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in 2015, the hydropower world meets in China.
Vision, mission and values

Our vision

The world is facing a water and energy crisis. Around the globe, 1.1 billion people do not have access to clean water, while 1.2 billion live without access to electricity.

The dominance of fossil fuels in the global energy supply drives climate change, exacerbating these problems. With the global demand for energy expected to increase by up to 61 per cent by 2050, the world must look towards a sustainable, renewable mix of energy sources.

Hydropower, the world’s largest source of renewable electricity, has an increasingly important role to play as part of a mixed energy portfolio in adapting to climate change.

Development is challenging on many fronts. While the way forward for hydropower must be economically and technically robust, its footprint must be one that respects the environment and makes people’s lives better.

Our vision is a world where water and energy services are delivered to all in a sustainable way.

How will we achieve it?

With over 260 of the world’s river basins shared by two or more countries, the environments in which we operate transcend borders, while the rise of instant communications has deepened our ability to connect both regionally and globally.

We are working with a truly international community. Developers and operators, governments and banks, academia and NGOs, national and international organisations – all of these groups have unique expertise and perspectives to contribute.

Our mission is to advance sustainable hydropower by bringing all of these voices together, and finding mutually beneficial ways forward. We recognise that the world is changing and a mixture of expertise and experience is needed to progress; we cannot achieve our vision without building and sharing knowledge.

We use our global reach to seek out and champion best practices in sustainable hydropower development, and to cultivate a vibrant, inclusive and proactive hydropower community.

The way we work

We are a non-profit organisation working with a worldwide network of members and partners to advance sustainable hydropower. Since our creation in 1995, we have grown as a force of change and progress as the role of hydropower has gathered pace worldwide.

At the heart of all of our work we place three core values: openness, integrity and excellence.

The people in our networks are central to these values. We shape our work to reflect the different sectors, regions and perspectives in our inclusive community.
WHO WE ARE

Making a positive impact

The last decade has seen the global discussion about hydropower change momentously. As attitudes towards climate change and the need for effective renewable energy systems continue to shift, our industry moves further into focus, and we are seeing more and more players come on board.

It’s important to take stock and reflect on our collective achievements, but also to assess where the challenges still lie for the sector. As such, I am delighted to welcome you to Advancing Sustainable Hydropower, a report that highlights the association’s major impacts over the last year and outlines our plans for the future.

In 2013, there was no example more illustrative of the multi-cultural, multi-stakeholder nature of the hydropower community than our World Congress in Malaysia. By bringing together such a vibrant combination of global experience and expertise – from industry, civil society, non-government organisations, academia and finance – the event exemplified the association’s key role in creating a platform for dialogue and sharing experiences.

A flagship piece of work in the last year has been the worldwide roll-out of the Hydropower Sustainability Assessment Protocol – a tool that illustrates one of our core values: openness. The protocol is a result of nearly six years of cross-sector engagement to drive sustainability standards in hydropower development, and we now take pride in furthering its application around the world.

In these pages we review how we build community through the congress and other events around the calendar; how we are developing a global platform for knowledge rooted in our hydropower database and the protocol; how we are working with influential partners worldwide to advance policies and strategies that strengthen the sector’s performance; and how we deliver value for our members.

We also map out our work programme, in which we strive to reflect our members’ biggest priorities and concerns. At our regional briefings over the last year in Indonesia, the Philippines, Korea, India, Nepal, Russia, Malaysia, Tajikistan, China and Brazil, we have taken the opportunity to closely engage with the people in our networks. This has enabled us to shape our plans around the needs of the sector today.

As we prepare for our 2015 World Hydropower Congress in China, we look towards an ambitious new global milestone for hydropower: achieving 2,050 GW by the year 2050 in a sustainable way. This target isn’t just about increasing capacity, but more importantly advancing the role of hydropower in water management, climate change solutions and meeting the world’s energy needs.

Everyone in the hydro sector has a part to play in this mission, we look forward to supporting your work in 2014 and beyond.

Richard Taylor
Chief Executive,
International Hydropower Association
executive@hydropower.org

Foreword
Could you tell us a little bit more about yourself and your past engagement with IHA?

I've been involved in the sector for over 45 years now. I've been on the IHA Board for eight years, and a vice-president for six years. My first involvement was over a decade ago, when I attended a workshop in Spain. We felt that we needed a stronger voice internationally to help us at home in dealing with some criticisms that were coming from afar – positions that lacked substantiation, and weren’t being answered.

Over a ten-year period, I’ve seen IHA grow from a relatively small, almost ad-hoc organisation into the effective, efficient and sophisticated organisation it is today.

What are the most striking changes that you have witnessed in the hydropower sector over the last few years?

In 2014, the hydropower community will celebrate a landmark achievement as we surpass 1,000 GW of global installed capacity. As governments, the finance sector and project leaders around the world place a growing emphasis on sustainable development, this progress signals the increasingly central role that hydropower plays in the advancement of renewable energy systems.

The huge change is that hydropower throughout the world is now viewed favourably, whereas certainly ten years ago it wasn’t. In the 1990s, world hydropower capacity increased by around 100 GW, but in the following decade the increase was double this figure.

The banking industry is looking at hydropower more favourably, and the United Nations and other international organisations seem to be a lot more accepting. There are many reasons for this progress, but one is that IHA has been able to effectively demonstrate the concept that, if done well, hydropower is sustainable in all the senses of the word.

Meet the president

Introducing Ken Adams

In October 2013 Manitoba Hydro’s senior vice president for power supply, Ken Adams, was elected IHA’s new president for 2013–15. Ken talks about his past involvement with the association, the big challenges for hydropower and what the future holds.

“I think the big role for us is to continue to promote the idea that if it is done in the right way, the financial risk will be substantially reduced.”

What do you think are the biggest challenges for hydropower today?

One of the biggest challenges is always going to be financing. Hydropower requires a huge capital investment over a long period of time, and it takes quite a while before you start to get your return.

The big role for us is to continue to promote the idea that if it is done in the right way, the financial risk will be substantially reduced. We have led the way in this respect through the worldwide implementation of the Hydropower Sustainability Assessment Protocol.

How can members become engaged in the work of the association?

I’d like to see more members participating in sub-groups, working groups, committees, and not just the Board, which is very active.

I think it’s critically important that the knowledge that’s embedded in members throughout the world, often at several levels down in the organisation, can be brought out.
IHA Board

IHA is governed by a Board that comprises an international group of experts, bringing together high-level experience and different international perspectives of hydropower.
A vibrant community

Bringing different perspectives together

In May 2013, the association hosted its fourth biennial congress in Kuching, Malaysia, bringing together over 500 decision-makers and specialists from 60 countries.

Our flagship event is a platform for building a community that reaches beyond the hydropower sector, connecting decision-makers, specialists and engineers with high-level representatives of academia, government, civil society and finance, as well as regional and international organisations. The congress provided a unique backdrop for progressive exchanges on hydropower development.

Over three days, participants discussed the major issues concerning the future of hydropower and good practice in sustainability. Topics included investment and markets, working with project-affected communities, integration with other renewables, the water-energy nexus, and climate change.

During the event, the association joined with international finance sector partners, including the World Bank, the International Finance Corporation, the Asian Development Bank and the Inter-American Development Bank, to host a special workshop that explored regional interconnections, river basin perspectives and attracting investments.

The workshop in Kuching followed previous regional events in Iguassu, Addis Ababa and Rio de Janeiro. We will continue to examine these issues with further workshops and related programme work.

Last year, we also organised a series of hydropower briefings in Indonesia, the Philippines, South Korea, India, Nepal, Russia, Malaysia, Tajikistan, China and Brazil. These briefings provided participants with an opportunity to feed back on developments at the national level, discuss current trends and policies and have input into IHA’s work programme.

“What I find striking about the congress is how the emphasis has moved to sustainability over the years.”

– Oli Sveinsson, Vice President Research and Development, Landsvirkjun, Iceland
A personal view on IHA’s 2013 World Congress:

Philipp Hauser, Vice President Carbon Markets,
GDF Suez Energy Latin America

“For me the congress generated a different perception insofar that we are managing to get the right people together, and consolidate our messages in a concise and constructive way. I think that as a community we are set to lead the discussion about the role of hydropower.

One lunch session that particularly caught my attention was a presentation on the environmental costs of delaying hydropower. I think this is something we don’t think about enough – that when we delay or discuss projects without implementing them, we are only giving rise to less sustainable energy alternatives.

I had some discussions with the finance community about the increased interest of the World Bank in hydropower, which gave me the opportunity to talk about the financing structure of the Jirau hydropower plant – a very interesting case study to start the discussion with other development banks that are now back in the game with such projects.

We have a new era of climate finance around the world. Another element we discussed at the congress concerned the USD 100 bn Green Climate Fund, and the fact that we have many development banks seeking to promote green growth in developing countries.

