



**The CDM and its synergies with
development finance to leverage
national mitigation policies**

16 May 2016

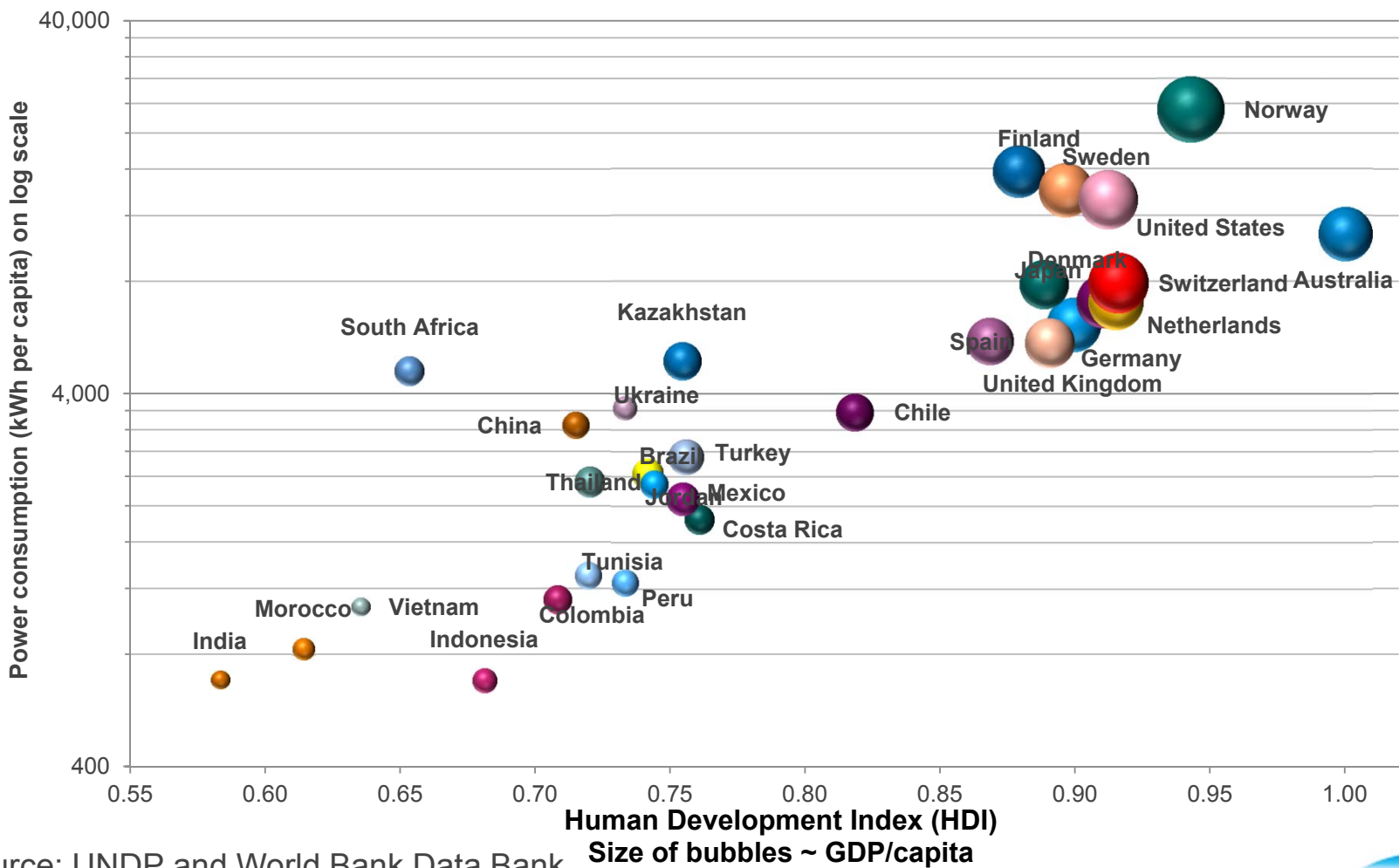


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COUNTRIES SHOW DIFFERENCES IN DEVELOPMENT NEEDS

Capita specific Power Consumption, GDP & HDI on log scale

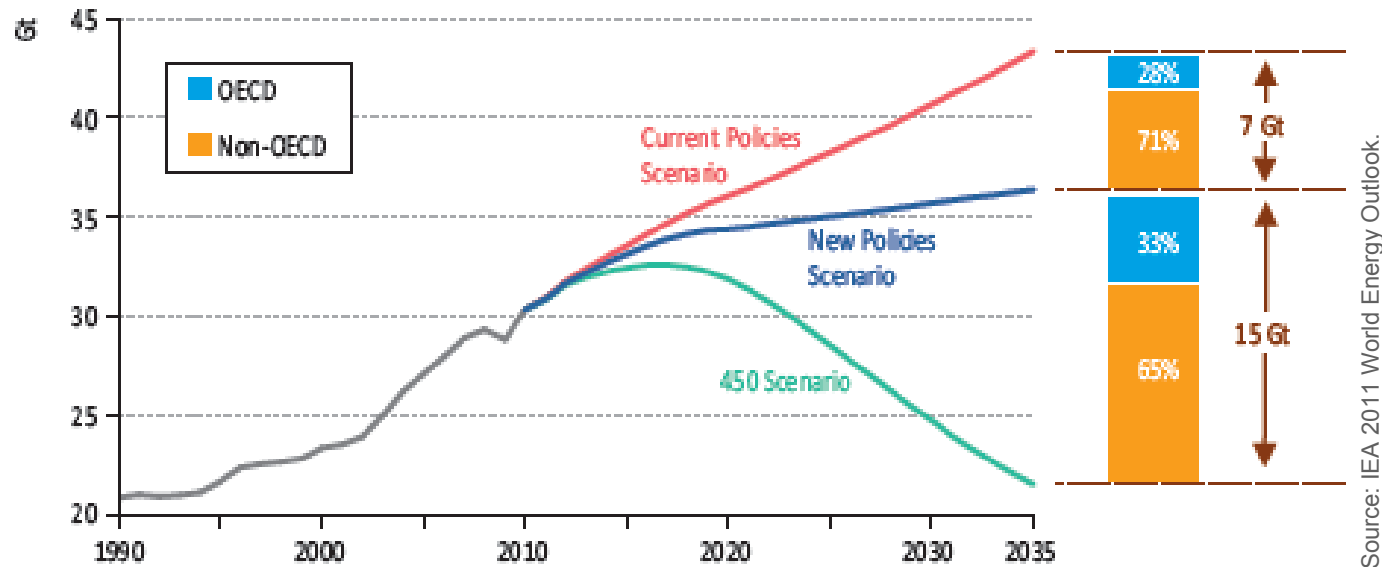


Source: UNDP and World Bank Data Bank

Size of bubbles ~ GDP/capita



THE UNEVEN CHALLENGE TO LIMIT CLIMATE CHANGE TO 2°C



What do we need to bridge the gap?

- Non-OECD countries as they account for 90% of population and energy demand growth and require huge investments in infrastructure and mitigation
- Energy causes 66% of global GHGs & non-OECD account for 100% of growth;
- The 450 (ppm) scenario requires additional investments of \$11.6 trillion;
- GHG intensive thermal expansion is still the baseline and leads to a technological lock-in which is capable to close the door to 450 ppm.

HOW TO USE EXISTING TOOLS & MINIMIZE COST

According to Economic Theory each market failure requires a specific instrument:

Quantify external cost and benefits

Sound MRV for GHG emissions and emission reductions ensure global comparability

Pricing external costs & benefits

CDM-SDM-ITMOs are globally coherent steps to build an international carbon market.

Inefficient Capital Markets

Development Banks & Green Climate Fund can bridge financial barriers.

