

Driving CCS deployment in the Developing World

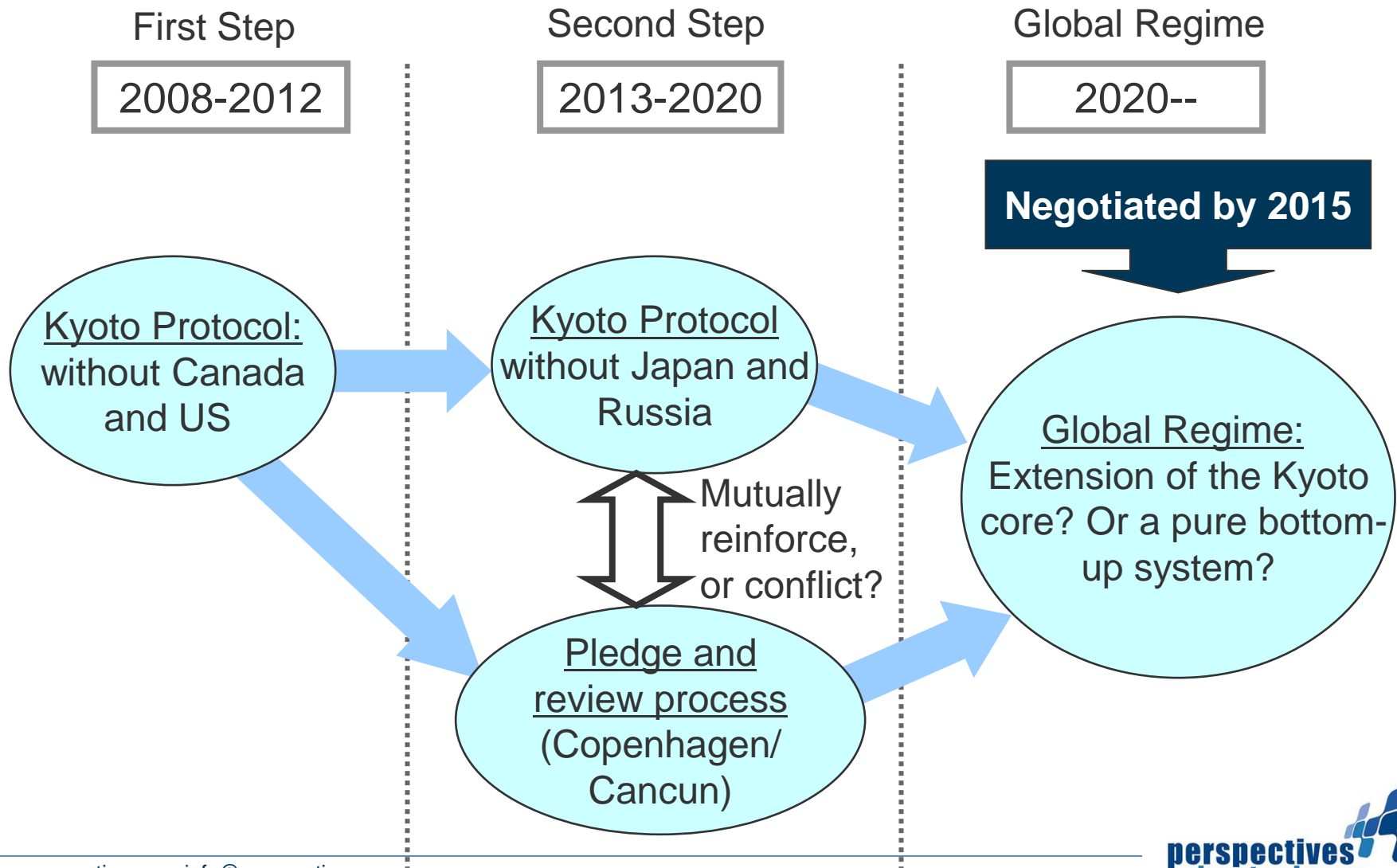
5th IEA International CCS Regulatory Network

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David Lunsford
lunsford@perspectives.cc
Perspectives GmbH, Zurich