To be able to discuss such examples was important for me, and it’s important for the sector. I think that’s the next objective, to bring those development banks into an oriented discussion and back to financing hydropower, because otherwise we will run into the environmental cost of delays”.

You can read Philipp’s story in full at www.ihascongress.org
Advancing policies and strategies

A better environment for development

To promote the role of hydropower in renewable energy systems worldwide, we actively encourage policies and strategies that create a fertile environment for development. We build partnerships with governments, banks and other influential groups, and we represent the sector at a range of high-profile events around the calendar.

Our role is proactive when we seek alliances and opportunities to promote smarter energy systems. As a founding member of the International Renewable Energy Alliance (REN Alliance), we work with partners from solar, wind, bioenergy and geothermal membership associations to communicate how renewable technologies can complement each other. At the 2013 United Nations Climate Change Conference (COP19) in Poland, we hosted a side event with our REN Alliance partners that examined the potential for integrated renewable energy systems, with a particular focus on pumped storage and the associated ancillary services.

We also respond to inquiries and consultation led by international organisations active in the field of energy, water and climate change. We are acting as ‘hydropower champion’ on the Water Energy Framework, an initiative led by EDF on behalf of the World Energy Council and the World Water Council. The harmonised development of water and energy is a critical topic in which hydropower can play a multi-purpose role.

During the year we also joined the steering committee of REN21, marking an increasing collaboration with the global think tank, and contributed to the work of the International Renewable Energy Agency (IRENA) on policy for renewables worldwide.

"Strengthening the relationship between the World Bank Group and IHA is a very good way for us to learn about the latest thinking of the hydropower community, and to share experiences in developing sustainable hydropower.”

– Jean-Michel Devernay, Chief Technical Specialist for Hydropower, the World Bank
Collaborating on the uptake of renewables:
Christine Lins, Executive Secretary, REN21

"REN21, the renewable energy policy network for the 21st century, has about 50 members: national governments, international organisations, UN agencies, the European Commission, the International Energy Agency, regional development banks, the World Bank, and industry associations such as IHA, as well as NGOs, science and academia. Our mission is to facilitate the rapid uptake of renewables globally.

Around 19 per cent of the world’s energy consumption is provided by renewables – a figure that has been on the increase for many years. But we still have a long way to go.

At the moment, about 140 countries have renewable energy policy frameworks and targets in place. It will be very important to make sure that these targets are met.

Hydropower is the backbone of the renewable energy mix. When we talk about renewables we don’t specifically talk about one technology, but about a basket of different technologies. Hydropower plays a very complementary role to other renewable energy sources.

IHA has done a tremendous job on the development of the Hydropower Sustainability Assessment Protocol, which has shown how a consensus approach can be implemented. These efforts are being reflected in the World Bank financing hydropower projects again.

REN21 and IHA collaborate on many different occasions: we included a section on sustainable hydropower in REN21’s Renewables 2013 Global Status Report reflecting the constructive work that has been done by the hydropower sector, and we have engaged in outreach. I am looking forward to intensifying this collaboration in years to come."
A platform for knowledge

Harnessing global expertise

The building and sharing of knowledge is a crucial aspect of our mission to advance sustainable hydropower. We achieve this through a number of initiatives, including research, events and communications.

Over the last two years, we have designed, developed and populated a comprehensive database featuring over 8,000 records of stations above 1 MW capacity, accounting for 89 per cent of total global capacity. This collective effort is a result of collaboration with regulators, ministries and electricity associations, as well as the world’s station owners and operators.

The database underpins much of our knowledge-building work: it has been used to develop the 2013 IHA Hydropower Report, contribute to the REN21 Global Status Report, prepare our team for representative work at events around the world, and respond to media inquiries. It empowers us to speak authoritatively on global hydropower development and to ensure accuracy in our communications.

In 2013, our widely distributed Hydropower Report had an increased focus on analysis of the state of the sector, providing detailed information about global developments and trends. We have presented its findings at hydropower briefings around the world, and it is regularly quoted by media and in research literature.

“IHA increases the international exposure of our staff to best practices, which has improved the quality of our work, particularly regarding environmental and social impact mitigation.”

– Huang Guangming, Vice President, Hydro Lancang, China

Leading on sustainability

The association has played a lead role in the development and implementation of the Hydropower Sustainability Assessment Protocol – a framework for assessing projects against a comprehensive range of social, environmental, technical and economic considerations.

The protocol was shaped by representatives from governments, commercial and development banks, social and environmental NGOs, and the hydropower sector.

To support its implementation, we are building partnerships with leading hydro companies to guide improvement across different project stages and contexts.

You can get involved or find out more at www.hydrosustainability.com
My expectations were that the training could help us to better understand the Hydropower Sustainability Assessment Protocol and how it can be used.

From the training workshop and the lively team exercises, we gained a much clearer perspective of the processes involved with determining objectives and selecting an assessment team. The role play and interaction was very useful. It enabled us to explore the meaning of each of the protocol criteria, and understand what is meant by each score. We have obtained a deeper comprehension of the assessment methodology, which leaves us with an ample knowledge base for applying project assessments.

In China we have our own strict standard for social and environmental protection, but I think that the most important aspect of the protocol is to have a global common language. We look forward to working in partnership with IHA in using the protocol, and we are ready to apply it in the assessment of one of our projects.

Most importantly, through the protocol we can improve our capabilities across all aspects of sustainability.”

An interactive training course:

Cheng Xueyuan, deputy division chief, international department, China Three Gorges Corporation

“In September I participated in the sustainability training workshop hosted by IHA in Beijing. There were six people in total from our company who took part.
OUR IMPACTS

Value for members

By joining IHA you become part of the world’s most extensive network of hydropower players. Our members enjoy better access to information, new connections and strong representation on issues that affect you.

Shape your future
IHA provides a strong and credible voice for hydropower. We represent the sector at national, regional and international forums, and act on behalf of our members in response to developments that affect them. Members shape our strategy and activities through our working groups, regional hydropower briefings and membership-led governance structure.

Stay informed
Our members receive up-to-date information about policy developments. Our communications include the annual Hydropower Report, a weekly email newsletter and our website, which features regular insightful content from around the sector, including interviews and opinions from key influencers.

Raise your profile
Being a member of IHA extends your visibility to an international audience of developers, operators, governments, financiers, civil society groups and academia. By joining you can demonstrate your ambition and increase your exposure to a wider community.

Get connected
Being a member of IHA gives you access to our extensive global networks and opportunities for strategic relations with key organisations. Our World Hydropower Congress and various regional events provide an ideal platform to build new partnerships.

Save money
Our members are entitled to a range of discounts on our events and resources, including registration at our World Hydropower Congress, places on our training programmes and access to key publications.
For us, the key thing is being able to interact with other global players in areas where successes are happening. Obviously the various regions globally are moving at differing levels in hydropower development.

I am personally impressed with the successes in China and in Brazil, for example, and it’s good to learn how they are achieving that. The key successes of these two countries are that they have been able to harness their financial resources to be able to move forward. Zambia and Africa in general would benefit from small to medium hydropower schemes in providing better connectivity to the population.

One of my most positive experiences has been seeing how hydropower has changed the fortunes of some of the places we have been to. My first IHA event was in Turkey. What I took away from that was the success the country has managed – 50 years ago no more than 5 per cent of the population had access to electricity, and with hydropower it has been able to achieve 100 per cent connectivity.

In Iceland, we saw how hydropower has been able to combine with other renewable sources like geothermal to provide a strong, advantageous platform for the country’s success. When we visited the Iguassu area in Brazil and Paraguay we saw how similar projects are changing people’s fortunes. And recently, in Sarawak, we saw how hydropower is at the centre of driving the country’s economy.

It’s very useful to highlight successes that are happening elsewhere, and to understand what has underpinned those successes.
How we deploy our resources

Membership fees complement project-specific and event-related funding to help us advance our mission. We deliver value through our sustainability and hydropower development work programmes, and through member-focused activities. We also work to increase our reach outside of our membership and communicate to key stakeholders throughout the world.

The graphics on this page give a simple overview of our income and how we utilise it. The period covers the 12 months up to September 2013.

Our work is split into two work areas: hydropower development and sustainability. These work areas serve to build knowledge on the sector and disseminate best practices among a wide range of stakeholders. In 2013, 76% of our resources were used to support these areas. We also use our resources to improve services to members and reach out to companies and organisations outside of our membership.

Hydropower development, accounting for £380,000, covers a range of project work on topics such as climate change, regional development, risk and finance, renewable systems, the water–energy nexus, sedimentation and safety.

Sustainability, accounting for £769,000, broadly covers our work in advancing the Hydropower Sustainability Assessment Protocol, in particular the development of partnerships, training and other capacity-building.

Communications and outreach, accounting for £286,000, covers the development and deployment of our website, emails, social media channels and print publications, as well as the co-ordination of the World Hydropower Congress.

