



THDC India Ltd.

International Conference on
**HYDROPOWER AND DAMS DEVELOPMENT FOR WATER AND
ENERGY SECURITY – UNDER CHANGING CLIMATE**



INCOLD
Indian National Committee
on Large Dams

The role of hydropower in the energy transition – post COVID recovery

Pablo Valverde
Deputy CEO
International Hydropower Association



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Mission

IHA's 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.

Members

We represent organisations committed to the responsible and sustainable development and operation of hydropower. IHA members are leading hydropower operators, developers, designers, suppliers and consultants.

hydropower.org



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Indian National Committee on Large Dams

International Association of the Year Hydropower Pro

iha Discover Who we are What we do News and events Resources Q TAKE ACTION

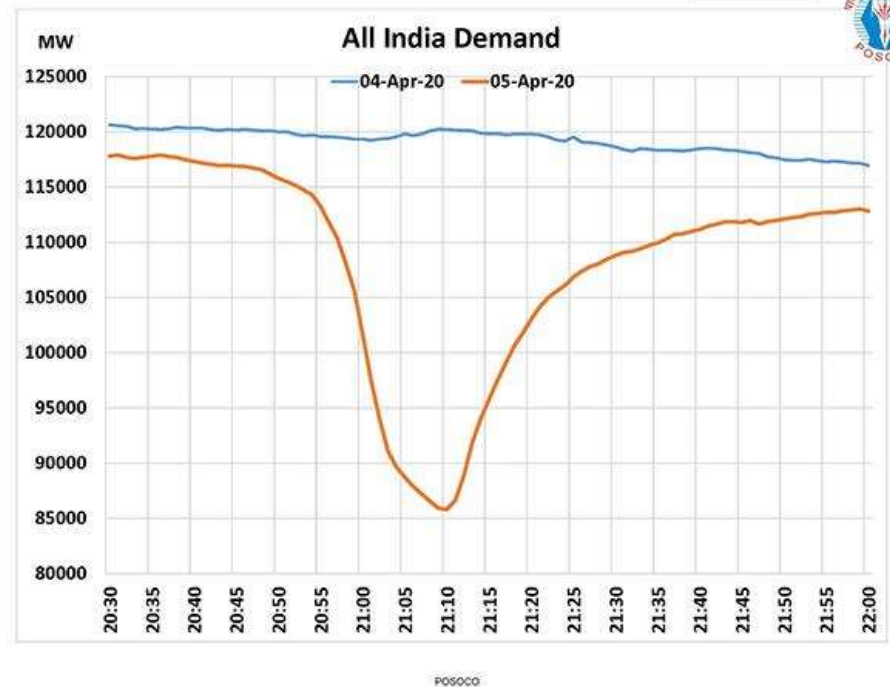
17/4/2020

Indian hydro sector hailed for restoring power amid Covid-19 vigil

17 April 2020

In perhaps the largest electricity experiment the world has ever seen, India's hydropower sector was heralded last week for restoring electricity to tens of millions of households following a huge plunge in demand.

