Advancing sustainable hydropower

Annual Report 2021-22

iha
international hydropower association

The International Hydropower Association (IHA) is a non-profit membership organisation and the voice of sustainable hydropower.

Our mission is to advance sustainable hydropower by building and sharing knowledge on its role in renewable energy systems, responsible freshwater management and climate change solutions.

Nant de Drance hydropower plant,
Credit: GE Renewable Energy

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The Association Excellence Awards 2021

WINNER

INTERNATIONAL ASSOCIATION OF THE YEAR

Foreword Awakening the forgotten giant of clean electricity

2021 was a decisive year for the sustainable hydropower community to reawaken "the forgotten giant of clean electricity".

We feel a sense of awe and pride at the list of achievements in this Annual Report. We launched the first ever sustainability standard in the renewable energy sector, published the conclusions of the high-level International Forum on Pumped Storage Hydropower and the landmark Hydropower 2050 report, and made ground-breaking commitments on developments in World Heritage Sites and Protected Areas through the San José Declaration on Sustainable Hydropower.

There are early signs that our efforts may be starting to make a difference. Global references to hydropower online increased by 86% in 2021, compared to the year before. Following a year of milestones at the International Hydropower Association (IHA) and across the sector, hydropower is firmly back on the climate agenda. These are the kind of metrics we expect to see more of over the coming years if hydropower is backed to play an essential role in the clean energy transition. At IHA, we will continue to focus on turning this increased awareness into better policies and more investment in sustainable hydropower.

Moving forward together

IHA's stakeholders have been at the forefront of this change, helping us demonstrate that as a sector we need to be green, modern, sustainable and progressive. It is thanks to our stakeholders that IHA was named the 2021 International Association of the Year at the Association Excellence Awards. On behalf of all of us at IHA, thank you.

We now need to turn these foundations into meaningful change. To succeed, we need three things from the coming year:

1. **Continued support for the San José Declaration on Sustainable Hydropower.** The San José Declaration on Sustainable Hydropower is a step towards transforming the outlook of sustainable hydropower. This will not happen without high-level support, both within your organisation and in your engagement with stakeholders.
2. **More hydropower projects certified against the Hydropower Sustainability Standard.** A priority for us will be to help promote progressive, modern and responsible hydropower development. Use our how-to guides and training courses to upgrade the sustainability of your project and then certify it against the Standard.
3. **Your voice backing ours.** If we are going to convince decision-makers that our sector needs to be heard alongside other renewables such as wind and solar, we need to continue to share information about sustainable hydropower's contribution to society and the environment. This will not happen without an ambitious collective effort.

If investments in sustainable hydropower are to grow enough for climate change to be averted, we need to do this and more.

Fortunately, we have reasons to be optimistic. The 2021 World Hydropower Congress showed that hydropower has a great story to tell. Our unprecedented engagement in COP26 shows that we are building strong relations with influential partners who see the value of sustainable hydropower and who are heard when they speak on its behalf.

Mobilising the sustainable hydropower community towards common values through our ground breaking membership reforms will further unite us towards achieving our core objective – advancing sustainable hydropower.

We have the foundations in place, but we still have a long way to go. We look forward to the journey and are grateful to be working with you.

Roger Gill
IHA President

Eddie Rich
IHA CEO

A membership model that builds trust

Building and maintaining trust is essential to growing sustainable hydropower. No trust, no turbines.

Trust is a valuable commodity that requires a track record. Unless we can demonstrate that hydropower can and should be done sustainably, hydropower will not be incentivised as a key component in countries' net-zero strategies. Companies who help build that track record and lead the charge in demonstrating their sustainability credentials can and should gain a well-deserved advantage.

In a nutshell, this is what we both offer and expect from our members: help us demonstrate that hydropower can be done sustainably, and we will help you turn those efforts into valuable trust for your company and for the sector.

A values-based calling card

We want membership of IHA to be a calling card. When companies write "Member of IHA" in their sales documents, annual reports, email signatures or websites, there should be instant recognition: this company supports and represents a more sustainable hydropower, trust them.

This is where we want to be, and we have the foundations in place to get there. Now it's time to walk the walk.

From values to track record

We have a good point of departure for turning our values into a track record.

Our values are clear. They were first set down in the IHA Charter for Sustainable Hydropower and later translated into a global call for action in the San José Declaration on Sustainable Hydropower.

Our values have consequences. IHA's Commitment on World Heritage Sites and Protected Areas is a direct result of the recognition that not all hydropower is good hydropower, and only hydropower that is sustainable should be built.

Our values can be demonstrated practically. The Hydropower Sustainability Standard, developed by a multi-stakeholder group, provides a globally accepted way to certify the sustainability of hydropower projects.

The next step in the transition

In 2020, the IHA Board agreed a new way forward to ensure that IHA's membership supported the overall objective of promoting sustainable hydropower. In 2021, we moved from a membership model of "pay more and get these additional benefits" to "changing the way our industry works and is perceived can address our biggest global challenge – here is how you can help". In 2022, we will assist our members to demonstrate that they represent a more sustainable hydropower.

We do this by asking IHA members to LAUD their membership: Learn, Assess, Use the available guidance and Demonstrate:

- **Learn** and build in-house sustainability capacity through the Hydropower Sustainability Training Academy.
- **Assess** and certify new and existing hydropower projects using the Hydropower Sustainability Standard.
- **Use** the guidance provided by the Hydropower Sustainability Guidelines on Good International Industry Practice.
- **Demonstrate** that you belong to IHA, a membership organisation that puts sustainability at its core, by leading by example, honouring our commitments and using this to demonstrate that our industry is progressive, forward-looking, green and sustainable.

You can't pay your way to trust

For more than a quarter of a century, IHA has welcomed everyone as members. Everything we did was geared towards delivering value for individuals, companies and associations who were willing to pay membership fees. The more you paid, the more you got.