Membership and operations, which accounted for £446,000 of our resourcing, covers our connection with the hydropower community, international meetings, and the deployment of our internal operations.
Sustainability

Our vision is that by 2018, the Hydropower Sustainability Assessment Protocol is accepted and used by all stakeholders in the hydropower sector as the primary tool for measuring and guiding sustainable hydropower.

www.hydrosustainability.org

Assessing sustainability performance

Since its launch in 2011, the Hydropower Sustainability Assessment Protocol has seen increasing uptake worldwide, drawing broad praise for its role in guiding and benchmarking sustainability performance.

Available in six languages, the protocol is a tool used to improve sustainability performance in the sector. It provides a framework for assessing the sustainability of projects against a comprehensive range of social, environmental, technical and economic considerations.

The protocol was shaped by a diverse group of stakeholders, including representatives from governments, commercial and development banks, social and environmental NGOs, and the hydropower sector. It is managed by the association and governed by the protocol governance committee (PGC), which is made up of seven chambers, each representing a different stakeholder group.

In 2013, seven official protocol assessments were published, following one in 2012, demonstrating increasing recognition of the tool’s relevance and value. This followed a period of trialling that included numerous assessments. While this progress is significant, our plans now are focused on achieving wide implementation of the protocol across the globe.

THE FUTURE

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A key aspect of the roll-out of the protocol is ensuring that it is applied consistently. As the management entity, we are responsible for providing training, assessor accreditation, translations, and the development of tools such as a standard report format and assessment database.

Our specialists have developed flexible training programmes and are delivering workshops around the world tailored to a variety of audiences, including sustainability partners, government, civil society and the financial sector. In the coming year we will continue to build knowledge and capacity through training.

The cornerstone of our drive for quality is the accreditation of assessors qualified to use the protocol. We deliver a substantial training programme, authorised by the protocol governance committee, to prepare assessors for accreditation. There is increasing capacity to deliver protocol assessments, with six assessors accredited and a number more scheduled to complete training in 2014.

To support the implementation of the protocol, we have built ‘sustainability partnerships’ with to date – 15 leading hydropower companies around the world. We work with these partners to build capacity and understanding about how the protocol can be applied in a variety of regional contexts.

The model has proved highly effective, and we plan to build on this strategy by increasing the geographical base of projects included. We will target projects and regions where the protocol will make the greatest difference.

We also recognise that implementation of a sustainability framework cannot happen through industry alone. To this end, we are increasingly working with partners – including governments, regulators, the financial sector and civil society – to build support for the protocol, and to provide industry with appropriate incentives.
Hydropower development

The hydropower development programme supports our work in markets and investments, and in energy, water, and climate policy as well as promoting industry good practice. Our strategy for 2013–15 focuses on the building and sharing of knowledge, and is channelled into eight topics.

Statistics and knowledge management

The association has developed a powerful database of the world’s hydropower stations. We currently hold data for over 8,000 individual hydropower stations of above 1 MW capacity, representing 89 per cent of global capacity.

We will continue to increase the number of stations covered, and extend the depth of information for each station and the policy environments in which they operate.

We will also diversify the ways we disseminate the data. In addition to providing accurate information for our Hydropower Report, REN21’s Global Status Report, media inquiries and policy development, the database will become a crucial source for interactive maps and data-driven articles featured on our new website.

Risk and finance

Managing risk and identifying solutions for project finance is a key concern of our members. In 2013, we built a basis for work in this area through a survey on the perceptions of risks from project delay and implementation issues. We will expand this by providing a clear analysis of the issues for developers and other stakeholders.

We will also participate in the EU-wide Macroeconomic Benefits of Hydropower study, and plan to use a similar approach in other regions to demonstrate the financial contribution of the industry to its ‘host’ countries.

We are also planning to publish an analysis of risk factors, a guide to good practice in project risk mitigation, and reports on hydropower financing.

Climate change

Hydropower decision-makers are judged on their ability to future-proof projects. A commitment to build and share understanding of hydropower’s relationship with climate change is central both to our strategy and to the future of the industry.

Through our flagship Greenhouse Gas Emissions from Freshwater Reservoirs Research Project – developed in collaboration with UNESCO – we are developing a tool that provides a more accurate assessment of any likely emissions. We will also produce a guide to the science, which we hope will better inform policy-makers and wider opinion, and provide more balance to the debate.

This guide will be followed by three others examining the relationship between hydropower and various aspects of climate change.

Water-energy nexus

The ‘water-energy nexus’ refers to the relationship between the impact on water in the supply of energy, and the amount of energy needed to collect, clean, move, store and dispose of water.

The association represents the hydropower sector in two key initiatives relevant to this topic. We participate in the steering committee and contribute to activities of the World Water Council and World Energy Council W4EF: Framework for Evaluation and Reporting of the Energy Impacts on Water; and also the ‘Multipurpose Water Uses of Hydropower Reservoirs’ initiative, led by the World Water Council and EDF.

We will also stay close to developments by monitoring progress on water policies relevant to hydropower, water footprint methodologies, life-cycle analyses and other initiatives, and act on behalf of the sector.
Regional development

In 2014 and 2015 we will progress our global series of workshops in association with the International Finance Corporation, the World Bank and major regional development banks, building upon the success of previous workshops around the world.

We will continue to develop, refine and promote good practice in the siting of hydropower in remote areas, and the practical and governance issues related to trans-national watersheds and distribution systems.

Sedimentation

This is a new but highly important initiative, as sedimentation can have a direct effect on the operating life and the electricity generation of projects, as well as affecting the distribution of sediments and nutrients downstream. We will convene working groups to identify and share good practice in a variety of geographies and conditions.

Safety

In the 2013–15 period we are introducing a new initiative on safety in the running of hydropower stations, in response to member concerns. This work will complement existing guidance on safety.

In the initial phase we are scoping the hydropower-specific issues to be addressed, which we will take forward to produce a guidance document on good practice in safety.

THE FUTURE

Renewable systems

Hydropower has a central role to play in the grid of the future that will often be more based upon variable output renewable energy generation – especially wind and solar. Hydropower can act to balance supply and demand, store energy, and deliver a range of other ‘ancillary’ benefits.

As a member of the International Renewable Energy Alliance (REN Alliance), we are promoting and developing an understanding of how the technologies can integrate. We will also participate in the eStorage initiative to advance the necessary technology.

We are a member of the steering committee of the Renewable Energy Policy Network for the 21st Century (REN21), a multi-stakeholder organisation that facilitates the global uptake of renewables. We will represent the sector at the 2015 International Renewable Energy Conference in South Africa.

To find out more about how you can get involved in our hydropower development work programme, contact: hd@hydropower.org.
A strong brand

In this publication we outline a bold vision for the association, supported by an extensive work programme. In mid-2014 we will launch a new brand, after an extensive programme of research, consultation and creative development. The end result will be a powerful visual identity and messaging platform that will extend our reach, and underpin all of our work.

A new digital platform

After consulting with our members to better understand the needs of the community, we are building a new website that will be launched during 2014. Our aim is to position the website as the principal hub for hydropower information. The new platform will have a greater focus on members’ contributions, and provide a regular flow of content on issues, news, trends, statistics and good practice.

Targeted communications

Alongside the new website, in 2014 we will implement a powerful contact management system that will enable us to serve our diverse community through targeted communications based on each individual member’s choices and preferences.

A reliable source of information

In 2014 we will publish our annual Hydropower Report, providing insight on the state of the sector. The flagship report will feature regional outlooks, analysis of key issues and trends, and selected country profiles.

We will complement the report with topical online content oriented towards the needs of our audiences. Our new website will provide the ideal platform, featuring high-quality hydropower information and in-depth knowledge-building.

Champions of good practice

A key element of our communications strategy is to strengthen the association’s role in disseminating good practices in the sector. To achieve this, we not only need to acknowledge best practices and share knowledge, but also to address controversial situations in a constructive and inclusive way.

In 2014, we will work with members through our committees and networks to explore better project and sectoral communications.

World Hydropower Congress

In May 2015 we will host the World Hydropower Congress in Beijing, China. This will be the world’s most important gathering of hydropower decision-makers. The three-day congress will bring together 1,000 leaders from the hydropower sector and the wider world of politics, finance, environment and technology. The objective will be to establish practical, viable ways to achieve 2,050 GW of installed capacity by 2050, both through the best use of the existing stock and the sustainable development of new sites.

If you would like to join our network of hydropower communications specialists, contact: communications@hydropower.org
Our work programme is implemented through a team of staff in our central office in London, and our national and regional offices in China and Brazil. We work in close collaboration with our members through the IHA Board, committees, working groups and networks.
MEMBERSHIP DIRECTORY
Platinum corporate member

China Institute of Water Resources and Hydropower Research
IWHR is the most comprehensive research centre for water resources and hydropower in China, engaging in a range of activities including development, water resources management, flood control, sedimentation problems, dam construction, new hydro technology and environmental issues.