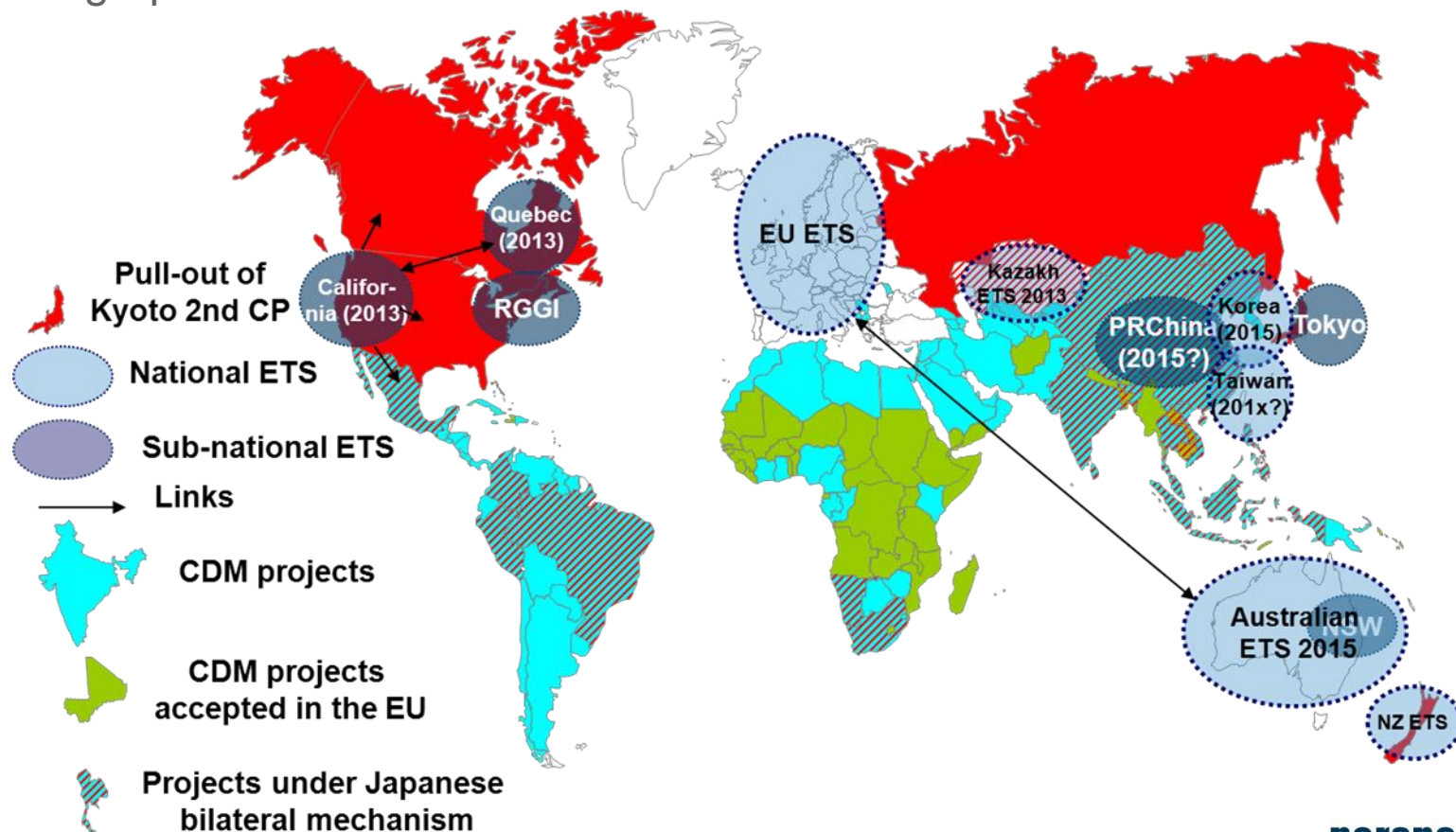
Brief background on carbon markets

International climate policy 2008-2020



The global carbon markets

Geographic overview of international and domestic carbon markets



Evolution of CCS in the UNFCCC context



Recap: CCS in the CDM

- Industry interest in submitting CCS projects under the CDM **since 2003/2004**
 - **Several methodologies** submitted (2 large, one small)
 - EB refers issue to COP
- COP 16 made a decision in 2010
 - Asking SBSTA to elaborate *modalities and procedures for the inclusion of CCS in geological formations* as CDM projects under special consideration of crucial factors
- COP 17 finally made **first decision on substance**, reflecting crucial issues and enabling application of CCS under the CDM
- COP 18 text was agreed stating that the consideration of Transboundary projects and Global Reserve of CERs is to be postponed until SBSTA-45 (in 2016) to allow time to learn from CCS projects

What are the most crucial factors?