Our objective is to promote sustainable hydropower. That includes promoting – and requiring – sustainability from our members. Paying membership fees should not be enough to be a member of IHA. Not all hydropower should be built, and not all hydropower projects are sustainable and not all companies belong as members of IHA.

No turning back

We are not aware of any organisation that has gone through a transition like this, from delivering value for their members to having an altruistic, values-driven purpose. The journey will take time and there will be much learning along the way.

While we have a lot of work ahead of us, the result should deliver significant added value to our members. It should also make us better able to deliver on our core objective of promoting sustainable hydropower. At the end of the day, this is why members join IHA.

Pablo Valverde
Deputy Chief Executive and
Head of Stakeholder Engagement

Highlights from 2021

Headlines from a landmark year for the hydropower sector, featuring major initiatives spearheaded and supported by IHA and its members.

January

Leading expert chairs hydropower sustainability council

One of the world's leading experts on sustainable development, Dr Ashok Khosla, joined the Hydropower Sustainability Council as its chair in January 2021.

Replacing IHA President Roger Gill in the role, the appointment demonstrated that the council will serve as an independent group committed to sustainable hydropower. The council was previously known as the Hydropower Sustainability Assessment Council and was formed from a multistakeholder group that developed the Hydropower Sustainability Assessment Protocol.

Dr Khosla is widely regarded as a pioneer of the concept of sustainable development. During 2021, the council would go on to have one if its most important years to date, launching a new certification and labelling scheme, the Hydropower Sustainability Standard (see September). **Read online**

February

Forging partnerships for sustainable hydropower

In recognition of their shared objectives to increase the uptake of renewable energy, IHA and the International Renewable Energy Agency (IRENA) signed a formal partnership agreement in February. The agreement set out both organisations' shared ambitions for the development, financing and deployment of sustainable hydropower to meet net zero targets.

"The world needs to develop a lot more hydropower. Together we will make sure it is sustainable."
Erik Solheim, former Under-Secretary General of the UN, new IHA Board member

Over the course of the year, the two organisations collaborated on several initiatives to boost hydropower's role in the clean energy transition including IRENA's Collaborative Framework on Hydropower and the World Hydropower Congress. **Read online**

A new vision for hydropower's future

In February 2021, IHA joined forces with the heads of the International Energy Agency (IEA) and International Renewable Energy Agency (IRENA) to highlight the need for greater investment in sustainable hydropower.

With 2021 shaping up to be a critical year for the net zero by 2050 agenda, this was the first of many initiatives designed to make sure that hydropower will continue to play a vital role in future clean energy systems.
Read online

Highlights from 2021

March

A new era of green investment in hydropower

After years of collaboration and consultation between the hydropower sector and the Climate Bonds Initiative, the Climate Bonds Standard criteria for hydropower were finally launched in March 2021.

The criteria enable sustainable hydropower projects to benefit from climate bonds, the world's largest source of green finance.

The launch of these new criteria could pave the way for significant new investment in sustainable hydropower, helping to amplify the crucial role that hydropower can play in the clean energy transition. **Read online**

"Sustainable hydropower has a major role to play in helping countries to achieve sustainable development, meet renewables targets and address climate change"
Ashok Khosla, Chair, Hydropower Sustainability Assessment Council

April

European investment rules recognise hydropower

In April, IHA welcomed early changes made by the European Commission to proposed investment criteria for hydropower as part of a new regulatory regime for sustainable finance.

The update to the EU Taxonomy Climate Delegated Act was aligned with hydropower sector good practice requirements described in the Hydropower Sustainability ESG Gap Analysis Tool. The draft act also recognised all types of pumped storage hydropower as making a substantial contribution to climate change mitigation. **Read online**

May

Hydropower integral for IEA's pathway to net zero by 2050

The IEA's landmark Net Zero by 2050 report released in May underlined the role hydropower must play in the clean energy transition.

The report states that in all its Net Zero Emissions scenarios, hydropower capacity will need to significantly grow, "doubling by 2050".

This call to action from the world's leading energy think-tank was a clear indicator to policy and markets that hydropower could not afford to be left behind in future grids.
Read online

Hydropower's new role in making green hydrogen

Produced using decarbonised electricity and water through a process called electrolysis, green hydrogen is set to be an important component of the transition to net-zero carbon economies.

IHA released a new paper in May 2021 on The green hydrogen revolution: hydropower's transformative role. The report explored how hydropower could have a pivotal role to play in supporting growth in green hydrogen.
Read online

Highlights from 2021

June

New report on how governments can accelerate hydropower growth

The IEA published its Hydropower Special Market report in June, providing guidance to policy-makers on how to facilitate hydropower growth.

The report stated that "reaching net zero emissions by 2050 worldwide calls for a huge increase in hydropower ambitions", commending the sector's ability to supply low-carbon electricity on demand.

The publication sent a clear message that failing to build enough new sustainable hydropower could put climate targets at risk, a message that was echoed by IHA and the sector throughout the year. **Read online**

Consultation on sustainable hydropower

A consultation was opened in June on a landmark declaration – the San José Declaration on Sustainable Hydropower.

The Declaration was a signal from the hydropower sector that sustainable hydropower is a clean, green, modern and affordable solution to climate change, and that the only acceptable hydropower is sustainable hydropower.

The Declaration would later be issued in September at the conclusion of the World Hydropower Congress, receiving widespread support from industry and influential stakeholders such as COP26 President Alok Sharma. **Read online**

"Hydropower is the forgotten giant of clean electricity generation"
Fatih Birol, Executive Director, International Energy Agency

IHA's status report underlines the need for rapid growth

The 2021 Hydropower Status Report released by IHA in June found that global hydropower development was perilously off-track in the race to achieve net zero emissions by 2050.

Launching the report, IHA President Roger Gill said: "Investment in sustainably developed and responsibly operated hydropower is essential to support the massive expansion of variable renewables like wind and solar."