Lack of enabling environment

NAMA policies with international support need to improve clean investment environment

CDM AND NATIONAL POLICY FOR CLIMATE CHANGE

- Dec. 2009: Communication about National Appropriate Mitigation Activities (NAMA's) :
 - Voluntary reduction of GHG emissions by 36.1 to 38.9% compared to '20 BAU.
 - For the power sector this translates into (CO₂e p.a. by 2020):
 - Expansion of Hydropower 79 – 99 Mt
 - Complementary Renewables 26 – 33 Mt
 - Energy Efficiency: 12 – 15 Mt
- The implementation of the NAMA's consider full validity of the UNFCCC, the Clean Development Mechanism and transfer of technology & finance.
- National Policy for Climate Change defined by Law N° 12.187, on 29 Dec. 2009 defines complementary GHG mitigation policy instruments:
 - i) Preferential loan financing,
 - ii) Tax and fee exemptions,
 - iii) Preferential granting of concessions and energy contracting
 - iv) Use of the CDM
- **As a consequence of these policies the fossil fuel based expansion of generation capacity could be reversed by contracting 63 GW of new renewable generation capacity (40 GW HPP; 14GW Wind; 7GW Biomass).**

BARRIERS FOR CAPITAL INTENSIVE INVESTMENTS:

The example of hydropower developments

WORLD BANK DISCUSSION PAPER NO. 420

Barriers :

- high capital demand
- lack of access to financing
- long construction time
- risk of delays and cost overruns
- high interests during construction



Financing of Private Hydropower Projects

TABLE 2: THERMAL VS. HYDRO—FACTORS AFFECTING BANKABILITY

	Thermal	Hydro
Capital Cost (\$/kilowatt)	400-1,400	800-3,000
Operating cost	high	low
Construction risk	low	high
Construction time	2-4 years	3-6 years
Project life	15-20 years	>50 years
Decommissioning costs	yes	unlikely
Electrical and mechanical (E&M) plant	80%	30%
Site influence	low	high
Technology	changing	mature

Proposed Solution

- Reduced interest rates
- Long loan tenor & 5 year grace period during construction
- Higher revenues during financing period to enhance bankability

World Bank Discussion Paper No. 420, "Financing of Private Hydropower Projects", July 2000:
<http://documents.worldbank.org/curated/en/2000/07/436947/financing-private-hydropower-projects>.

CASE STUDY JIRAU HPP (3750 MW)

