SUSTAINABILITY IN THE RENEWABLE ENERGY SECTOR IN LATIN AMERICA: CHALLENGES AND OPPORTUNITIES

ALCANZANDO LA SOSTENIBILIDAD EN LA INDUSTRIA ELÉCTRICA EN LATINOAMÉRICA

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PART 1

Why Sustainability?

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Challenges for Environmental Sustainability

Climate change or more extreme climate events, as manifested by the low water levels in Lake Mead, behind the Hoover Dam – June 2018

Population in Belem, Brazil, inundated by red mud flowing from the Hydro Alunorte facilities after dam break – February 2018

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Challenges for Social Sustainability

Protest today by indigenous groups at the biannual IHA congress held in Sarawak, Malaysia - 2013

Protests in Santiago against the Alto Maipo Project and water supply to the capital in January 2014

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Challenges for Sustainability and Compliance

Recent film investigating links between large dams and corruption in Borneo to celebrate the 555th day of the blockade against the Baram dam.

The detention of Lee Jae-Yong is an embarrassing setback for South Korea's biggest conglomerate, Samsung. Lee is under investigation for his alleged involvement in the huge political corruption scandal that has rocked the country – CNN (February 2017)

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PART 2A

Dynamics of Environmental Sustainability

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Definition: Needs and Limitations

- Brundtland Commission Report (1987): Two key concepts:
  - Concept of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given
  - Idea of limitations imposed by technology and social organization on the environment's ability to meet present and future needs

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Sustainability “System”

- From environmental studies: closed socio-ecological systems
- Environment providing adequate resources economic activities and able to rejuvenate itself despite human use of resources
- Society able to utilize resources in the environment in the long-term and achieve a good standard of living for all
- Mutually reinforcing and lasting solutions
- Mechanisms for maintaining the system – laws, regulations and political processes

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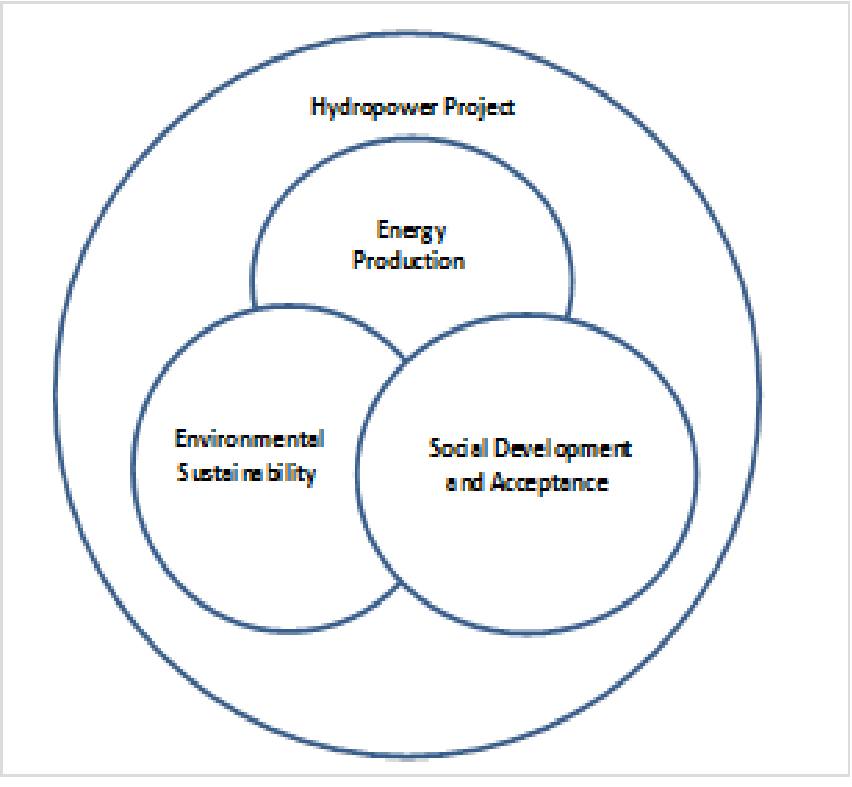
Sustainable Development Goals