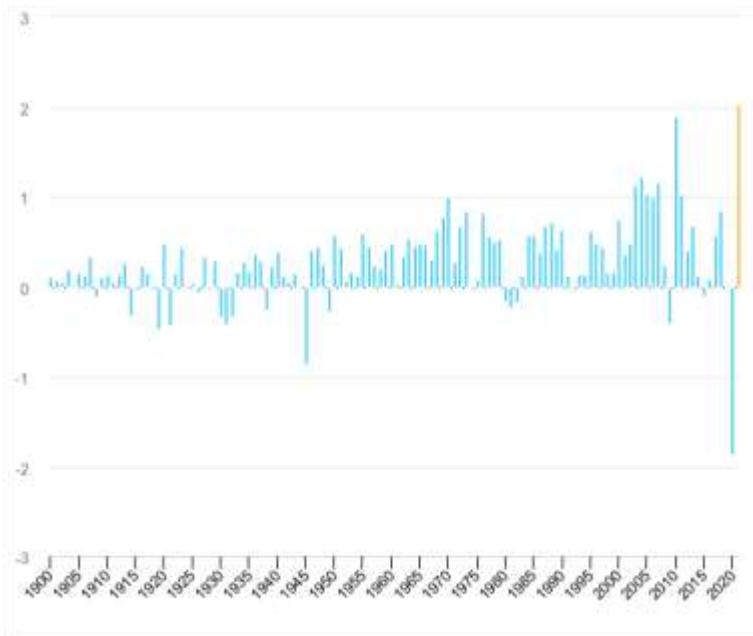
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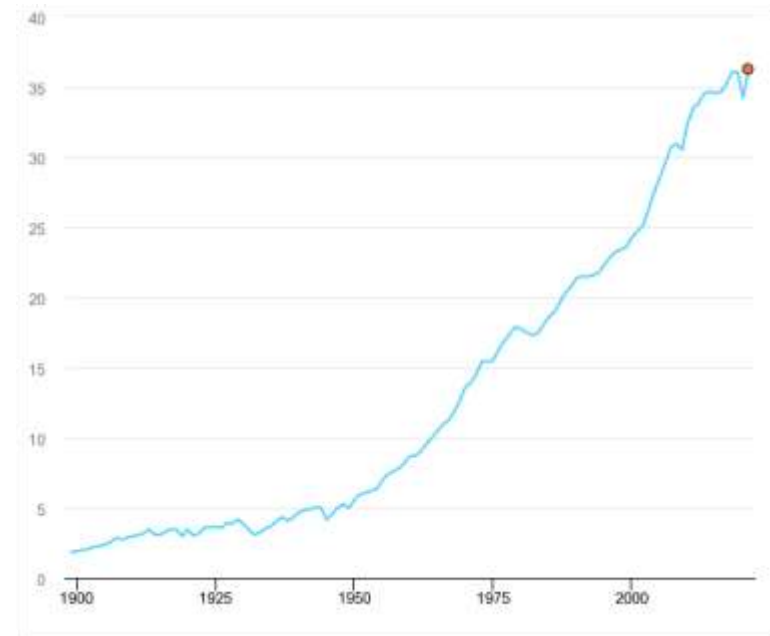


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Annual change in CO2 emissions from energy combustion and industrial processes, 1900-2021



CO2 emissions from energy combustion and industrial processes, 1900-2021





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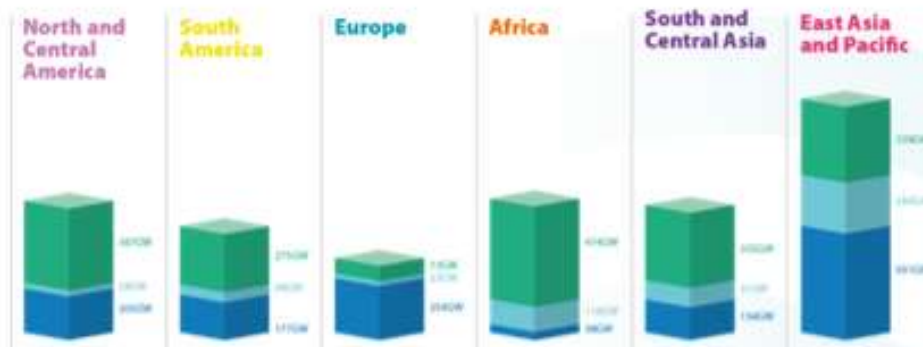
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Achieving net zero Future hydropower development



Key
■ Remaining potential GW
■ Pipeline GW
■ Installed GW

In most regions the potential far exceeds what is needed



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Region	Indicative Potential Hydropower Capacity (GW)	Installed Capacity in 2020 (GW)
Africa	630	38
Europe	350	254
East Asia and Pacific	1,100	501
North and Central America	620	205
South America	500	177
South and Central Asia	600	154