The Brazilian approach as a model

28/04/2008

BNDES divulga condições de apoio para usina Jirau, no rio Madeira

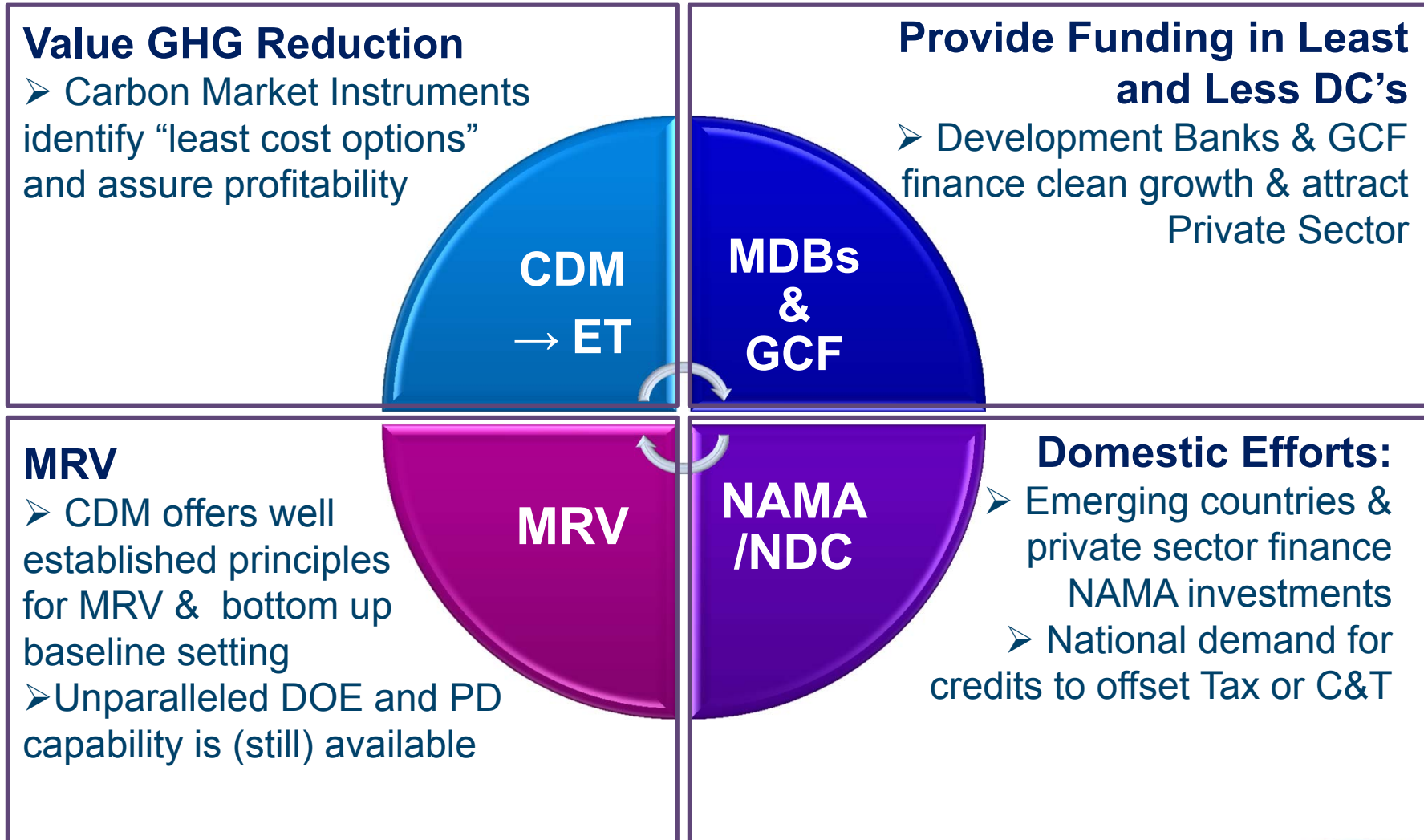
O BNDES definiu suas condições de apoio e eventual participação acionária para a construção da Hidrelétrica Jirau. Localizada no rio Madeira, em Rondônia, a usina terá capacidade instalada de 3,3 mil MW. Trata-se de um dos maiores projetos de energia do Plano de Aceleração do Crescimento (PAC) e irá a leilão no próximo dia 12 de maio.

The Brazilian Development Bank designed special support conditions to promote the Jirau project:

- 5 year grace period with capitalizing interests to finance construction
- Loan Payback period of 20 years
- Reduced interest rate
- CER sales revenues considered as bankable income leverage private sector investment