Sustainability in Energy Sector



- Many aspects of UN's SDGs relate to hydropower and renewable energy
  - Water use and health
  - Social development
- Energy Production: project revenue
- Social: benefits and acceptance
- Environmental: use of resources
- Interfaces between elements

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Environmental Sustainability: Renewable Energy

- Cannot take for granted that renewable energy is by nature “sustainable”
- But there are environmental impacts and sometimes large environmental footprints (loss of habitat)
- Environmental impacts have not always been successfully addressed
- Many active stakeholders challenge this claim of sustainability
  - Threats to forests and wildlife
  - Greenhouse Gas (GHG) emissions

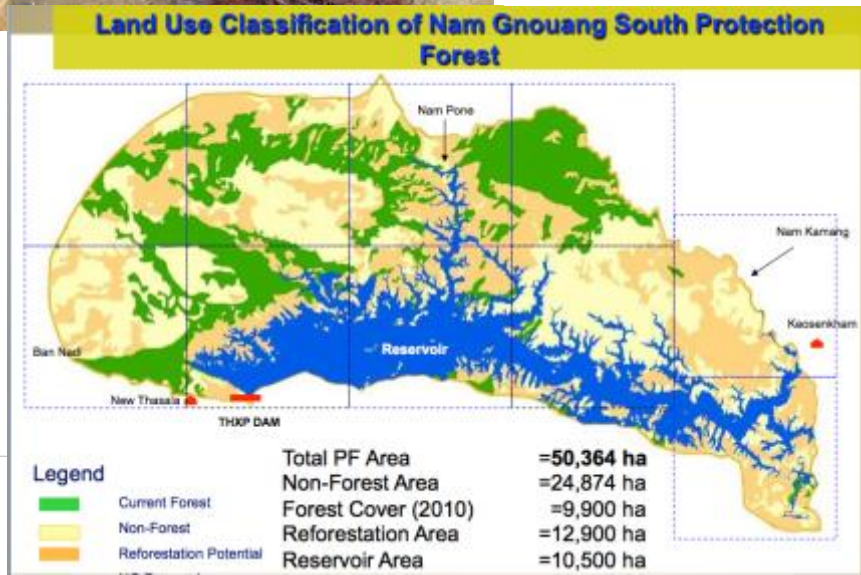
Protective Measures

- Avoid, offset or compensate for the loss of environmental components
- Pro-active measures to limit the extent of impacts and long-term improvements:
  - Management of contractors in terms of water quality, noise, dust, sediment
  - Environmental awareness and enforcement of conservation laws
  - Waste management and recycling
  - Animal rescue from reservoirs
  - Secure energy and food for site during the construction period

Environmental Compensation and Offset

- Aim for “Zero” overall negative impacts:
  - Restoration of temporary impacts
  - Compensation for all losses
  - Biodiversity offset for high-value areas
- Examples of actions include:
  - Landscaping and aesthetic elements for the project (tourist potential)
  - Reforestation (Carbon Footprint)
  - Long-term conservation programs for impacts on National Parks or Red-listed species (partnering with NGOs)