The institute comprises 11 research departments, with staff accredited by the State Council to offer programs of graduate studies for Doctor's and Master's degrees. The institute has 32 laboratories with a total area of 60,000 m², and 120 sophisticated test facilities and instruments.

Website: www.iwhr.com  Email: dic@iwhr.com

China Power Investment Corporation (CPI)
China Power Investment Corporation (CPI) is one of the five largest power producers in China and a comprehensive energy group. Leveraging on its power strengths, CPI has diversified into coal, aluminum and logistics businesses.

By the end of 2013, CPI had a total installed capacity of 89,678 MW comprising hydro, thermal, nuclear, wind and solar power, coal production capacity of 74 million tons, aluminium production capacity of 2.89 million tons, alumina 2.6 million tons and bauxite 1 million tons.

Website: eng.cpicorp.com.cn  Email: eng.cpicorp.com.cn

China Three Gorges Corporation – CTG
China Three Gorges Corporation (CTG) is a large state-owned enterprise with the mission of building the Three Gorges Project and harnessing the Yangtze.

CTG positions itself as a top-ranking international clean energy corporation. Its core business is the development and operation of large hydropower projects on the Yangtze, while proactively exploring wind power and other new energies, and steadily extending to overseas hydropower projects.

Website: www.ctg.com.cn  Email: webmaster@ctgc.com.cn

Électricité de France (EDF)
The EDF Group is an integrated energy utility active in all areas of the electricity market, supplying electricity, gas and related services to more than 39.3 million customer worldwide. The group is the leading supplier of hydropower in the European Union, with a fleet emitting the least amount of CO2 per kilowatt-hour generated.

EDF’s hydraulic fleet in mainland France comprises 435 power plants with total installed capacity of 20,010 MW, and an additional 400 MW in French overseas departments and Corsica.

Website: www.edf.fr

Hydro Equipment Association – HEA
The Hydro Equipment Association (HEA) is an international not-for-profit organisation based in Brussels that represents electro-mechanical equipment suppliers for hydropower globally. Its current members are Alstom, Andritz Hydro, Voith and RiPSA.

HEA’s vision is to position hydropower as the first, largest and most efficient renewable energy source that also fulfils other needs, including CO2 savings, energy storage, flood control, irrigation and water supply. In co-operation with leading global partners, HEA supports the development of sustainability guidelines, such as the Hydropower Sustainability Assessment Protocol.

Website: www.thehea.org  Email: info@thehea.org

Itaipu Binacional
Itaipu Binacional is the entity mandated by Brazil and Paraguay to exploit shared hydro potential in the Parana River. The mandate was made concrete by the construction and operation of the 14,000 MW Itaipu powerplant.

The company has a long-term commitment to sustainability, made explicit in its mission. As one of its initiatives, Itaipu is currently pioneering the development of the award-winning ‘Cultivating Good Water’ river basin stewardship programme. It holds the world record for a year’s production at one plant – 96,630,035 MWh in 2013.

Website: www.itaipu.gov.br

JSC RusHydro
RusHydro is one of Russia’s largest power-generating companies in terms of installed capacity. It is also the leader in power production using renewable energy sources, developing power generation using water flows, tidal, wind and geothermal energy.

Including the Sayano-Shushenskaya hydropower plant, the largest in Russia, the company has over 70 renewable energy source facilities. The company’s total electricity generation capacity is 36.5 GW.

Website: www.rushydro.ru  Email: contact@rushydro.ru

Sarawak Energy Berhad
Sarawak Energy, the flagship energy and utility in the state of Sarawak, Malaysia, is supporting the transformation of Sarawak in realising its vision to become a developed State by the year 2020. Through the Sarawak Corridor of Renewable Energy (SCORE), Sarawak Energy plays a critical role as the project proponent developing clean and renewable energy for new industries, at a competitive price.

Sarawak Energy is the catalyst in driving the success of SCORE in order to create a stronger economy for Sarawak, Malaysia.

Website: www.sarawakenergy.com  Email: corpcomm@sarawakenergy.com.my
Brookfield Renewable Energy Group
Brookfield Renewable Energy Group owns and operates over 200 hydropower facilities, 11 wind farms, and 53,000 km of electrical transmission and distribution in North America and Latin America. Brookfield’s renewable generation portfolio totals approximately 6,000 MW of installed capacity, with hydropower facilities on 70 river systems in Canada, the USA and Brazil. Brookfield generates enough electricity from renewable resources to power more than three million homes on average each year.
Website: www.brookfieldpower.com Email: enquiries@brookfieldrenewable.com

Companhia Hidro Elétrica do São Francisco – Chesf
Companhia Hidro Elétrica do São Francisco (Chesf) is a subsidiary of Centrais Elétricas Brasileiras S/A (Eletrobrás). The company owns and operates 14 hydropower plants, one thermal plant, 110 substations and more than 18,000 km of transmission lines. It has a total capacity of 10,615 MW. Chesf is the largest hydropower company in Brazil and believes that hydropower continues to make a major contribution to the country’s sustainable development.
Website: www.chesf.gov.br

Construtora Andrade Gutierrez
Andrade Gutierrez Group is one of the largest private groups in Latin America, with operations in engineering, construction, telecommunications, power and public concessions. In Brazil, it is responsible for executing works that assure around 30 per cent of the country’s installed power capacity, as well as a sizable portion of its transportation infrastructure. It operates in most Brazilian states, 15 Latin American countries and, through Zepipe – Construcoes e Engenharia S.A (Portugal), in the Asian and African markets.
Website: www.agnet.com.br

Construtora Norberto Odebrecht S/A
Construtora Norberto Odebrecht S.A. is present in 19 countries and has constructed hydroelectric power plants with an installed capacity of 12,300 MW. The company has been building dams and hydroelectric plants for over 60 years, and is the largest company in its sector in Latin America. Over the past ten years Odebrecht has been one of the world’s three top builders of hydropower projects.
Website: www.odebrecht.com Email: gazevedo@odebrecht.com

E.ON Kraftwerke GmbH
E.ON’s hydropower fleet operates 209 plants in four countries, with an overall installed capacity of more than 5.4 GW and an annual production of approximately 15.5 TWh. With more than 100 years of experience and a total number of more than 500 units of all types E.ON is among the most capable hydropower operators in the business. As IHA sustainability partner, E.ON successfully applied the Hydropower Sustainability Assessment Protocol in 2013.
Website: www.eon.com Email: info@eon.com

Statkraft AS
Statkraft is Europe’s largest generator of renewable energy with a total installed capacity of 17,000 MW. The company owns, produces and develops hydropower, wind power, gas power and district heating. Statkraft is a major player in European power trading, and has 3,800 employees in more than 20 countries. Production and development takes place in Europe, Asia and South America. Hydropower constitutes about 90% of an annual power production of 60 TWh.
Website: www.statkraft.com

Sinohydro Corporation
A 60-year enterprise in power and infrastructure sectors, Sinohydro provides one-stop customer-tailored services from project consultancy, financing, survey, design and engineering to construction, fabrication, installation and operation. In 2012, the company ranked 20th on the Engineering News-Record list of the top 250 international contractors.
Website: www.sinohydro.com Email: intl@sinohydro.com

Eletrobrás
Eletrobrás is a Brazilian state-owned holding company that owns and operates the country’s electricity distribution system, with a 51% share of the Brazilian power transmission market. The company operates in all Brazilian states and is the largest investor in transmission and distribution projects in the country.
Website: www.eletrobras.com.br Email: info@eletrobras.com
**MEMBERSHIP DIRECTORY**

**Gold corporate member**

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**EDP – Gestão da Produção de Energia, SA**

Energias de Portugal SA (EDP) is a Portugal-based company engaged in the electric energy and gas sectors. The company develops its activities in the business areas of generation, supply and distribution of electricity, and supply and distribution of gas. EDP is currently developing the largest hydropower project in Europe at 3,000 MW, with 693 MW already completed, and is third worldwide in non-hydro renewable energy, with 8,160 MW of wind farms under operation. It operates in 13 countries and over 12,000 employees worldwide.

Website: [www.edp.pt](http://www.edp.pt)

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**Eletrobras**

Centrais Elétricas Brasileiras S.A. (Eletrobrás) is the holding company of, among others: Chief, Furnas, Eletronorte, Eletronuclear, Eletrosul, COTEEC, and, through shared responsibilities, Itaipu Binacional and Light Participações. Eletrobrás Group represents a total installed capacity of 38,566 MW, which includes 29 hydroelectric-fuelled and 15 fossil-fuelled stations, as well as two nuclear powerplants.