BUILD ON & COMBINE EXISTING & EMERGING POLICIES



CREDITING AS DOMESTIC OFFSET MECHANISM

Economic Benefits


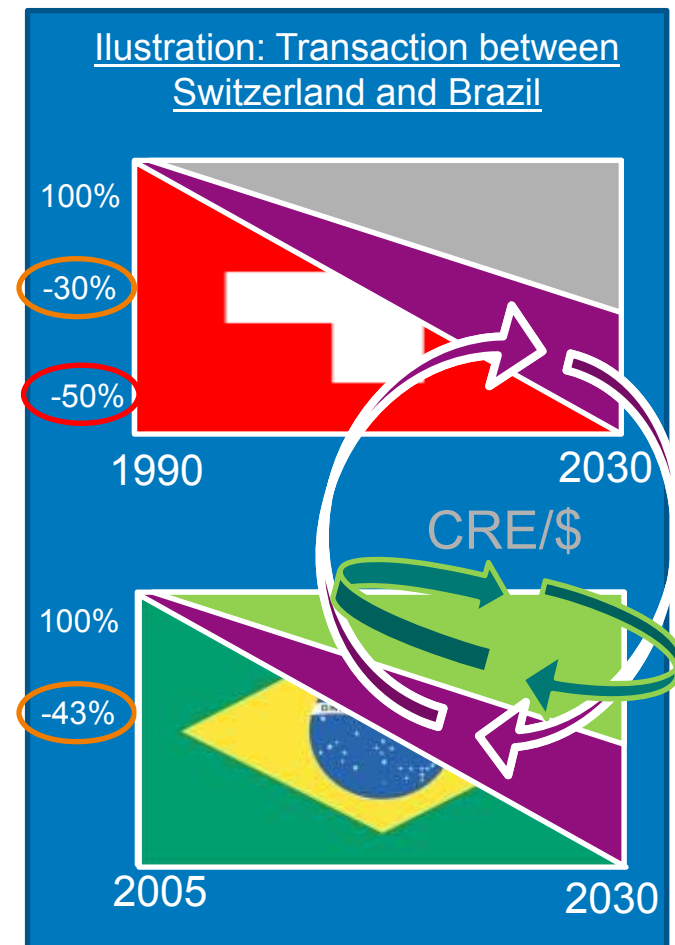
ETS for operational efficiency in existing assets (industry and power)	Domestic CDM to finance clean expansion
Existing assets such as fixed sources or transport subject to tradable Cap or Tax	Crediting clean infrastructure outside of existing installations attracts investments
Non abatable emissions can be managed & Compensated	 <p data-bbox="1366 718 1998 877">Complementary performance based mechanism orients best mitigation</p>
<p>BENEFITS</p> <ul style="list-style-type: none"> • Mitigate impact on energy cost and inflation and protect consumers. • Promote early action as investors will anticipate and balance their portfolio • Ensure (Inter)-national recognition of early action and MRV of results • Attracts investments and promotes economic expansion • Possibility to channel funds to other sectors • Promote indirect linking to attract international carbon finance 	

ILLUSTRATION OF INTERNATIONAL TRANSFER OF MITIGATION UNITS

- **Economy wide iNDCs are reference for accounting of international transfer of GHG mitigation units.**
- **The Swiss & Brazilian iNDCs allow visualizing the concept:**
 - Switzerland: demand for “carbon credits with high environmental standards” and intention “to use the CDM”, with rules that avoid double counting.
 - Brasil: Open to the use of market mechanisms that are established under the UNFCCC as long as any international transfers are “subject to prior and formal consent”.
- **Initially CDM can be a fundamental tool:**
 - Controlled by the UNFCCC;
 - Projects approved by host country DNA;
 - Globally comparable and recognized MRV;
 - Proven capability to promote private sector investment;
 - Compatible with other policies and climate finance;
 - Capable to satisfy domestic and international demands.
- **After successful indirect linking with CDM, countries may progress to direct linking of emission trading schemes.**



CONCLUSIONS

- Clean Infrastructure is capital intensive but a valuable investment for future generations.
 - Carbon Market Mechanisms increase the bankability of transformational projects
 - Climate Finance can reduce capital costs and mitigate regulatory risks
- The Paris accord establishes an ambitious GHG mitigation objective based on domestically defined mitigation commitments that will have to be “ratchet-up” over time.
- Carbon Market Instruments are seen as the key to enhance ambition.
- Domestic policies require the support of comparable and fungible global mechanisms.
 - Climate Finance flows in multiple channels and with diverse objectives. Private sector plays a crucial role to deploy these funds.
 - A universal global carbon market instruments with sound accounting may ensure linking between heterogeneous domestic, regional and global demand centers.
 - As parties will account for credit exports there is room for growth of international transfers
 - Increased focus on sustainability will require a more comprehensive approach