1. Risks/uncertainty on long-term physical CO₂ leakage ([seepage](#))
2. [Project boundary](#) issues (such as reservoirs in international waters, several projects using one reservoir) and projects involving [more than one country](#) (across national boundaries)
3. Long-term responsibility for [monitoring](#) and [remediation](#) measures that may be necessary after the end of the crediting period
4. Long-term [liability](#) for storage sites
5. [Accounting](#) options for any long-term seepage from reservoirs
6. Criteria and steps for the [selection of suitable storage sites](#)
7. [Operation of reservoirs](#) (for example, well-sealing and abandonment procedures), dynamics of carbon dioxide distribution within the reservoir and remediation issues
8. [Environmental impacts](#): EU submission 2012 requires broader liability taking into account damage to ecosystems, material or injuries.



Regulatory decisions of COP 17 regarding crucial issues

- DNAs need to **generally authorize** CCS projects through a letter to UNFCCC which explains CCS legislation
- **Liability** during the **crediting period** and **at least 20 years thereafter** is to be taken either by the host or buyer country
- **Verification** is to be done **at least every 5 years** after the initial verification, whose time can be chosen freely
- **5%** of issued CERs on **reserve account** to cover seepage liability
 - Released to the project developers at the end of the crediting period + 20 years if no seepage has occurred
- **Host** countries **have to take liability** after the end of the 20 year period, but only if it was **proven during 10 years that no seepage has occurred**
- Project developers have to prove in the PDD that they have **sufficient financial cover** for their liability

Business opportunities



Current business potential

- Registration of a CCS opportunity as a CDM project
 - Remaining crucial issues have to be resolved
 - Data requirements
 - **Methodology** (e.g. NM0167, NM0168, SSC049) needs approval by CDM
 - Submission of CDM project
 - No **cross-border** issues
 - No **EOR** component
 - Capture of **vented gas** e.g. from LNG operation easier than from power plant
 - Typically **sizeable CER volumes** & revenue (even with currently low market prices?)

NAMAs



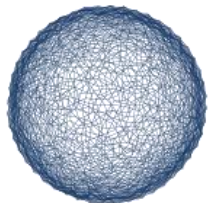
Nationally Appropriate Mitigations Actions (NAMAs) were introduced in Bali and specified in Copenhagen



- Concept created in the Bali Action Plan (2007) at COP13 to denote [voluntary] mitigation actions by developing countries after 2012

*“**Nationally appropriate** mitigation actions’ by developing country Parties in the context of sustainable development, **supported** and enabled by technology, financing and capacity building, in a **measurable, reportable and verifiable** manner.”*

- Further specified in Copenhagen Accord (2009) at COP15
 - Supported by technology, financing and capacity building
 - 30 billion \$US total by 2012; 100 billion \$US yearly until 2020
 - Should be measurable, reportable and verifiable - MRV



COP15
COPENHAGEN
UN CLIMATE CHANGE CONFERENCE 2009



NAMAs can be distinguished in unilateral and supported activities

- **Different views and different ways on NAMAs**
 - Institutional structure to support NAMAs
 - measurement, reporting and verification (MRV) of underlying measures
- **NAMAs can basically be categorized as follows:**
 - **Unilateral NAMAs:** mitigation actions independently funded and carried out by developing countries
 - **Internationally supported NAMAs:** climate protection measures in developing countries, supported by technical assistance and/or direct funding for climate protection from Annex I countries of the Kyoto Protocol ("directly" supported NAMAs)
 - can theoretically be co-funded through carbon offset credits generated for the amount of emission reductions achieved (colloquial “**NAMA crediting**”). However, credited NAMAs not officially defined under the UNFCCC (yet)
- **NAMA by developing countries and support by develop countries to be recorded in the registry**

