact assessment. If the assessment is not considered credible, insurers will need to enlist an expert to assess potential impact on biodiversity.  Insurers should be particularly wary of projects that impact on IUCN endangered species, in addition to rejecting any projects in protected areas as described above.	What impacts on biodiversity have been identified in the environmental and social impact assessment report? Are impacts expected on endangered species or their habitats?  What measures are being put in place to mitigate the impacts identified?
<b>Impact on the environment</b>	Campaigns against the project on environmental grounds by local or international NGOs or campaign groups.	These should be assessed on the basis of the environmental impact assessment. If the assessment is not considered credible, insurers will need to enlist an expert to assess potential impact on the environment.  Insurers should expect the assessment to identify impacts not only on the local environment but on the wider environment which will be impacted by changes to water flows, including the impact of changes to sediment flows on connected deltas and floodplains.	What impacts on the environment have been identified in the environmental and social impact assessment report? What are the impacts on the local environment, and what are the impacts on other more distant environments affected by changes to water and sediment flows?  What measures are being put in place to mitigate or reduce these impacts?
<b>Impact on local communities</b>	Project controversies in local and national media; local protests; campaigns against the project by local or international NGOs or campaign groups.	These should be assessed on the basis of the environmental impact assessment. If the assessment is not considered credible, insurers will need to enlist an expert to assess potential impact on local communities and privately contact local NGOs for their inputs.  Free, prior, and informed consent of affected communities.	What impacts on local communities have been identified in the environmental and social impact assessment report?  How will the project reduce and mitigate these impacts?
<b>Workers' human rights, and health and safety</b>	Project controversies in local and national media; active legal cases; local protests.  Past controversies or legal cases related to the same companies identified in local and national media.	Screen local and international media for evidence of protests and controversies. In countries where freedom of speech and opposition to government and business is restricted, insurers will have to take a more sensitive approach and may need to privately contact NGOs and experts for an expert opinion.	How are both national and international standards for workers' health and safety met?  What is the history of the companies involved in relation to worker's rights and health and safety? Have there been previous protests or legal cases?  How is the project ensuring that human rights are not infringed? Have there been past controversies related to human rights in the businesses or geographical areas involved? What is being done to make sure these are not repeated?

Assessment category	Red flags <sup>42</sup>	Recommended requirements or assessment criteria	Engagement questions for potential and current clients
<b>The role of the project in meeting local and national energy needs and its advantages and risks in comparison to other options</b>	<p>Project controversies in local and national media and local protests relating to a lack of benefits for local communities.</p> <p>Project planned to meet energy needs outside of the local community or country.</p>	<p>Assess project documentation to understand the intended role of the project in meeting local, national, or international energy demands. Projects with little benefit for local communities will likely attract opposition and should be avoided.</p> <p>Screen local and international media for evidence of protests and controversies. In countries where freedom of speech and opposition to government and business is restricted, insurers will have to take a more sensitive approach and may need to privately contact NGOs and others for an expert opinion.</p>	<p>How will the energy produced benefit local communities and the country?</p>
<b>Governance</b>	<p>Project controversies in local and national media; local protests.</p> <p>Past controversies related to the same companies identified in local and national media.</p> <p>Countries with a low governance or high corruption index.</p>	<p>Screen local and international media for evidence of protests and controversies.</p> <p>In countries where freedom of speech and opposition to government and business is restricted, insurers will have to take a more sensitive approach and may need to contact NGOs and others privately for an expert opinion.</p>	<p>How does the project ensure good governance? What is the corporate governance structure?</p> <p>How does the project ensure transparency?</p> <p>How does the project ensure transparency?</p>
<b>Likelihood of bribery or corruption</b>	<p>Project controversies in local and national media; local protests.</p> <p>Past controversies related to the same companies identified in local and national media.</p> <p>Countries with a low governance or high corruption index.</p>	<p>Require information on the procurement processes and mechanisms in place to ensure transparency.</p> <p>Screen local and international media for evidence of protests and controversies. In countries where freedom of speech and opposition to government and business is restricted, insurers will have to take a more sensitive approach and may need to privately contact NGOs and others for an expert opinion.</p>	<p>What are the processes in place for procurement?</p> <p>What processes were used to select the company or body responsible for overseeing the project (for example, in a government tender process)?</p>

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- Due to the high number of existing hydropower projects in the European Union, new hydropower projects of any kind will cause further irreversible damage to European freshwater ecosystems and should not be supported.
- As well as environmental permits issued by national authorities, which can also not be considered sufficient guarantee of a low-impact project.
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- Red flags are factors which should trigger particular concern from an ESG perspective. These factors would automatically prompt an in-depth ESG review and, in many cases, to a decision not to underwrite a risk.

# INSURERS SHOULD ENABLE LOW CARBON, LOW COST AND LOW CONFLICT RENEWABLE ENERGY PROJECTS



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