The Covid-19 crisis had demonstrated how the power system flexibility provided by hydropower is a prerequisite to the clean energy transition, the report concluded. **Read online**

Highlights from 2021

July

Practical good practice industry guides

All hydropower sector workers should enjoy labour rights protected by law and are entitled to safe, reasonable and fair working conditions.

In July IHA released its How-to Guide on Hydropower Labour and Working Conditions giving guidance to developers and operators on how to create safe working environments for the almost 2 million people employed in hydropower.

The guide was one of six How-to Guides published by IHA with others focusing on Infrastructure Safety, Biodiversity, Environmental and Social Management and Indigenous Peoples. **Read online**

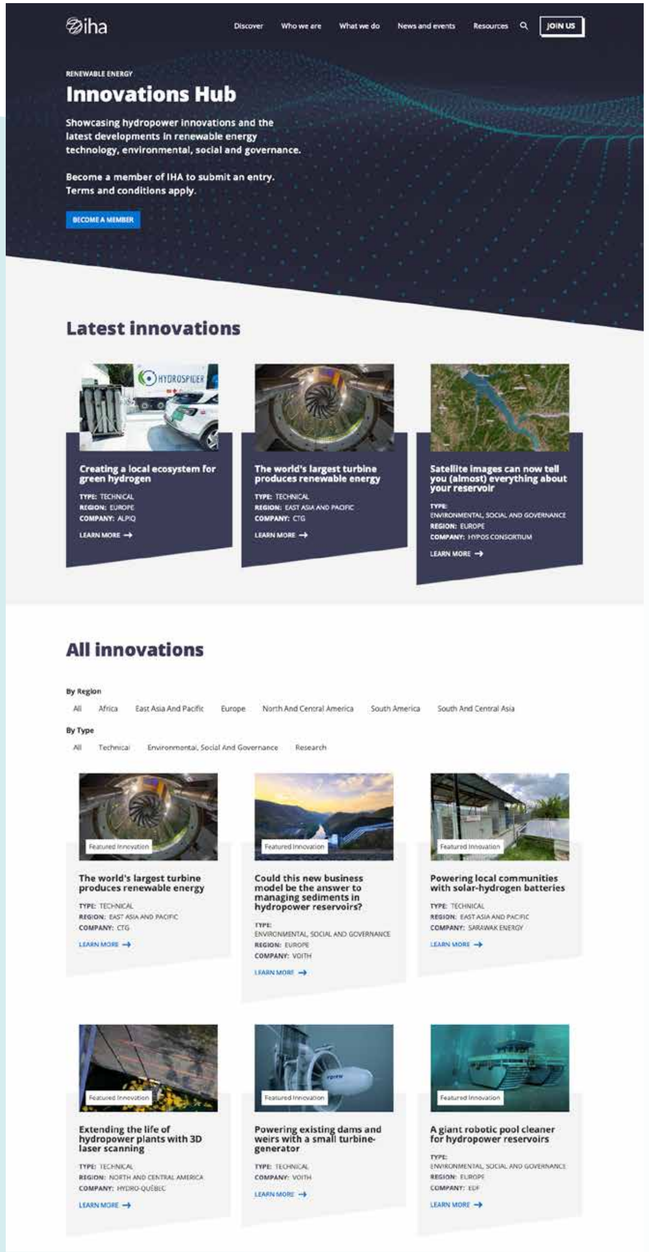
August

Showcasing innovations to speed decarbonisation

Hydropower is a long-established technology which has been used for centuries. This does not mean it is an 'old technology'.

In August, innovators from across the industry came together to showcase the newest innovations in hydropower such as artificial intelligence being used to monitor hydropower plant efficiency and remote control dredging robots for reservoirs, in IHA's newly launched Renewable Energy Innovations Hub.

The online hub was launched as a platform for knowledge sharing ahead of the 2021 World Hydropower Congress. **Read online**



"The Hydropower Sustainability Standard will be a really important innovation and, most importantly, it will allow the international community to invest in hydro projects."

Tony Blair, former Prime Minister of the United Kingdom

Highlights from 2021

September

San José Declaration agreed at World Hydropower Congress

In 2021, for the first time the World Hydropower Congress transformed into a virtual event, attracting 6,000 delegates from across the globe, with more than 200 speakers across three weeks.

The event concluded with a call for urgent action on the climate emergency, harnessing the unique capabilities of hydropower.

The San José Declaration on Sustainable Hydropower, named in honour of the host, the Government of Costa Rica, puts forward a new set of fundamental principles and recommendations to drive forward hydropower's contribution to global climate goals.

The Declaration urges greater green investment in responsible hydropower development and places enhanced ESG performance expectations on the sector.
Read online

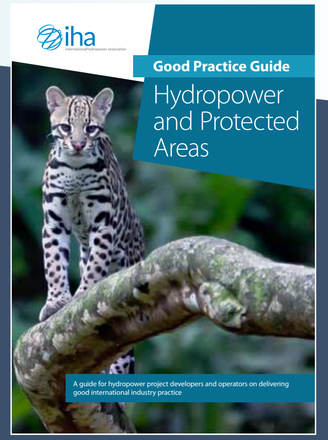
Historic no-go commitment in World Heritage sites

On the eve of the World Hydropower Congress IHA announced a no-go commitment for World Heritage sites and a duty of care commitment for protected areas.

The commitment states that no new hydropower should be developed in World Heritage Sites and any hydropower projects in protected areas should demonstrate good international practice according to the Hydropower Sustainability Standard.

The new commitments were made following a process of dialogue and engagement with IHA's membership – managing around a third (450 GW) of worldwide installed hydropower capacity – together with the UNESCO World Heritage Centre and the International Union for Conservation of Nature (IUCN).
Read online

world hydropower congress



"The new IHA commitment is a major step forward by the hydropower industry"
UNESCO World Heritage Centre

New certification and labelling scheme launched

Leading hydropower companies and international organisations around the world declared their support for the Hydropower Sustainability Standard, at its launch at the World Hydropower Congress.