Protection of Torrent Duck in the Tinguiririca Valley, Chile

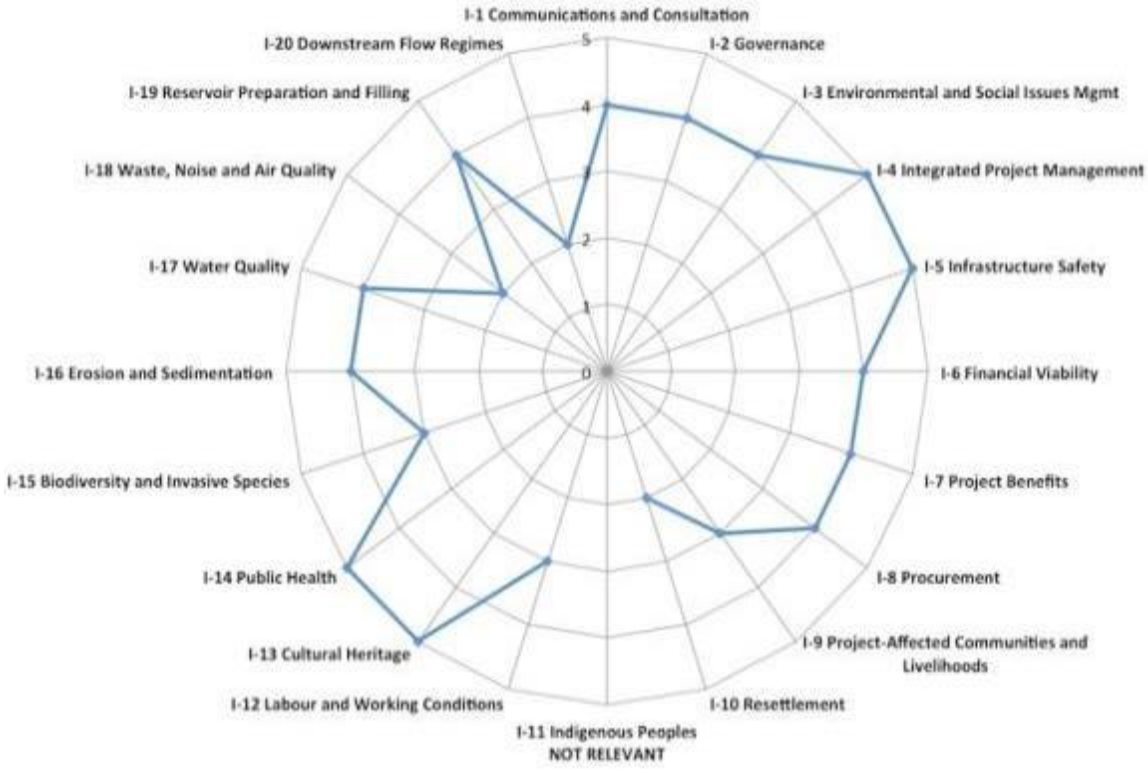


Environmental Rating (1)

- High environmental rating because:
  - Strong expectations in the market and from key stakeholders, including lenders
  - Efficient communication tool of high standard
  - Facilitates environmental audits and permitting processes
- ISO 9001 on management systems as a whole
- ISO 14001 on environmental management system
- Global Reporting Initiative (GRI) – independent and internationally recognized reporting system for gauging Company's environmental profile (A+ to C-)

Environmental Rating (2)

- External review and audits to benchmark performance
- Public evidence of commitment to high E&S standards
- International Hydropower Association (IHA) Sustainability Protocol to assessment project performance
- Statkraft has carried 2 assessments: Jostedal in Norway and Devoll in Albania



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PART 2B

Dynamics of Social Sustainability

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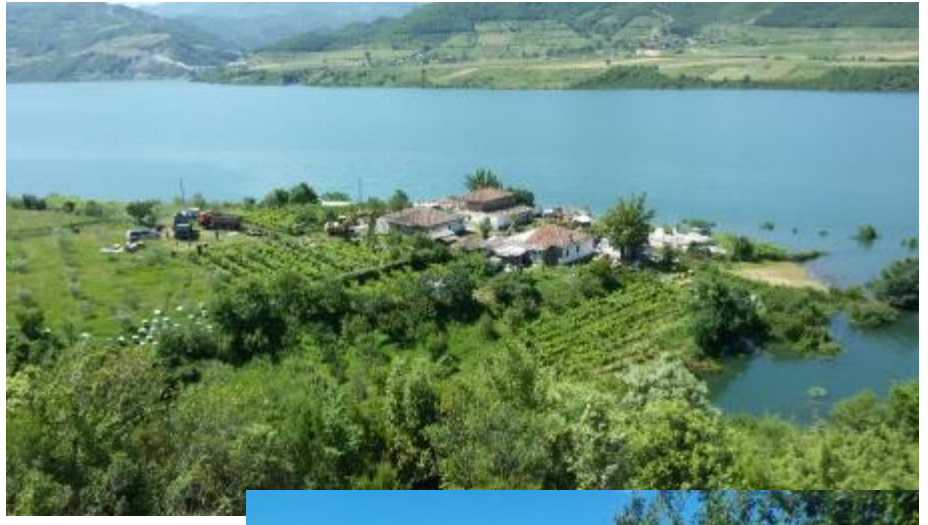
“Sustainable Development”