Website: [www.eletrobras.com](http://www.eletrobras.com)

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**Eletrosul**

Eletrosul Centrais Elétricas S.A. operates in the business area of generation, supply and distribution of electricity, and supply and distribution of gas, hydro, solar and wind. Eletrosul’s transmission system serves 30 million people and comprises 59 substations, 11,300 km of transmission lines and 22,600 MW of installed capacity. It is also currently involved in the construction of a number of new hydropower projects.

Website: [www.eletrosul.gov.br](http://www.eletrosul.gov.br)  
Email: webmaster@eletrosul.gov.br

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**Entidad Binacional Yacyreta**

Entidad Binacional Yacyreta is a bi-national project between the Argentine Republic and the Republic of Paraguay. Entidad Binacional Yacyreta operates the Yacyretá Dam and hydroelectric power plant on the Paraná River to the south-east of Paraguay and north-east of Argentina. The power station has a total installed power capacity of 3,200 MW.

Website: [www.eby.gov.py](http://www.eby.gov.py)

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**Eskom Holdings SOC Ltd**

Eskom is a state-owned electricity utility with an installed capacity of 41,930 MW, approximately 95 per cent of South Africa's and more than 40 per cent of Africa's electricity generated, predominantly from coal with a smaller portion from nuclear, gas, hydro, solar and wind. The company has 2,062 MW generation capacity in hydropower and was one of the earliest recipients of the IHA Blue Planet Award in 2003 for the Palmiet pumped-storage scheme, highlighting Eskom’s commitment to sustainability and being environmentally aware.

Website: [www.eskom.co.za](http://www.eskom.co.za)  
Email: csonline@eskom.co.za

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**Furnas**

Furnas runs a range of enterprises which generate 10 per cent of Brazil’s electricity. These enterprises include 16 hydroelectric power stations, 2 thermal power stations, approximately 21,000 km of transmission lines and 62 substations. In total, 40 per cent of all of the energy consumed in Brazil passes through the Eletrobras Furnas System. The company is responsible for supplying energy to an area accounting for 63 per cent of Brazilian homes and 81 per cent of Brazilian GDP.

Website: [www.furnas.com.br](http://www.furnas.com.br)

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**Huaneng Lancang River Hydropower Co., Ltd**

HydroLancang is a subsidiary of the China Huaneng Group, one of the top five power-generating companies in China. The company manages large hydropower projects mainly along the Lancang River (e.g. Nuozhadu HPP, 5,850 MW and Xiaowan HPP, 4,200 MW) and takes an active role in developing other domestic and overseas hydropower resources. This includes small and medium hydropower stations, wind power projects and a photovoltaic on-grid solar power station, the largest of its kind in Asia. HydroLancang is dedicated to quality and clean energy for all customers.

Website: [www.lcjdz.cn](http://www.lcjdz.cn)

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**Hydro Tasmania**

Hydro Tasmania is the largest water manager in Australia, and is the country's leading renewable energy business, generating hydropower in Tasmania and trading electricity and energy-related environmental products in the Australian market. The company’s consulting business, Entura, delivers clever solutions in water and energy to clients locally, nationally and internationally.

Website: [www.hydro.com.au](http://www.hydro.com.au)  
Email: contactus@hydro.com.au

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**Hydro-Québec**

Hydro-Québec generates, transmits and distributes electricity. Its sole shareholder is the Québec government. The company uses mainly renewable generating options, in particular hydropower, and supports the development of other technologies – such as wind energy and biomass – through purchases from independent power producers. It also conducts research in energy-related fields, such as energy efficiency.

Website: [www.hydroquebec.com](http://www.hydroquebec.com)

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**International Water Power & Dam Construction**

Launched in 1949, International Water Power & Dam Construction has established itself as the leading monthly international publication serving the needs of those involved in dam construction and the hydroelectricity industry. Independently published, it offers a highly respected, unrivalled, in-depth, quality editorial to its readers. With a monthly magazine, annual yearbook, weekly email newsletter and an extensive website at www.waterpowermagazine.com, International Water Power & Dam Construction is an absolute must for anyone involved in the hydropower and dams industry.

Website: [www.waterpowermagazine.com](http://www.waterpowermagazine.com)  
Email: carrieannstocks@globaltrademedia.com

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**Website: www.hydro.com.au Email: contactus@hydro.com.au**

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**Website: [www.hydroquebec.com](http://www.hydroquebec.com)**

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**Website: [www.eby.gov.py](http://www.eby.gov.py)**

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**Website: [www.edp.pt](http://www.edp.pt)**

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**Website: [www.eskom.co.za](http://www.eskom.co.za) Email: csonline@eskom.co.za**

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**Website: [www.eletrosul.gov.br](http://www.eletrosul.gov.br) Email: webmaster@eletrosul.gov.br**

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**Website: [www.eletrobras.com](http://www.eletrobras.com)**

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**Website: [www.furnas.com.br](http://www.furnas.com.br)**

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**Website: [www.lcjdz.cn](http://www.lcjdz.cn)**

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**Website: [www.hydro.com.au](http://www.hydro.com.au) Email: contactus@hydro.com.au**

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**Website: [www.hydroquebec.com](http://www.hydroquebec.com)**

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**Website: [www.waterpowermagazine.com](http://www.waterpowermagazine.com) Email: carrieannstocks@globaltrademedia.com**
Isagen S.A.
Isagen S.A. ESP is a public services company based in Colombia with an installed capacity of 2,212 MW, and owns five hydroelectric power plants (1,912 MW in total).
The company adopted the UN Global Compact initiative in 2005 and is currently constructing one hydropower plant at Sogamoso (820 MW). The Amoyá Project, which entered commercial operation in 2013, will sell 167,025 tonnes of CO₂ per year.
Website: www.isagen.com.co  Email: webmaster@isagen.com.co

K-Water
A government-owned corporation, K-water has more than 40 years' experience managing water resources and developing water resources infrastructure, including hydropower and water supply systems, since its establishment in 1967. Over the past 10 years, K-water completed more than 50 overseas projects providing consultancy services (master planning, feasibility studies, design & construction supervision, O&M, etc.) in over 20 countries, and it is developing overseas projects as an investor and/or O&M contractor particularly focusing on hydropower.
Website: www.kwater.or.kr

Landsvirkjun
Landsvirkjun is the state-owned power company of Iceland. The company generates electricity exclusively via renewable energy sources such as hydropower, geothermal and wind power.
The company is Iceland's largest electricity generator, with over 75 per cent of the country's electricity production.
Website: www.landsvirkjun.com  Email: landsvirkjun@landsvirkjun.com

Manitoba Hydro
Manitoba Hydro is one of Canada's major energy utilities. Its headquarters are in Winnipeg, Manitoba.
Today it provides electricity at rates that are among the lowest in Canada, operating 15 hydroelectric facilities on the Saskatchewan, Winnipeg, Laurie and Nelson rivers and two thermal and four diesel generating stations and purchases electricity from two large wind-farms.
Website: www.hydro.mb.ca

Neoenergia S.A.
The Neoenergia group is among the 40 largest private groups in Brazil and acts through the entire supply chain in the trade of electric energy: generation, transmission, commercialisation and distribution. The group is the first private holding in Brazil awarded Standard & Poor's BBB- rating in the global scale, and AAA in the national scale.
Neoenergia has an installed capacity of 1,536 MW, which may reach 4,010 MW by 2019 with new hydropower projects at Teles Pires, Belo Monte and Baixo Iguaçu.
Website: www.neoenergia.com

PennWell Corporation
PennWell Corporation is the world's leading provider of hydropower and dam-related information. PennWell publishes HRW- Hydro Review Worldwide and Hydro Review magazines. These publications cover all aspects of hydropower, including new development, pumped storage, dam construction, sustainability, marine hydrokinetics, and operations/maintenance.
PennWell provides a free weekly electronic newsletter highlighting news from the magazine's HydroWorld.com website, and offers a 'Premium Content' data and news subscription service. PennWell organizes four HydroVision events annually: International (held in the U.S.), Brazil, Russia and India.
Website: www.hydroworld.com  Email: elizabethi@pennwell.com

Rio Tinto Alcan
Rio Tinto Alcan is one of the world's largest producers of bauxite, alumina and aluminium. Rio Tinto Alcan holds an enviable hydropower position, and sustainable development principles guide its actions and decisions.
Rio Tinto Alcan is one of five product groups operated by Rio Tinto, a leading international mining group.
Website: www.energie.alcan.com  Email: rta.energie.electrique@riotinto.com

SN Power
SN Power is a renewable energy company that invests in emerging markets. It has invested more than USD 11.8 billion in equity through acquisitions and development of hydropower projects in Asia, Latin America and Africa. Currently, SN Power is involved in hydropower generation in the Philippines, Nepal, India, Chile, Sri Lanka and Peru. As part of the Statkraft Group, SN Power has a strong industrial foundation that builds on more than 100 years of developing, owning and operating hydropower in Norway.
Website: www.snpower.com  Email: info@snpower.com

Tractebel Energia S.A.
Tractebel Energia S.A. has a portfolio of 22 power plants throughout Brazil and is the country's first private independent power producer. The company's installed capacity of 5,683 MW represents 7 per cent of Brazil's total power generation capacity. Close to 85 per cent of this capacity relies on clean and renewable energy sources, mainly big hydropower plants, all with (ISO 9001, 14001 and 16001).
Tractebel Energia is listed and is 68.7 per cent controlled by the international group GDF SUEZ.
Website: www.gdfsuez.com
AES Eurasia Enerji Yatirimlari LTD. STI

IC (İÇTAŞ) Energy’s objective is to be active in all kinds of energy business including electricity, gas, coal or others as developer, producer, transmitter, supplier, or distributor in its home market, Turkey. Since its foundation, IC (İÇTAŞ) Energy has developed and commissioned three hydropower plants. The company’s objective is to have 2,081 MW installed capacity, 401 MW of hydro-energy, 1,680 MW of thermal energy and 14,487 GWh annual electricity generation when current projects are completed.