"This new certification system is a game-changer for hydropower and is unmatched in the renewables sector," said Ashok Khosla, Chair of the Hydropower Sustainability Council which issued the new certification system.

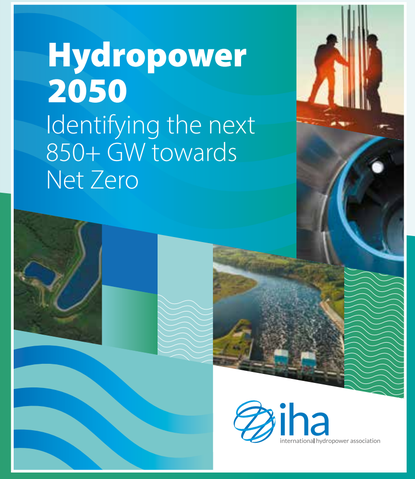
The Standard is the global certification scheme for hydropower operators to accredit their projects as certified sustainable and is a product of consultation from industry, social and environmental NGOs and development and commercial banks.
Read online

Highlights from 2021

Report identifies gap in hydropower needed for climate action

More than 500 GW of hydropower installations are in the pipeline worldwide, but this is far short of what is required to limit dangerous global warming, found a major research report published by IHA in September.

The report, entitled Hydropower 2050: Identifying the next 850+ GW towards 2050, identified a potential 300 GW gap in planned hydropower capacity. This would leave the world a long way short of the hydropower capacity required to keep global warming below 2°C. **Read online**



October

IHA named global association of the year

IHA was named International Association of the Year at the 2021 Association Excellence Awards. The awards recognise the work that associations, trade bodies, unions and professional organisations undertake on behalf of their members.

"We are honoured to receive this accolade on behalf of our members who are everyday striving to provide sustainable, renewable energy as well as responsible water management for millions of people all around the world," said IHA CEO Eddie Rich.

IHA was also named as a finalist for Best Digital Marketing Campaign and Best Association Newsletter at the awards. **Read online**

"There is an urgent need to engage policy-makers at the highest-level all around the world about hydropower's vital importance to the energy transition."
Malcolm Turnbull, former Prime Minister of Australia and IHA Board member

Newly elected IHA board begins work

IHA's new Board began its two-year term in October, as Roger Gill was re-elected to serve as President of the association. The Board contains several new members, who will help shape the role of sustainable hydropower at a crucial time in the clean energy transition. **Read online**

Highlights from 2021

November

COP26 sees hydropower on the world stage

Former Australian Prime Minister and IHA Board member Malcolm Turnbull led IHA's delegation at the United Nation's Climate Change Conference in Glasgow in November.

IHA advocated for the sector at multiple events during COP26, engaging with governments, multilateral institutions and other decision-makers around the world.

Hydropower's essential role in achieving global decarbonisation targets was highlighted through the San José Declaration on Sustainable Hydropower, which was presented to world leaders during the conference, such as COP26 President Alok Sharma.

During the global summit, multiple governments made clear that investments in new hydropower capacity form a central plank of their renewable energy and decarbonisation plans.

China and the USA, the world's two biggest carbon emitters, were among those committing to invest in hydropower capacity. Many other countries also outlined the importance they placed on hydropower as a clean generation and storage technology.

"Renewable energy sources, especially hydropower, will be the locomotive of carbon-free policy," explained Kyrgyz President Sadyr Japarov, who said his country intends to be carbon-free by 2050, by moving away from coal to hydropower. **Read online**

"As one of the oldest and largest renewable energy sources on Earth, hydropower will continue to play a vital role in achieving a net zero world."
Alok Sharma, President of COP26

December

First certified climate bond for hydropower

The Reventazón hydroelectric plant operated by the Costa Rican Electricity Institute (ICE) became the world's first hydropower plant to obtain climate bond certification using new Hydropower Criteria released by the Climate Bonds Initiative.

The project is a recipient of the IHA Blue Planet Prize, awarded after it was independently assessed using the Hydropower Sustainability Assessment Protocol.
Read online

Our priorities

Advocacy and communications

To deliver upon the ambition of the Paris Agreement and limit the global temperature rise to 1.5°C, we need major investment in hydropower as a source of clean energy generation, storage for solar and wind, and grid flexibility.

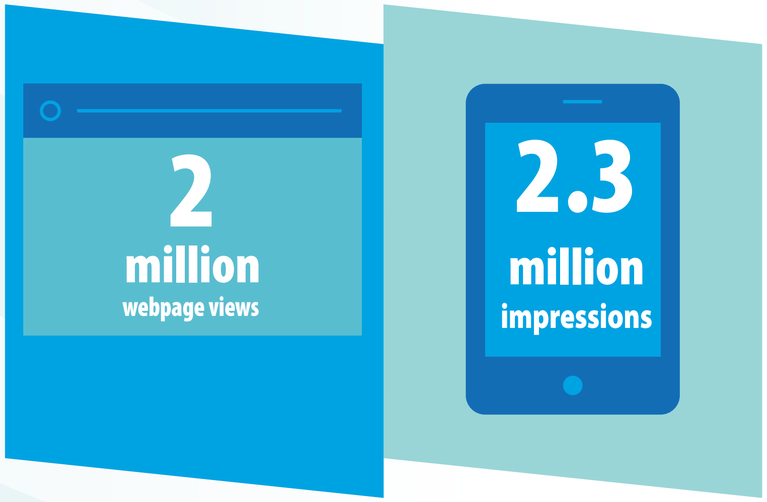
While experts and organisations such as the International Energy Agency cite the vital services hydropower provides, many decision-makers still need to be convinced.