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Modernization

There is over 600 GW of aging hydro around the globe

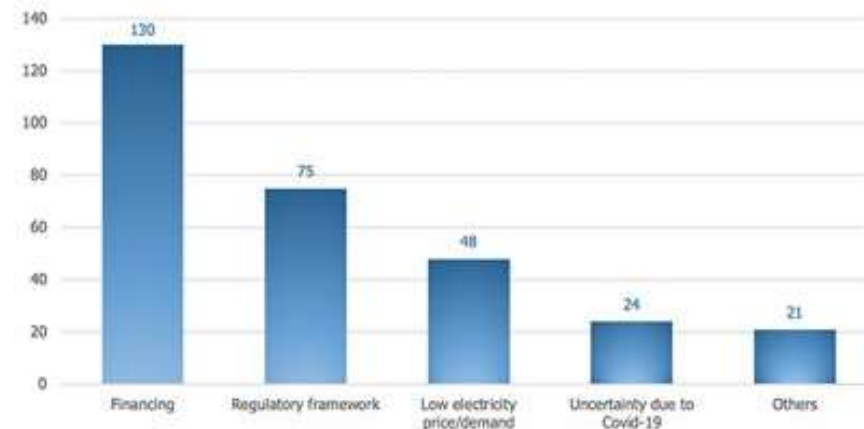
IHA study for Inter-American Development Bank (IDB)

- 19 projects with an installed capacity of over 15 GW in high need of modernization (~ USD 5 bn of estimated investment needs)
- 208 projects with more than 46 GW of capacity in medium need for modernization (~ USD 26 billion of estimated investment needs)

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Main barriers for modernisation



IDB Study on modernisation in LAC, 2020





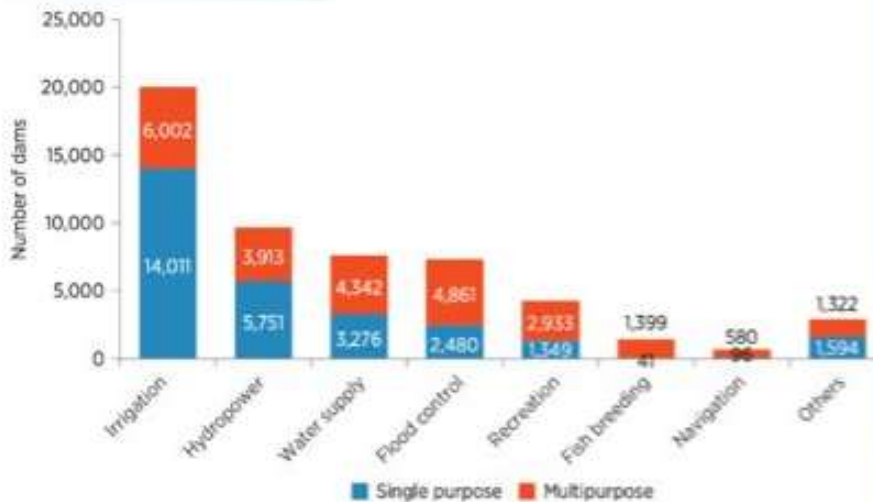
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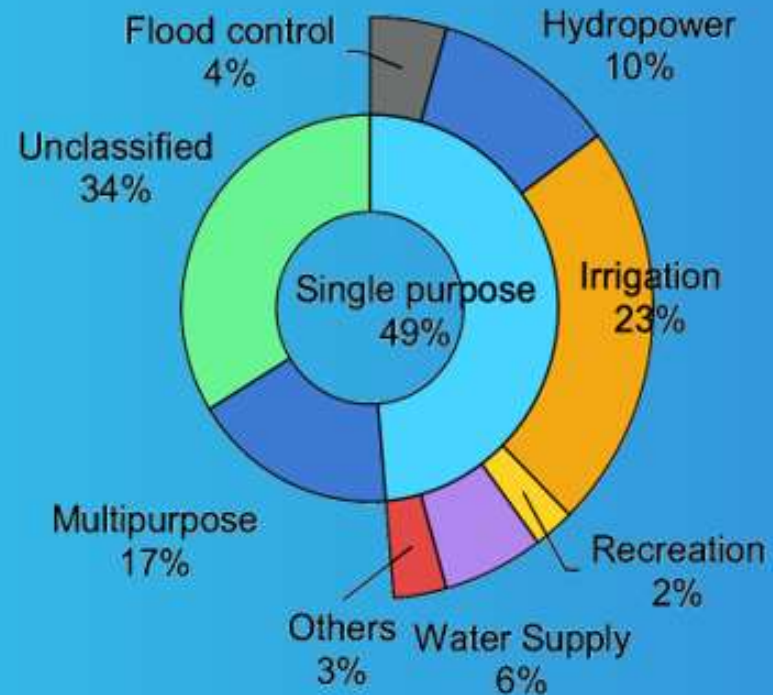
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Retrofitting – Use it or lose it



Source: World Bank / ICOLD

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San José Declaration on Sustainable Hydropower

- Going forward, the only acceptable hydropower is sustainable hydropower.
- Sustainable hydropower is a clean, green, modern and affordable solution of climate change.
- No-go commitment in World Heritage Sites.
- Duty of Care commitment in Protected Areas.