- Implies an equilibrium (sustainability) but also change (positive social development)
- UN Millennium Development Goal
  - Affordable energy
  - Improved health
  - Access to education
  - Safe and sustainable water supply
  - Sustainable consumption and production
  - Ending poverty
- Need to address all project impacts

Social Impacts of Hydropower and Renewables

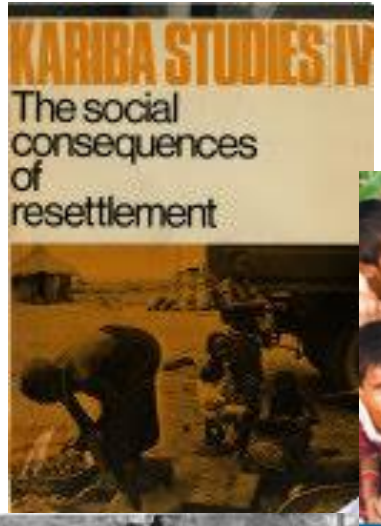
- Loss of land and production
- Resettlement and negative impacts on social fabric/networks
- Health issues due to influx and changing environments
- Economic disruption or rapid growth and exploitation
- Lack of access to resources and traditional livelihoods
- “Potential” benefits could include improved services and infrastructure, electrification, jobs, etc.



People and Politics are Unpredictable

Poor Track Record and Getting it Right

- Many examples of use of cash and people worse off than before project
  - Kariba Dam
- Government without capacity, private sector non-compliant and lack of robust institutions
- Revised guidelines and standards and institutional strengthening
- Stakeholder involvement and notion of Free, Prior, Informed Consent (FPIC)
- Benefit-sharing concept as key to cooperation and acceptance by PAPs



IFC Performance Standards on Environmental and Social Sustainability

Effective January 1, 2012

IFC International Finance Corporation

Successful Consultations = Successful Project

- Developing good relations with impacted communities
  - Requires a lot of time and resources
- Build trust for cooperation
  - Culturally sensitive approach
- Include concerns in planning and decision-making
  - Interactive and open-ended
- Ensure board stakeholder involvement and document efforts
  - Helps to isolate Opposition NGOs

From Compensation to Development

- Need to think about development opportunities rather than compensation
- Cash compensation for only small amounts and minor impacts: <10%
- Replacement land and/or enhanced production systems
- Ample time and support for new technologies and new skills development
- Understanding of regional socio-economic for sustainability

Benefit-Sharing Mechanism = Consent

- "What's in it for me?" Principle
  - Increased expectations for long-term benefits from projects
- Benefit-sharing through taxes, development funds and fixed % of profit (Norway, India)
- Benefit-sharing as shareholder and co-investor (Canada)
- Majority of project and countries not do have an institutional mechanism
  - Need to negotiate a solution each time

Consequences of NOT having Cooperation

- Social mitigation and benefit-sharing not additional actions:
  SOCIAL LICENSE TO OPERATE
- Impossible to carry out resettlement or large-scale mitigation without cooperation from PAPs
- Protests or resistance can cause:
  - Serious construction delays or delays in land handover
  - Increased claims from contractors
  - Costly redesign of project features and loss of expected revenue
  - Reputational damage to the Company through negative media coverage

PART 2C

Dynamics of Reputational Sustainability (Compliance)