IHA's task is therefore to build and share knowledge among governments, investors, civil society and wider stakeholders about hydropower's essential role in the energy transition – and why the sector must not be forgotten.

Lifting our voice

The year 2021 was a landmark year for international engagement, with IHA leading advocacy efforts at the United Nations Climate Change Conference (COP26) and World Hydropower Congress.

In a sign of rapid progress, global media mentions for both IHA (1.15k) and hydropower (82k) doubled over the previous year. Traffic to our website, Hydropower.org, doubled to almost two million page views, while we saw record levels of engagement on our social media channels (2.3 million impressions).



New advocacy initiative

In late 2021, IHA joined with leading members of the association to establish the Sustainable Hydropower Information Fund and Taskforce (SHIFT), a new initiative to mobilise action to support sustainable hydropower development worldwide.

The initiative will seek to shift awareness and perception among key decision-makers with targeted public affairs and communications activities. A global campaign, 'We can, with hydropower', funded by SHIFT partners will commence in March 2022.

A separate piece of work will explore the 'policy hotspots' for sustainable hydropower around the world - where there are key opportunities to influence the policy agenda and how to engage. An initial report will be produced in April 2022.

To enquire about supporting the initiative, please contact communications@hydropower.org

SHIFT INITIATIVE
IHA SUSTAINABLE HYDROPOWER INFORMATION FUND + TASKFORCE

WE CAN WITH HYDROPOWER

Our priorities

Clean energy systems

Overview

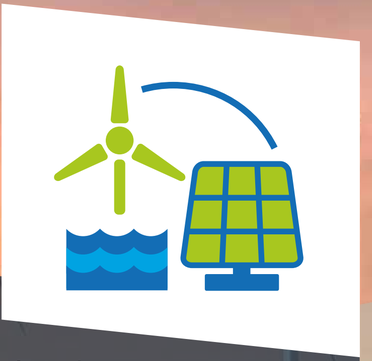
Hydropower is the world's largest producer of renewable electricity.

The hydropower sector represents around 16 per cent of global electricity production, more than all other renewables combined. As a technology, hydropower is an ideal complement to modern clean energy systems. No country has come close to achieving decarbonisation without hydropower.

To deliver upon the ambition of the Paris Agreement, which aims to limit the global temperature rise to 1.5°C, all renewables will need to become more closely integrated.

The International Energy Agency (IEA) suggests that over 1,300 GW of new hydropower capacity will be needed by 2050 to keep the global temperature rise below 1.5°C – this is around double existing capacity.

Hydropower's role in modern electricity grids extends beyond power generation. Hydropower plants provide grid operators with long duration energy storage and on-demand flexibility. This enhances energy security and supports the green transition as hydropower balances the variability and seasonality of renewables such as wind and solar power.



Our action

Through our policy advocacy and research, the International Hydropower Association (IHA) seeks to build knowledge about hydropower's value to energy systems.

We promote dialogue and coordinated action to accelerate the penetration of all types of renewables. Our engagement with international organisations, governments and civil society has improved awareness of hydropower's flexibility and storage services.

As a champion for clean energy storage, IHA acted as the Secretariat for the International Forum on Pumped Storage Hydropower. Co-chaired by former Australian Prime Minister Malcolm Turnbull and the U.S. Department of Energy, the forum published its recommendations in September 2021, calling for the technology to be considered a key enabler of the clean energy transition.

During 2021, IHA also contributed towards the IEA's landmark Special Market Report on Hydropower, as well as participating in numerous industry events.

VISIT ONLINE

Our priorities

Climate change

Overview

Hydropower provides clean electricity, with significantly lower greenhouse gas emissions than most other energy sources.

By reducing our reliance on fossil fuels, hydropower avoids up to four billion tonnes of additional GHG emissions being emitted annually, versus coal-fired generation.

Hydropower also supports the rapid growth of solar and wind power, thanks to the flexibility and long duration energy storage it offers power grids that are increasingly reliant on variable power supply.

Only wind and nuclear power have lower median lifecycle greenhouse gas emissions than hydropower, according to the Intergovernmental Panel on Climate Change (IPCC).

Like other types of infrastructure, hydropower can experience negative impacts due to climate risks. Water availability and hydropower generation can be affected by changes in hydrological patterns and extreme weather events.

Our action

At the 2021 World Hydropower Congress, IHA spearheaded the launch of the San José Declaration on Sustainable Hydropower. The declaration outlines a vision for hydropower's contribution to meeting global climate and development goals and was presented to governments at the COP26 summit in Glasgow.

To calculate carbon emissions from reservoirs, IHA in collaboration with the UNESCO Chair for Global Environmental Change developed the G-res Tool. The web-based tool uses readily available data and was updated in 2021 to cover methane emissions.

Now used to secure green finance, the G-res Tool has been recognised in the EU Taxonomy on sustainable finance and by the Climate Bonds Initiative as a valid method of estimating project lifecycle emissions.

Researchers from IHA undertook a study of almost 500 reservoirs worldwide using the G-res Tool, confirming the IPCC assessment that hydropower has a low carbon footprint.

VISIT ONLINE

Our priorities

Sustainability

Overview

As the world's largest renewable energy source, hydropower is part of the solution to climate change.

As with any infrastructure project, the construction of a hydropower facility can have impacts on communities and the environment that need to be well managed.

It is incumbent on all stakeholders, especially hydropower developers and operators, to seek to maximise project benefits while avoiding, minimising, or mitigating any negative impacts.

Good practice in hydropower development is defined in the Hydropower Sustainability Standard and its associated guidelines and assessment tools. These tools are backed by a multi-stakeholder coalition of industry, civil society and governments are aligned with World Bank and IFC performance standards.

Our action

IHA supported the development of the Hydropower Sustainability Standard, a global certification system governed by the Hydropower Sustainability Council, an independent multi-stakeholder council.