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Sustainability

Going forward, the only acceptable hydropower is sustainable hydropower.

Hydropower Sustainability Standard

- New projects to be independently certified
- Projects should mitigate impacts to environment and communities
- Calls for a world where hydro projects enable:
 - Healthy ecosystems
 - Prosperous communities
 - Resilient infrastructure
 - Good governance

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The infographic illustrates the four pillars of the Hydropower Sustainability Standard, each with a set of key requirements:

- Healthy ecosystems** (Icon: Lightbulb and leaf):
 - Projects contribute to restore ecosystems and invest in forest, river and other ecosystem conservation and restoration
 - Projects apply the mitigation hierarchy to support biodiversity conservation and preservation
 - Projects maintain local ecosystem services and values
 - Projects manage impacts to ecosystem, such as erosion and sedimentation, responsibly
- Prosperous communities** (Icon: People):
 - Projects engage in good faith with affected communities
 - Projects respect the dignity and human rights of affected communities
 - Projects improve the livelihoods and living standards of affected communities
 - Projects share their benefits with affected communities
- Resilient infrastructure** (Icon: Gear and lightning bolt):
 - Projects demonstrate their ability to respond to the effects of climate change
 - Projects take into account regional water needs and availability
 - Projects contribute to wider adaptation strategies and flexible grid operations
 - Projects protect communities and the environment from the consequences of dam failure and other infrastructure safety risks
- Good governance** (Icon: Document with checkmark):
 - Projects are governed by sound corporate business structures
 - Projects implement ethical and transparent policies and practices
 - Projects treat their workers fairly and respectfully
 - Projects contribute to wider development strategies and national planning

The infographic is set against a green background with the 'iha' logo in the top right corner.



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Hydropower Sustainability Standard

IFC | International Finance Corporation
WORLD BANK GROUP

Performance Standards

Risk Management	Labor	Resource Efficiency	Community
Land Resettlement	Biodiversity	Indigenous Peoples	Cultural Heritage

Hydropower Sustainability Standard

CERTIFIED Sustainable Hydropower

Hydropower Sustainability Assurance System





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Hydropower Sustainability

Multi-stakeholder governance

Who developed the HSAP (2007-2010)?



Hydropower Sustainability Council (today)





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#WithHydropower: introducing a new global campaign

Uniting our efforts to make the case
for hydropower in 2022 and beyond

April 2022

WE CAN WITH
HYDROPOWER



hydropower.org/WeCan
[#WithHydropower](https://twitter.com/WithHydropower)



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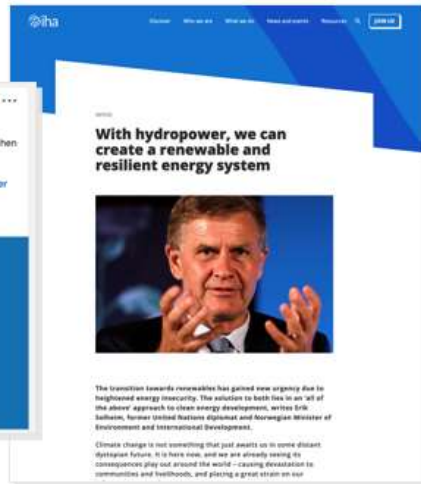


We Can, With Hydropower

A flexible, adaptable campaign

We can, with hydropower is a simple, positive and emotive message that can be tailored for global, regional and local initiatives.

hydropower.org/WeCan
[#WithHydropower](https://twitter.com/WithHydropower)





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Urgent actions

- Express support for the San José Declaration on Sustainable Hydropower and use it in your advocacy efforts.
www.declaration.hydropower.org
- Certify projects using the Hydropower Sustainability Standard.
www.hydrosustainability.org
- Join the global #WithHydropower campaign.
www.hydropower.org/wecan
- Strengthen the global voice of sustainable hydropower by becoming members of IHA. www.hydropower.org/take-action



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Thank you

hydropower.org/WeCan
#WithHydropower