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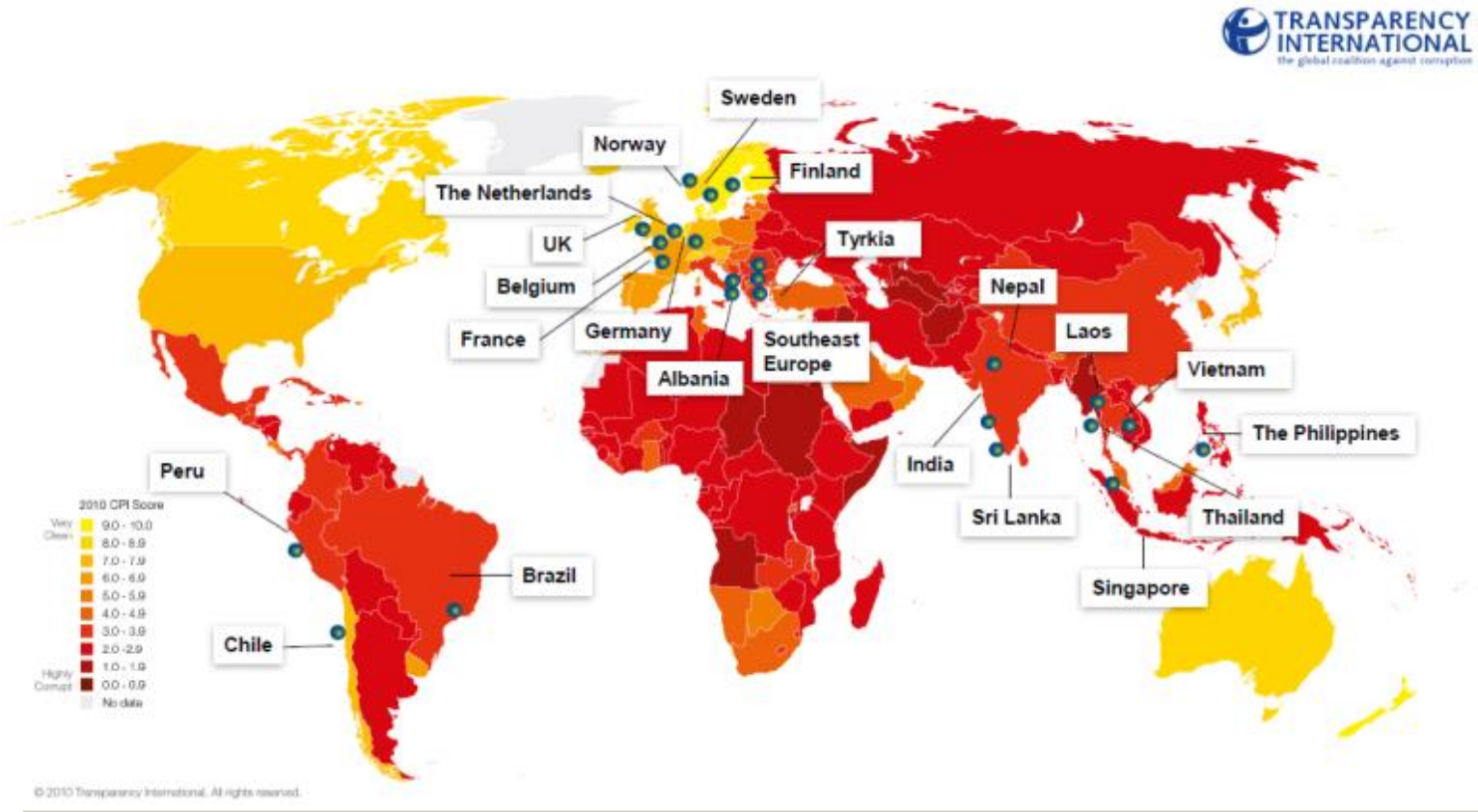
Mapping Corruption Risks