The Hydropower Sustainability Standard is the first global rating and certification system for the renewables sector. IHA encourages all operators and developers to certify their projects based on independent assessments.

IHA has supported the Hydropower Sustainability Training Academy to deliver courses on the Standard and other tools and provides capacity building services to a variety of organisations.

The launch of a US$1 million Hydropower Sustainability ESG Fund, managed by IHA and funded by the Swiss government, helped projects across Rwanda, Mozambique, Colombia, Malawi, Kenya and Ghana to upgrade their ESG performance in 2021.

In addition, IHA released a suite of How-to Guides offering practical guidance on sustainability topics covered in the Hydropower Sustainability Standard. These cover Indigenous Peoples, Infrastructure Safety, Labour and Working Conditions, Environmental and Social Assessment and Management, and Biodiversity and Invasive Species.

VISIT ONLINE

Our priorities

Water management

Overview

Water management is a major challenge for society, especially in developing economies and climate stressed regions.

This means balancing energy and water supply requirements alongside environmental, social and economic priorities for all river basin users.

Hydropower infrastructure can play an important role in providing water supply and irrigation to support agriculture and local livelihoods, as well as offering drought mitigation and flood control.

Hydropower's freshwater services can be impacted by sedimentation, caused by natural erosion, deforestation, construction and agriculture.

Our action

The International Hydropower Association (IHA) promotes sustainable water and sediment management practices across the energy sector.

IHA launched the HydroSedi.net network and website in partnership with the World Bank's Energy Sector Management Assistance Program (ESMAP) and financed by the Austrian Ministry of Finance. The website provides publications, case studies and webinars to support the planning, implementation and operation of sediment management.

IHA also manages an online Sediment Management Knowledge Hub which hosts project case studies based on real-life industry experiences and practices.

VISIT ONLINE

Our priorities

Markets and finance

Overview

Despite the strong demand for clean energy, securing favourable financing for hydropower development is a challenging and complex task.

According to the International Energy Agency (IEA), hydropower investment needs to double to US$100 billion a year to help meet the objectives of the Paris Agreement and the Sustainable Development Goals.

This level of investment would support an additional 850 GW of hydropower capacity being commissioned by 2050. Much of this investment is needed in developing countries throughout Africa and Asia.

In many countries, the services that hydropower provides, for example energy storage and flexibility, are not fully recognised nor adequately remunerated, despite being vital to fast-growing renewables like wind and solar.

Our action

The International Hydropower Association (IHA) works with developers, investors, financial institutions and NGOs to unlock greater investment for sustainable hydropower.

IHA supported the development of the Climate Bonds Initiative's Hydropower Criteria, launched in early 2021. The criteria are used for screening investments in sustainable hydropower projects for issuers of green bonds.

In late 2021, the Costa Rican Electricity Institute (ICE) became the world's first hydropower operator to obtain climate bond certification using the CBI Hydropower Criteria for the Reventazón hydropower plant.

To promote investment in sustainable hydropower in Africa, IHA supported the development of An investor's guide to hydropower in Africa, to assist developers and investors navigate legal and bankability issues on the continent.

Through the International Forum on Pumped Storage Hydropower, IHA helped deliver policy recommendations including on green finance mechanisms to give investors better visibility of revenues and risks, while incentivising new developments.

VISIT ONLINE

Our priorities

Modernisation

Overview

As the hydropower sector looks to the future, many hydropower facilities will require modernisation to maximise clean energy generation and water management.

By 2030, over half the world's existing hydropower capacity is expected to have undergone, or be due for, modernisation. Upgrades will need to go beyond 'business as usual' refurbishments to bring in new and smarter technologies.

Investments will not only restore the reduced performance of ageing plants, but also optimise operations, build resilience to climate change, and provide flexibility to support variable renewables in the energy mix.

Our action

The International Hydropower Association (IHA) supports the exchange of innovation and industry experiences across the world.

IHA is collaborating with the African Development Bank to map hydropower modernisation needs and potential opportunities across the continent following similar work completed with the Inter-American Development Bank and Asian Infrastructure Investment Bank. The study supports the bank's modernisation programme launched under the Sustainable Energy Fund for Africa.

In addition, IHA is participating in a major energy innovation initiative, Hydropower Extending Power System Flexibility (XFLEX HYDRO), funded by the European Commission. IHA is continuing to promote knowledge sharing, with policy and market recommendations due to be published by 2023.

VISIT ONLINE

world hydropower congress

The 2021 World Hydropower Congress, the first ever virtual World Hydropower Congress, was a leap forward for sustainable hydropower.

Taking place over the course of three weeks from 7-24 September, the congress brought together global energy leaders, 150 speakers and 6,000 delegates.

The World Hydropower Congress saw the launch of a global declaration on sustainable hydropower and a new certification and labelling scheme.

Speakers included former government leaders Tony Blair, Helen Clark and Malcolm Turnbull and the heads of the International Energy Agency, International Renewable Energy Agency, The Nature Conservancy and WWF-International.

Other high-level speakers included: GEIDCO Secretary-General Wu Xuan, COP26 Chair Alok Sharma, US Deputy Energy Secretary David Turk, , UN Special Envoy Mark Carney, EDF CEO Jean-Bernard Lévy and Sarawak Energy CEO Sharbini Suhaili.

IHA awards for excellence

Two awards, the IHA Blue Planet Prize and the IHA Mosonyi Award, were issued at the 2021 World Hydropower Congress.

The IHA Blue Planet award recognises projects which have shown a genuine commitment to sustainability at all stages of planning and development. This year's accolade was awarded to India's Teesta-V hydropower project, operated by NHPC Limited.

The IHA Mosonyi Award for an individual who has made a significant impact on sustainable hydropower was awarded to Richard M Taylor.

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San José Declaration on Sustainable Hydropower

The San José Declaration on Sustainable Hydropower was issued on 24 September 2021 at the conclusion of the World Hydropower Congress and outlines a bold new vision for hydropower's contribution to global net zero targets.