Website: www.icicenergy.com.tr

Bhote Koshi Power Company Pvt Ltd

Bhote Koshi Power Company Private Limited (BKPC) owns and operates the Upper Bhote Koshi Hydroelectric Project (UBKHEP) which is the first privately funded, run-of-the-river hydropower power project in Nepal. BKPC was incorporated in 1996 under the Nepalese Company Act. Its plant is situated in the Sindhupalchok district of central Nepal, and it is approximately 110 km northeast of Kathmandu. The UBKHEP is a 45 MW power plant with two turbine/generator units.

Website: www.bhotekoshi.com.np Email: query@bkpc.com.np

Carpi Tech S.A.

CARPI, established in 1963, by using synthetic geomembranes, has gained a worldwide experience and reputation in the waterproofing and protection of all types of hydraulic structures (concrete, RCC and embankment dams, reservoirs, canals, tunnels), and of underground structures, civil works and environment protection facilities. The company has pioneered new installation techniques that now are patented systems, while continuously introducing to the market new products of higher performance.

Website: www.carpitech.com Email: info@carpitech.com

Cennergi Pty Ltd

Cennery Pty Ltd is based in South Africa and focuses on the development, ownership, operation, maintenance, acquisition and management of electricity generation assets in South Africa, Botswana and Namibia.

Website: www.cennergy.com Email: cennergy@cennergy.com

Changjiang Institute of Survey, Planning, Design and Research

Changjiang Institute of Survey, Planning, Design and Research (CISPDR) is a stated-owned high-tech enterprise and an international contractor certified by the Ministry of Commerce of China, mainly engaged in engineering survey, planning, design, scientific research, consulting, construction supervision, construction management and EPC contracting for projects in China and abroad. It successfully completed survey, planning and design for the Three Gorges project and the South-to-North Water Diversion project, two most important hydraulic projects in China.

Website: www.cjispdr.com.cn Email: office@cjispdr.com.cn

CESP

Companhia Energetica de Sao Paulo (CESP) is the largest electric power generation in the State of São Paulo and the third largest in Brazil and Latin America. It has six hydropower plants, three located on the Rio Paraná (Ita Sertóes, Engenheiros Sérgio Motta and Engenheiros Souza Dias), one located on the Tietê River (Tênis Imarin) and two located on the Rio Paraiso do Sul (Parabuana and Jaquari) with a total installed capacity of 7,455 MW. Website: www.cesp.br

CKD Blansko Engineering a.s.

CKD Blansko Engineering a.s. is an engineering company specialising in supplies of mechanical equipment and technology of hydro power plants and pump stations. This includes hydraulic turbines of all types and sizes, pump turbines and pumps including outline and detail design documentation, hydraulic design, model tests, erection, and guarantee measurements at site. The company had extensive experience in the research and fabrication of hydraulic turbines in Blansko, and since 2006 has been a member of the Litostroj Power Association. Website: www.cbeng.cz Email: info@cbeng.cz

CK Power

CK Power Public Company Limited (CKP) is the first Thai holding company listed on the Stock Exchange of Thailand with its core assets overseas. The company engages in businesses that create sustainable energy and focuses on investment in power business, both in Thailand and in ASEAN region under efficient management. It is also committed to social responsibility for all stakeholders in order to develop sustainable energy while balancing the environment and the quality of life for the people and society. Website: www.ckpower.co.th/en

Copel

Companhia Paraense de Energia (Copel) is a Brazilian utility founded in 1954, based in Caritiba, Paraná. The company directly serves some 3.3 m homes, 70 plants, 312 commercial establishments and 366 rural properties. Copel operates 18 hydropower plants with a combined installed capacity of 4,513 MW, providing about 7% of total electricity consumed in Brazil. Its transmission system totals 1,913 km in lines and 31 substations, amounting to 10,344 MVA of transformation power, while its distribution system consists of 182,499 km in lines and 352 substations.

Website: www.copel.com Email: copel@copel.com

CPFFL Geração

Over the years, Brazil has been preparing to meet population growth and the increase in demand for energy. But how can this be reconciled with environmental awareness?

CPFFL Geração, one of the subsidiaries of CPFFL Energa, the largest private company in the Brazilian electricity sector, strongly invests in a diversified portfolio with 2,234 MW total capacity, mostly composed of highly efficient hydroelectric projects.

Website: www.cpfel.com.br Email: main@cpfel.com.br
DOLSAR Engineering Inc. Co.
DOLSAR, established in 1971, is a multi-disciplinary engineering firm which performs engineering, architectural, consultancy and supervision services for large scale projects in a wide range of fields including water and land resources development, energy production and distribution, environment, transportation and buildings. The company has been listed among the top 150 engineering companies in Europe. Besides projects in Turkey, its experience also covers projects in Azerbaijan, Bosnia-Herzegovina, Cyprus, India, Iraq, Pakistan, Georgia, Saudi Arabia, Turkmenistan and Uzbekistan.

Website: www.dolsar.com.tr
Email: dolsar@dolsar.com.tr

Dongfang Electric Machinery Co Ltd
Dongfang Electric Machinery Co., Ltd., located in Sichuan, China, has produced more than 300,000 MW in power-generating equipment since 1958. The annual output capacity of 30,000 MW is available with a hydro power capacity of 6,600 MW. Having successfully supplied eight 700-MW Francis units for the Three Gorges Project, and with efficient performance of the Jirau contract (22 x 75 MW) in Brazil, DFEM has devoted itself to creating a brighter and greener world.

Website: en.dfem.com.cn
Email: sales@dfem.com.cn

DSD Noell GmbH
DSD Noell specialises in hydromechanical equipment for hydropower plants, as well as drive and control systems for movable bridges and ferry linkspan, taking responsibility for the engineering, manufacturing, erection and commissioning of works.

Website: www.dsd-noell.com

E-CO Energi AS
E-CO Energi is one of Norway’s leading energy groups. Its core activities are the ownership and management of hydropower plants and development of new renewable power projects. The group is Norway's second largest hydropower producer, with an average production of 9.7 TWh per year. Its production capacity is approximately 2,800 MW. The City of Oslo owns 100 per cent of the parent company, E-CO Energi Holding AS.

Website: www.e-co.no
Email: energi@e-co.no

Ecofish Research Ltd
Ecofish Research is a Canadian company established in 2000, specialising in environmental assessments, fish and aquatic habitat assessment, environmental monitoring, and wildlife, vegetation and habitat assessments. With a team of experienced, skilled professionals, Ecofish Research offers a broad range of environmental services including study design, data collections and analysis, reporting, strategic advice, agency liaison and permitting, environmental management planning, mitigation and compensation planning, and environmental monitoring.

Website: www.ecofishresearch.com
Email: info@ecofishresearch.com

Empresas Públicas de Medellín E.S.P.
Empresas Públicas de Medellín (EPM) is a state-owned utilities company in Colombia, with a 22.6 per cent market share, generating 3,240 MW. EPM has 26 generation plants, comprising 24 hydroelectric plants, one 460 MW thermal plant and a 19.3 MW wind park. EPM is constructing the Ituango hydroelectric project (2,400 MW) which is the largest in Colombia and is developing the Bonyic hydroelectric power plant in the Republic of Panama. The company contributes to well-being and equitable development in communities.

Website: www.epm.com.co
Email: epm@epm.com.co

Endesa
Endesa, Chile, is one of the largest electricity generators in Latin America. Both directly and through its subsidiaries, it operates 54 hydro plants with a capacity of 15,674 MW, with output of 8,650 MW, thermal of 7,004 MW, and a wind farm of 18.15 MW. It systematically analyses risks related to climatic change and its impact on the company’s activities in the region.

Website: www.endesa.cl

Energisa Power Generation Company
Energisa Power Generation was established in 1996 to explore new business opportunities in the energy sector, and to operate as a reliable and capable supplier of energy. The company has around 2,435 MW of a total installed capacity, including five natural gas combined cycle power plants, twelve hydroelectric power plants and three wind energy power plants operating in various cities.