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Legal Compliance

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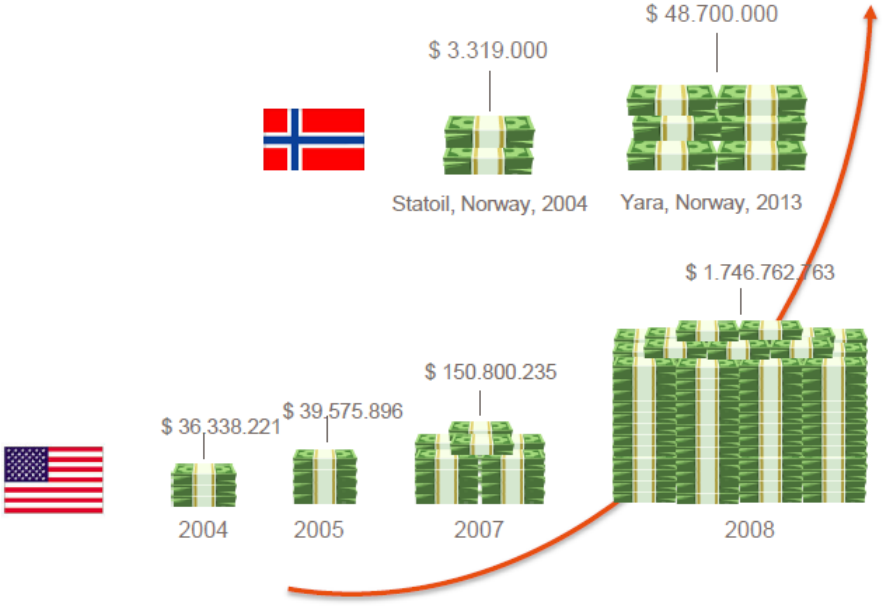
Consequences



- Significant increase in monitoring and auditing activities
- Corporate Responsibility for the ethical performance of the Company
- Fees and fines increases exponentially
- Financial loss and reputational disaster

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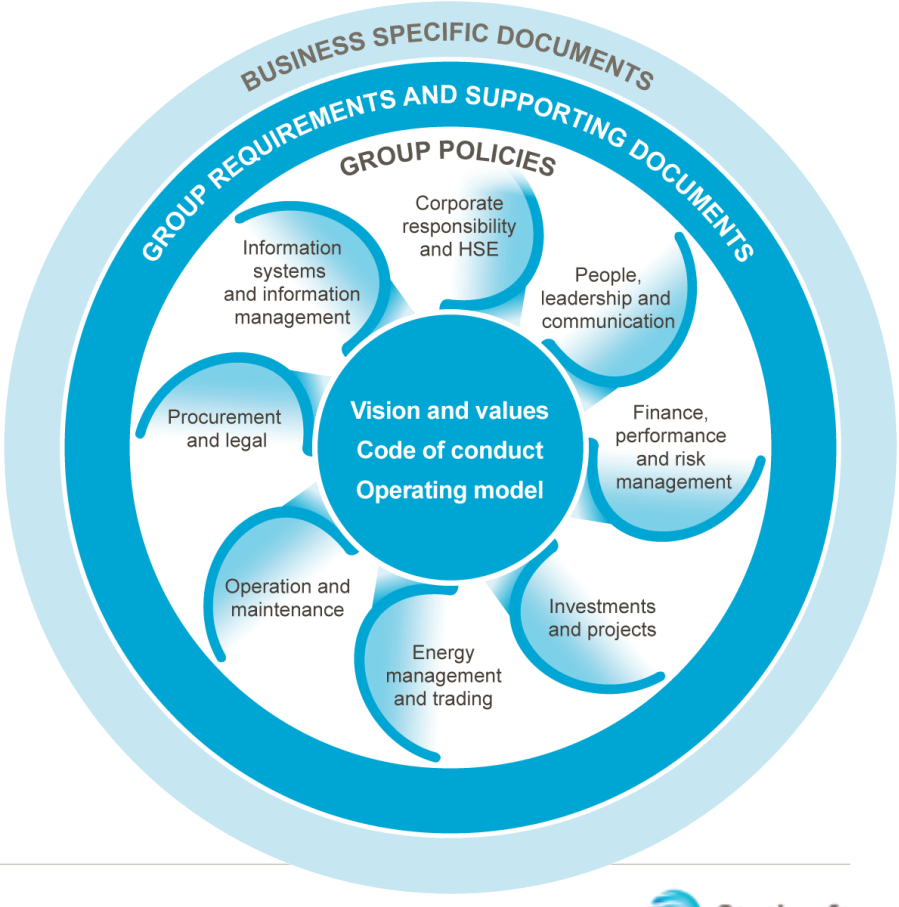
PART 3

Sustainability in Statkraft

Policy and THE STATKRAFT WAY

- Clear Policy and commitment to international standards
- “Voice from the top” – management to lead the way
- Managers down the line responsible for compliance and standards
- Clear procedures and guidelines for all employees
- Constant training and follow-up