The Declaration, presented by IHA and the Government of Costa Rica, puts forward fundamental principles of sustainable hydropower. It is a framework for enhancing hydropower's role in the clean energy transition.

It acknowledges the growth in hydropower capacity needed to help decarbonise the global energy system and the need for all future developments to be delivered sustainably.

Recommendations to decision-makers

Recognising the vital role hydropower must play to decarbonise the global energy system, the Declaration outlines key recommendations to decision-makers. These include:

- Incentivising sustainability in the hydropower sector
- Deciding who will pay for the reliability of renewable energy systems
- Decommissioning for dams that are no longer beneficial.

Going forward, the only acceptable hydropower is sustainable hydropower

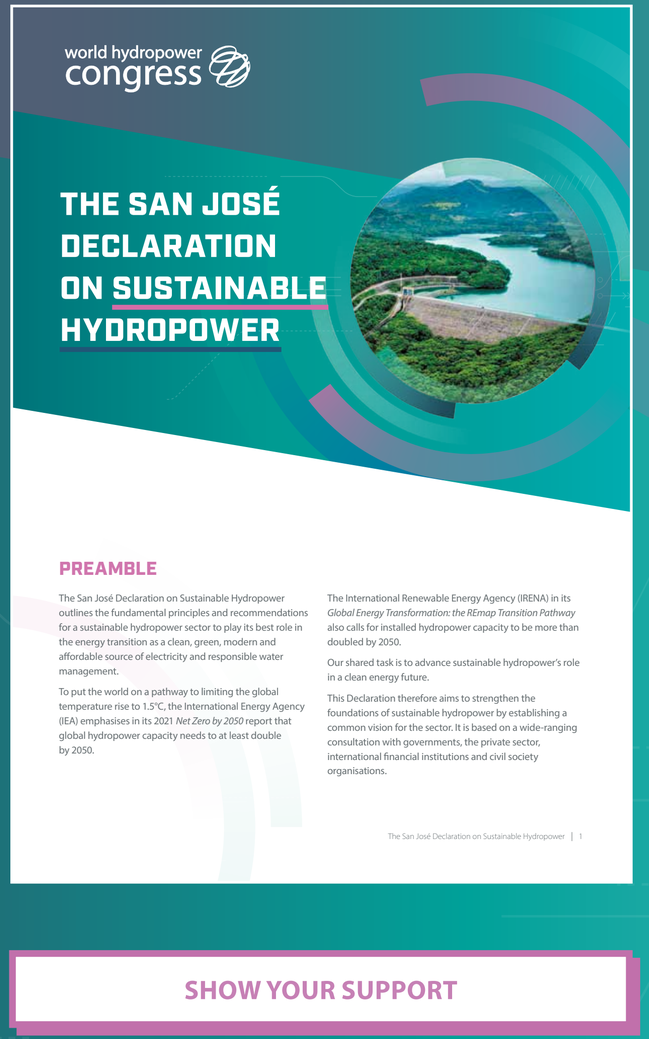
The Declaration states that today, there is no excuse for unsustainable hydropower development projects to go ahead. It provides clear guidance on what makes a hydropower project sustainable in line with the Hydropower Sustainability Standard.

A no-go agreement on World Heritage Sites

The Declaration includes an historic no-go commitment on any future development in UNESCO designated World Heritage Sites and a duty of care commitment for protected areas.

Show your support for the declaration

The San José Declaration on Sustainable Hydropower has been met with wide support from the industry.



SHOW YOUR SUPPORT

Expressions of support for the San José Declaration

“The San José Declaration seeks to promote sustainable hydropower development, and it is a call for best practices and to maximise positive impacts amongst governments, the private sector and stakeholders.”

Andrea Meza Murillo, Minister of Environment and Energy, Costa Rica

“The San José Declaration on Sustainable Hydropower is going to provide the blueprint for the new generation of hydropower, the construction and delivery of which is so critical if we are going to achieve the cut inemissions that we need.”

Malcolm Turnbull, 29th Prime Minister of Australia

“Switzerland plans to officially endorse the San Jose declaration. […] It underscores the necessity to more than double the development of hydropower if we want to meet the Paris Agreement objectives.”

Benoît Revaz, Secretary of State for Energy, Switzerland

“This Declaration is a first vital step in increasing the global deployment of hydropower, with solid principles to guide the developments of projects, and sound recommendations for governments and policy-makers developed in consultation with businesses, financial institutions and civil society.

Alok Sharma, President of COP26 Development Company

VIEW MORE

Hydropower Sustainability Standard

Earn international recognition

The Hydropower Sustainability Standard, launched at the 2021 World Hydropower Congress, outlines minimum expectations for hydropower.

The only global certification system of its kind in the renewables sector, the Standard is governed the Hydropower Sustainability Council, a multi-stakeholder body and is independently assessed.

IHA is now calling for its members to certify their hydropower projects that the only acceptable hydropower is sustainable hydropower.