Website: www.energisa.com.tr

Harbin Electric Machinery
Founded in 1951, Harbin Electric Machinery Co., Ltd is one of the key domestic large-scale power-generating equipment manufacturers in China, with an annual productivity of 480GW. The company's main products include hydro turbines, hydro generators, turbo generators and controlling equipment. The company's large-scale hydropower plants account for nearly half of the total installed capacity produced by Chinese manufacturers. As well as supplying Chinese markets, its products have been exported to 34 countries, including USA, Canada, Japan, India, Brazil and Russia.

Website: www.hec-china.com
Email: sales@hec-china.com
Hindustan Electricpower Limited

Hindustan Electricpower Limited is committed to undertaking sustainable development of hydropower projects by respecting the society and environment and public safety through efficient and early execution, thus leading to development of much needed low-carbon economy.

HEPL is due to commence construction of 120 MW Miyaz, 400 MW Seli projects in Himachal Pradesh, India and is developing three projects (Z = 1,400 MW) in Bhelti Basin, a large project in Nepal, and a 50 MW project in Sikkim, India.

Website: www.hindustanpowerprojects.com Email: abh.gill@hppl.in

Jindal Power Limited

Jindal Power Limited, a subsidiary of Jindal Steel & Power Limited, is India’s leading power generation company with a project portfolio of about 15,000 MW in various stages of operation, implementation, development and planning in thermal and hydro renewable sectors.

It currently has hydropower projects totaling about 5,600 MW under development – Etalin (3,097 MW), Attur (800 MW) and Kamala (1,800 MW) hydropower projects in the State of Arunachal Pradesh in North-East India. These projects are being developed in joint venture with the state government.

Website: www.jindalpower.com Email: info@jindalpower.com

Kemijoki Oy

Kemijoki Oy is the most important producer of hydropower and related services in Finland. It owns 20 hydropower plants and regulates the Lokka and Porppita reservoirs, and also Lake Kemijärvi and Lake Olkiluoto. At 5,037 gigawatt hours, the company last year exceeded average hydropower production by 13 per cent. River Kemijoki accounted for 92 per cent of the electricity produced, with River Liesjoki and River Kymijoki providing the remainder.

Website: www.kemijoki.fi Email: info@kemijoki.fi

KONCAR-KET

KONČAR’s main activities are engineering, procurement and construction contracts for the development of new, refurbishment of existing plants and providing relevant engineering services.

The company specializes in hydropower and has delivered products, plants and services to more than 100 countries worldwide on all the continents by applying its in-house developed know-how to each individual project.

Website: www.koncar-ket.hr Email: info@koncar-ket.hr

Lahmeyer International GmbH

Germany-based Lahmeyer International GmbH is a consulting company for energy, hydropower, water resources and infrastructure. With a total permanent staff of approximately 1,650 employees, and more than 500 in the hydropower sector, the company covers all phases and expertise of development for all types of hydro projects, dams and hydraulic structures. Project examples include the Lasica hydropower plant in Angola (2,047 MW) and the Merowe multipurpose project in Sudan (1,200 MW).

Website: www.lahmeyer.com Email: info@de.lahmeyer.com

Larsen & Toubo Limited

Larsen & Toubro Limited (L&T) is a technology, engineering, construction and manufacturing company with an international presence, marked by a global spread of offices. The company’s businesses are supported by a wide marketing and distribution network, and have established a reputation for strong customer support.

L&T believes that progress must be achieved in harmony with the environment. A commitment to community welfare and environmental protection are an integral part of the corporate vision.

Website: www.larsentoubro.com Email: info@larsentoubro.com
Light Energia S.A.

Light Energia S.A. is a company of Light Group directed on the generation and transmission of electricity, as well as for the marketing of its own productions. Its generation comprises five hydroelectric plants with an installed capacity of 853 MW. Light Energy has certifications in quality management, environment, health and safety. Its environmental conservation initiatives in the area of their reservoirs, many in partnership with universities, research centres and NGOs, result in benefits to the population of Rio de Janeiro.

Website: www.light.com.br

Lunsemfwa Hydro Power Company Ltd

Lunsemfwa Hydro Power Company Limited (LHPC) is the first independent power producer in Zambia. LHPC, having expanded its installed capacity by 50 per cent in the last ten years, it operates two hydropower plants with a total installed capacity of 56 MW. LHPC is currently undertaking feasibility studies and has a strategic plan to increase the installed capacity to 500 MW by 2020. LHPC is a subsidiary of Agua Imara, an SN Power Group company.

Email: info@lunsemfwahydro.com.zm

Mighty River Power

Mighty River Power is a New Zealand electricity company, with a flexible portfolio of electricity generation assets including the Waikato Hydro system, a strong national retail presence and a focus on domestic generation and international geothermal development opportunities. More than 90 per cent of Mighty River Power’s generation is from renewable sources.

Website: www.mightyriver.co.nz  Email: enquiries@mightyriver.co.nz

MWH Global, Inc.

MWH Global is a strategic consulting, technical engineering and construction services firm leading the wet infrastructure sector. MWH provides a full range of services for projects and programs that focus on water, energy, natural resources and infrastructure. A recognized leader in the hydropower industry, MWH is committed to innovative and economical solutions to serve clients’ business needs. The firm delivers long-lasting, high-performing, safe projects while always striving to preserve the environment and improve the quality of life for future generations.

Website: www.mwhglobal.com  Email: mwhcorpcomm@mwhglobal.com

Norconsult

Norconsult is a multidisciplinary engineering and design consultancy, providing services to clients in the public and private sectors worldwide. The company provides services within the power sector, including power system studies and hydropower engineering, from the initial reconnaissance through all phases of design, tender preparations, investigations, contract evaluation, construction supervision and commissioning.

Website: www.norconsult.com  Email: firmapost@norconsult.com

NuPlanet (Pty) Ltd

NuPlanet is a growing energy company focused on hydropower. Its focus is on the development, construction and operation of green-field and refurbished independent power plants (IPPs) in the range of 2 MW to 50MW across Southern Africa. The company has developed the 7 MW Bethlehems Hydro IPP, the first green-field hydro project to be built in South Africa since the mid 1980s.

Website: www.nuplanet.co.za  Email: wendy@nuplanet.co.za

Pacific Hydro

Pacific Hydro is a global clean energy solutions provider. Operating for over 20 years, we develop, build and operate renewable energy projects, and sell electricity and carbon abatement products to customers in our chosen markets. With hydro, wind, solar and geothermal power projects at varying stages of development, construction and operation in Australia, Brazil and Chile, the company’s vision is to create economic, social and environmental value by being its customers’ preferred clean energy solutions provider.

Website: www.pacifichydro.com  Email: enquiries@pacifichydro.com.au

Pöyry Switzerland Ltd

Pöyry is one of the world’s leading hydropower engineering companies and has designed hydropower schemes all over the world for more than one hundred years. Its successful design and supervision services cover all types of hydropower schemes, which include an installed capacity of more than 100,000 MW in the past 20 years alone. The company’s experts are available to assist its clients worldwide in each project phase as consultants, owners, contractors, lenders or engineers.

Website: www.poyry.ch  Email: hp.energy@poyry.com
Regional Power Inc.
Regional Power, a subsidiary of Manulife Financial, has been in the business of developing, building, refurbishing and operating hydroelectric power plants in Canada for over 25 years. The company currently operates six hydro plants with a total generating capacity of 36 MW. The company has ten projects in various stages of development, with an estimated 356 MW of total generating capacity. Seven of its hydroelectric sites are in the advanced stages, with a total estimated generating capacity of 248 MW.
Website: www.regionalpower.com

RWE Innogy GmbH
RWE Innogy GmbH pools the renewable energy expertise and power plants of the RWE Group. The company plans, builds and operates facilities generating power from renewable energies. The company operates run-of-river and storage power stations with a total capacity of around 550 MW. There are 45 plants in Germany alone, such as on the Moselle, the Ruhr and the Saar, which produce about 1.4 billion kilowatt-hours of electricity each year.
Website: www.rwe.com  Email: communications.innogy@rwe.com

Savske Elektrarne Ljubljana d.o.o
Savske Elektrarne Ljubljana has a long tradition in its main economic activity, which is the production of hydroelectric power. The company's oldest hydropower plant, HE Finals, has been operating since 1914. In addition to its core business, the company also performs operation and maintenance for the continued production of hydroelectric power (electricity maintenance, hardware and telecommunications equipment and constructions).
Website: www.sel.si   Email: info@sel.si

S.C. Hidroelectrica S.A.
Established in 2000, Hidroelectrica is the leader of the Romanian energy market. With an average output of more than 17 TWh in an average hydrological year, the company provides 30 per cent of the country’s total power generation and 90 per cent of the ancillary services needed for the operation of the national power system. With a powerful organisational culture, Hidroelectrica aims to become the regional leader in green energy generation, with constant high value added for shareholders and the community.
Website: www.hidroelectrica.ro  Email: manuela.horvath@hidroelectrica.ro