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Business Ethnics and Anti-Corruption

- Code of Conduct and Code of Conduct for Suppliers
- Mandatory training courses every year and additional training for most vulnerable areas
- Due Diligence for all acquisitions and suppliers
- Corporate Audit and Whistle-Blower function
- Top management to address any breach effectively

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Approaches to Environmental Risks: Climate Risk Assessment & GHG measurements

- Climate evaluated as part of project assessment
- Moderate climate scenario in relation to hydrology forecasts and predicting revenue
- Modification of existing hydro plants for lower flows (low-head turbines)
- Diversified energy portfolio – synergies with solar and wind (pump storage systems) FLEXIBILITY
- GHG project to measure emissions from reservoirs to counter claims by NGOs
- Publications of peer-review articles with researchers (SINTEF)

Conflict Resolution and Stakeholder Management

- Developing hydropower and other renewables establishing long-term relationships with stakeholders
- Sites are often remote, lack basic services and infrastructure
- Located in areas of political conflict and conflict over resources
- Presence of government can be limited and challenged (no trust)

HIGH EXPECTATIONS AND HIGH STANDARDS FOR E&S

Key Issues in Resolving Issues

- Two Sets of Eyes
  - More than one person always present
- Seek board support for agreements
  - Avoid agreements with elite groups
- Mutual Respect
  - Aim for long-term win-win outcomes
- Transparency
  - All meetings to be documented
  - Agreements to be public documents
- Avoidance of Cash Payments
  - Compensation in kind or activities

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Example from Peru: Cheves Project Context

- Located 130 km north of Lima
- 176 MW (840 GWh): > 40% SKP
- Outstanding claims regarding cracks along tunnel alignment
- Courts ruled Statkraft NOT liable but should “resolve” the issue
- Threat to seize of assets by local leaders – media coverage
- Internal power struggle within the community – promises of compensation by local leaders

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Negotiation Strategy

- Measures to secure assets and hold hard line at first meetings (not liable)
- Villagers block any investigations to resolve claims (high tension)
- Resolve conflict through informal negotiations – compromise on some issues and call in 3rd party
- Villagers acquired compensation and additional programs; Statkraft closed all issues and not liable
- Ongoing CSR programs modified

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Example from Chile: Mapuche Indigenous Groups

- 2015 acquisition of Pilmaiquén Company with four projects on the Osorno River in central Chile
- Main risk: Social License to Operate working with indigenous Mapuche communities
- Incidents of violence and resistance to any large infrastructure projects
- Project close to ritual site occupied by radical groups led by medium with support from NGOs

How to move forward?

- Recruit capable staff with good local and cultural knowledge and experience in dealing with conflict
- Collect data and information from a boarder range of stakeholders
- LISTEN AND LEARN
- Engage with the opposition
- Draft a strategy for managing stakeholders expectations
- Establish a presence

Context of ILO 169

- Context of a long historical struggle between Mapuche and Chilean State
- ILO 169 mechanism is to ensure that indigenous people participate and benefit from development
- But how to have a dialogue with those who rejected participation and dialogue
- Aim is to build a board stakeholder support base – isolate radical groups and be prepared for reactions
- Intensive consultation program to meet all stakeholders

How to acquire respect?

- Considerable amount of time to listen and allow stakeholders to express themselves
- Show respect for culture and traditions – sensitivity
- The right kind of staff with experience and empathy is very important
- Actions: change the design of the project so as not to have impacts on the ritual site and benefit-sharing mechanism

Reaction and Resolution: Way Forward

- Radical groups test our nerve and occupy our local offices
- Demands for release of prisoners and call for others to rise up
- Police evicted within 12 hours
- Storm of social media did not last and little coverage in papers
- Other Mapuche groups distanced themselves from these radicals and reconfirmed their willingness to dialogue

Concluding Comments

- Sustainable hydropower and renewable energy needs to address long-term environmental issues
- Needs to build acceptance/consent with local communities through benefit-sharing – social acceptance
- Need to ensure high standards of compliance and transparency
- Needs a “vision” for development: it’s about the FUTURE

THANK YOU

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