Twelve performance criteria

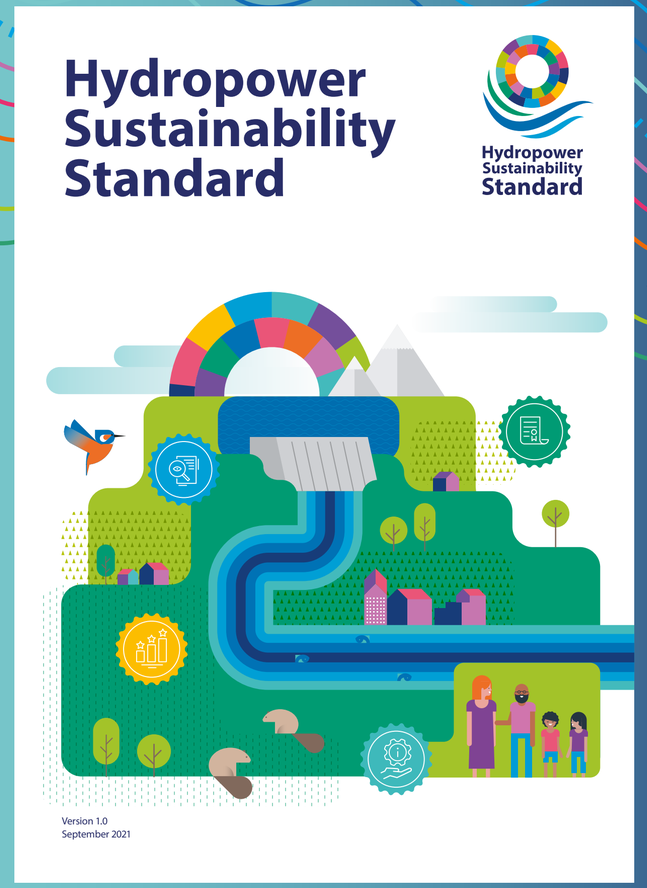
The Hydropower Sustainability Standard measures the sustainability of hydropower projects across 12 sustainability performance criteria. These include cultural heritage, labour and working conditions, biodiversity and invasive species, resettlement, Indigenous Peoples, water quality and sediments, and more.

Achieving good practice across the performance criteria is required to certify a project as sustainable under the Standard.

A direct route to green finance

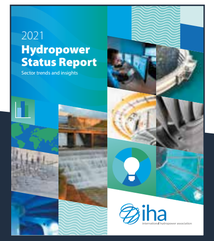
The Hydropower Sustainability Standard is aligned with green finance initiatives such as the Climate Bond Initiative's (CBI) hydropower criteria and the European Union's Taxonomy for sustainable finance.

Using the Hydropower Sustainability Standard will demonstrate a project's eligibility for financing through conducting both an ESG assessment and a carbon emissions assessment.



CERTIFY YOUR HYDROPOWER PROJECT TODAY

New publications in 2021:



2021 Hydropower Status Report

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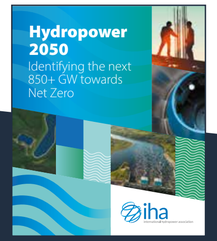

Hydropower 2050: Identifying the next 850+ GW towards Net Zero

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International Forum on Pumped Storage Hydropower - Executive Summary

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The green hydrogen revolution: hydropower's transformative role

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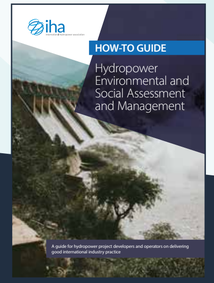

How-to Guide on Environmental and Social Assessment and Management

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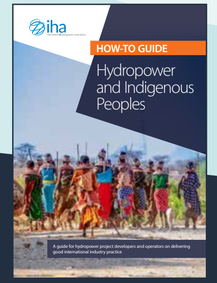

How-to Guide on Hydropower and Indigenous Peoples

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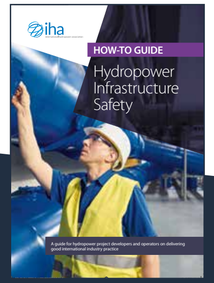

How-to Guide Hydropower Infrastructure Safety

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IHA Good Practice Guide: Hydropower and Protected Areas

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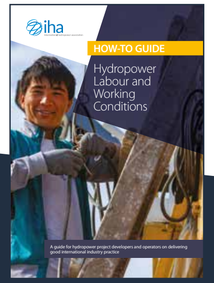

How-to Guide on Labour and Working Conditions

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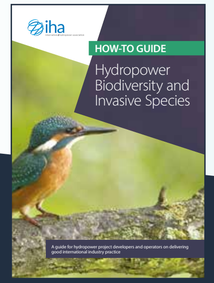

How-to Guide Biodiversity and Invasive Species

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More IHA publications are available for free online.
Download: hydropower.org/publications

Governance and finance

Board of IHA

The International Hydropower Association (IHA) is a mutual association of members established in 1995. IHA's headquarters are in London, UK, with activities carried out by two not-for-profit companies: International Hydropower Association Ltd and IHA Sustainability Ltd.

IHA's Board governs and oversees our association on behalf of our members. The Board serves a two-year term. The current Board was elected in August 2021, with members taking up their positions in October 2021. The Board is chaired by IHA President Roger Gill. Find the Board online

Financial report

IHA's income derives from a combination of membership fees, external funding for programmes and projects, and revenue from events and sponsorship.

We deliver value to members and advance our mission through sustainability programmes, research and policy advocacy, alongside outreach and events for members.

The performance of the last two financial years was significantly affected by the Covid-19 pandemic. The knock-on effect of travel restrictions was that projects were delayed, and the total net income was down 26 per cent on budget for 2020/21.

The biggest impact was on revenue from the World Hydropower Congress, which was down over 70 per cent on the budget due to moving to a virtual platform. At the same time the overall impact was mitigated by over 28 per cent savings against budget on staff, travel, and administration expenditure, and 3 per cent increased membership revenue.

The chart provides an overview of IHA's total revenue and expenditure in the 12-month period to 30 September 2021 in GBP. The results culminated in an operating surplus of £32k (including £143k net income from the World Hydropower Congress).

Net income	**Outurn (GBP)**
Membership fees	916,712
Projects	483,038
Training	75,154
Other	5,280
Total net income	**1,480,184**
Expenditure	
Staff expenses	1,093,187
Travel and subsistence	3,337
Administrative	135,630
Communication	58,864
Legal and professional	81,996
Finance	74,649
Total expenditure	**1,447,663**
Surplus	**32,521**

IHA is the operating name of International Hydropower Association Limited, a not-for-profit company limited by guarantee incorporated in England (number 8656160).

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