Schluchseewerk Aktiengesellschaft
Schluchseewerk AG was founded in 1928. In the 1930s, the demand for electricity increased alongside industrialisation, creating a need for new sources of generation. Schluchseewerk AG took the initiative to build and operate pumped storage power plants in the Black Forest. Today the company’s main task is the maintenance and renewal of power plants. It has five plants with a total of 20 power generating units, which provide a maximum output capacity of 1,836 MW in turbine operation and 1,604 MW in pump operation.
Website: www.schluchseewerk.de  Email: info@schluchseewerk.de

SNC Lavalin
With over 100 years’ experience, SNC-Lavalin’s hydro division covers all hydro solutions, from planning and feasibility studies, to detailed engineering, procurement, construction, supervision and commissioning of facilities. Engineering News-Record consistently rates SNC-Lavalin as one of the top international design engineering firms on the continent.
Website: www.snc-lavalin.com/power   Email: info@snc-lavalin.com

Snowy Hydro Limited
Snowy Hydro Limited is the leading provider of peak, renewable electricity and risk management products to the Australian national electricity market, employing over 650 personnel in Cooma, Jindabyne, Tilba, Kurnell, Caringbah, Gatton, Latrobe Valley, Sydney and Melbourne. It owns and operates the 4,100 MW Snowy Mountains Scheme, an integrated water and hydroelectric power project located in Australia’s Southern Alps, and the 300 MW Valley Power and 310 MW Laverton North gas-fired power stations, both located in Victoria.
Website: www.snowyhydro.com.au  Email: info@snowyhydro.com.au

Stellba Hydro GmbH & Co KG
Founded in 2002, Stellba Hydro is a private, medium-sized company specialising in the revision, modernisation and upgrading of hydroelectric power. Its focus is to exploit potential and build robust, efficient machines. Hydroelectric power plants must be maintained as a long-term investment over their entire lifespan. Stellba Hydro is ISO 9001 certified and offers a range of support ranging from a simple inspection of a part through to a general revision.
Website: www.stellba-hydro.de  Email: info@stellba.ch
**Stucky Limited**

Established in Switzerland, Stucky is an engineering consultancy firm, specialised in hydropower and active worldwide. Stucky is a member of the Gruner Group, established in 1862, the largest infrastructure consultancy in Switzerland with over 1,000 engineers.

Stucky’s state-of-the-art expertise covers all aspects of hydroelectric projects. Working on the basis of a project-focused organisation, Stucky provides engineering and project management services from the identification stage to the design and commissioning of complete power schemes.

Website: www.stucky.ch

**TIWAG – Tiroler Wasserkraft AG**

TIWAG-Tiroler Wasserkraft AG, is located in Innsbruck, Austria, operating nine large >10 MW and 40 small <10 MW hydropower stations, with a maximum capacity of 1,544 MW.

The most important are the pumped-storage hydropower station Sellrain, the hydropower station Silz (781 MW) and the Kaunertal hydropower station (392 MW).

Website: www.tiwag.at Email: office@tiwag.at

**TRACTEBEL ENGINEERING S.A. / COYNE ET BELLIER**

Founded in 1947, Tractebel Engineering (France) specialises in hydraulics, electricity (hydroelectricity, nuclear, wind, solar, etc.), gas and major infrastructures. Active under its original trademark Coyne et Bellier, the company has planned, designed or built more than 600 dams and 90 hydropower plants (65 000 MW) in 100 countries over 65 years.

Since 1977, Coyne et Bellier is part of the Tractebel Engineering Group, active worldwide in the energy sector, with branches in Europe, South America, Africa, Middle East and Asia.

Website: www.tractebel-engineering-gdfsuez.com Email: engineering-fr@gdfsuez.com

**Tyazhmash Group**

The Tyazhmash Group is one of the leading groups of international companies specialising in heavy, power and transport engineering. Today, the group consists of four companies operating in Russia and the Czech Republic.

Tyazhmash produces equipment for mining and metallurgical companies, thermal, nuclear, and hydroelectric power plants. The group co-operates with science and research institutes, as well as experts with foreign companies, to maintain high levels of technical and technological developments in accordance with international standards.

Website: www.tyazhmash.com Email: hydro@tyazhmash.com

**Ukrhydroproject PJSC**

Incorporated in 1927, Ukrhydroproject has become Ukraine's largest engineering company specialising in the field of hydropower and water resources development. It has designed hydropower plants on the Dniester and Donets rivers, and constructed pumped-storage plants on the Donets and Southern Bug rivers.

The company is currently constructing Europe's largest pumped-storage plant on the Dniester. It also designs and constructs overseas, with a portfolio including projects in Vietnam, Mexico, Venezuela, Iraq and other countries.

Website: www.uhp.kharkov.ua Email: water@uhp.kharkov.ua

**Upstream Ayeyawady Confluence Basin Hydropower Co., Ltd. (ACHC)**

Upstream Ayeyawady Confluence Basin Hydropower Co., Ltd. (ACHC) is a Sino-Myanmar joint-venture company, registered in the Republic of the Union of Myanmar. It is responsible for developing hydropower projects with a total installed capacity of about 20,000 MW on BOT terms in the Ayeyawady River Basin upstream of Myitkyina, the capital of Kachin State in the northern Myanmar, in a sustainable and environment-friendly manner.

After the concession period, these projects will be transferred to the Myanmar Government free of charge.

Website: www.uachc.com Email: uachc@cyipyn.com.cn

**Verkís Consulting Engineers**

Verkís was founded in 1932, making it the oldest consulting firm in Iceland and at the forefront of hydropower plant design and engineering. The firm has been the leading designer of most hydropower plants in Iceland, with projects ranging from a few kW to 690 MW, harnessing heads up to 600 m.

Verkís provides high-quality services in all fields of engineering. Hydropower services range from feasibility studies and tender document preparation to detail and final design, as well as commissioning.

Website: www.verkis.com Email: verkis@verkis.is

**Volta River Authority**

The Volta River Authority (VRA) is the principal energy infrastructure development agency for the generation of electrical power in Ghana. For more than four decades, the VRA has harnessed the resources of the Volta Lake to produce Ghana’s power needs.

Currently, the VRA operates a total installed electricity generation capacity of 2,104 MW. This includes two hydroelectric plants on the Volta River, with installed capacity of 1,020 MW and 169 MW at the Akosombo and Kpong generating stations respectively.

Website: www.vra.com Email: corpo@menvra.com
All - Ukrainian Association Ukrhydroenergo

Ukrhydroenergo was established in 2002 in order to answer and protect social, cultural, economic interests of its members. Today, the association unites more than 50 individual and collective members, who represent almost all regions of Ukraine. Members of the association are involved in the practical aspects of setting up, reconstructing and operating hydropower stations, including small hydropower stations.

Website: www.ukrhydroenergo.org  
Email: postmaster@ukrhydroenergo.org

Hohai University

Hohai University is a state key university under the direct jurisdiction of the Ministry of Education of China. The faculty and graduates of Hohai University have been extensively involved in the research, design, construction and management of engineering projects such as the Yangtze River Three Gorges Project, the South-to-North Water Transfer Project and the Yellow River Xiaolangdi Project.

Website: en.hhu.edu.cn  
Email: hohai@hhu.edu.cn

Indian National Hydropower Association

The Indian National Hydropower Association (INHA) was established in June 2003 to provide a forum for the exchange of views and enhancement of knowledge for developing the balance potential in a sustainable manner. The organisation also works to advocate the interests and represent the views of Indian hydropower fraternity.

Website: www.inha.org  
Email: uday@cbip.org/cbip@cbip.org

Instituto Acende Brasil

Instituto Acende Brasil is a think tank dedicated to increasing the transparency and sustainability of the Brazilian electricity sector. Its scope involves the following sectors: regulation, corporate governance, taxes and subsidies, tariff policy, and environmental and social aspects.

Website: www.acendebrasil.com.br  
Email: contato@acendebrasil.com.br

NP Hydraulic Power of Russia

NP Hydraulic Power of Russia, located in Moscow, is the association for hydro energy professionals in Russia. Its goal is to increase the energy efficiency and safety of hydropower plants in the country. It unites and works together with its members, negotiating solutions to emerging issues and representing the interests of the industry at national and international level, and in the fields of sustainability and climate change.

Website: www.hydropower.ru  
Email: info@hydropower.ru

Polish Hydropower Association

The Polish Hydropower Association was founded in 1991 and currently has 176 members. The main goal of the association is the protection and representation of the hydrotechnical power industry, and active support of the development of hydropower and other renewable energy sources.

Website: www.tew.pl  
Email: biuro@tew.pl

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