Support for NAMAs is currently largely following two separate tracks

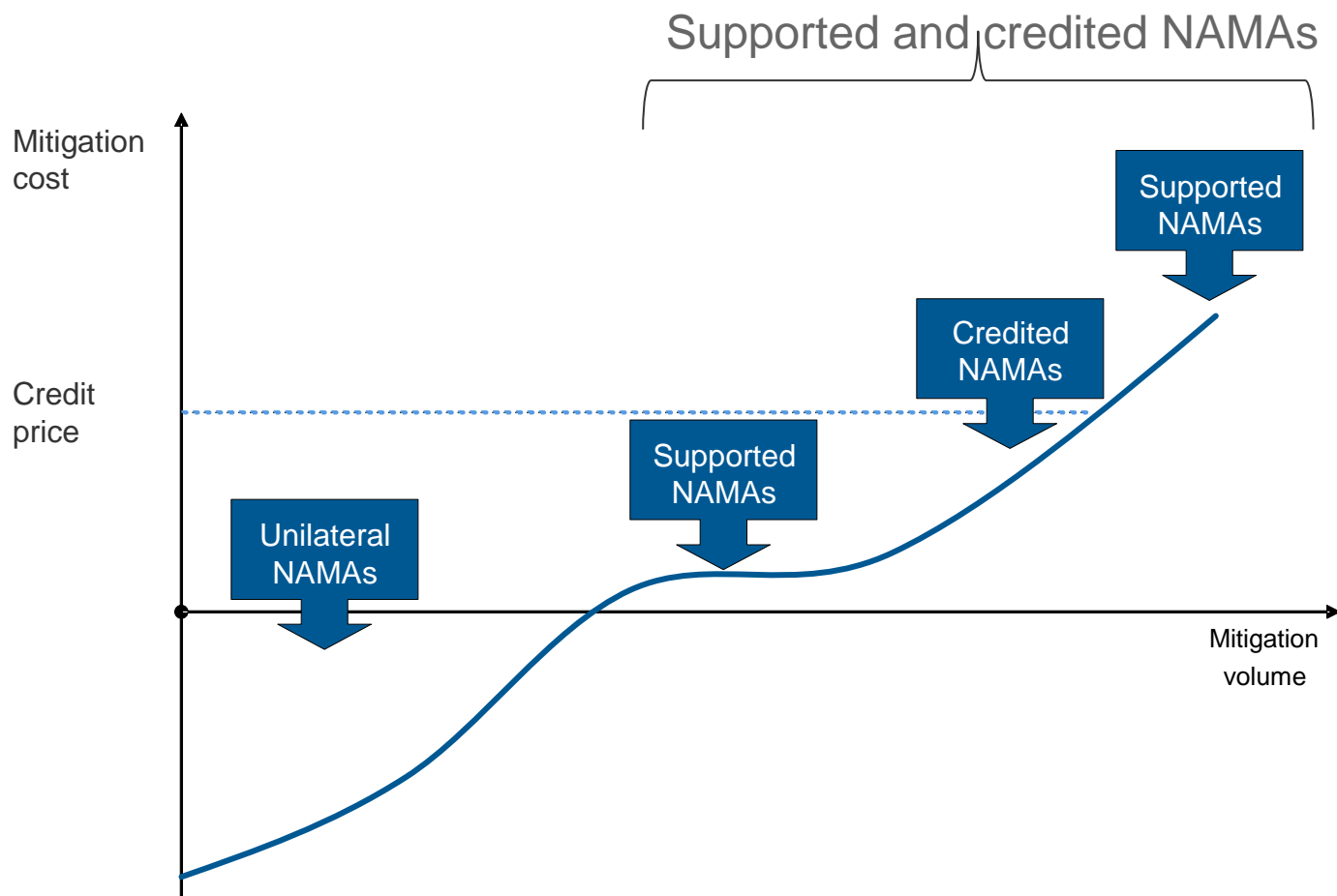
Formal approach through the UNFCCC negotiation rounds

- NAMA Registry
 - record NAMAs seeking international support
 - facilitate the matching of support with these actions
 - gives developed country Parties a place to list information on available support
- Little clarity on future sources, channels and financial flows for NAMAs.

Bilateral and multilateral initiatives outside of the negotiations

- negotiations through a number of programmes and partnerships
- support preparation for NAMAs and the development of the NAMA concept into an accepted mechanism for supporting developing country mitigation
 - E.g. NAMA in Mexico supported by World Bank's Clean Technology Fund (CTF), IDB and KfW

Different tiers of NAMAs (theoretical concept)



What are NAMA activities?

Direct measures

- Specific (Pilot-)Projects
- Regulations: Definition, implementation and enforcement
 - Introduction of standards
 - Feed-in tariffs
- Financial incentives provision, e.g. subsidies or soft loans

Indirect measures

- Studies and research activities
- Development of national/regional and sectoral strategies
- Institutional capacity building
- Campaigns and awareness raising

COP 18: “Work programmes” on NAMAs

- **Limited progress on modalities and procedures in Doha**
- Industrialized country NAMAs: end 2014
 - Comparability of efforts
- Developing country NAMAs: end 2014
 - Methodologies, support available, matching
- No decisions were taken on New Market Mechanism (NMM)
 - Framework for Various Approaches (FVA): end 2013
 - Criteria for environmental integrity, avoidance of double counting, institutions
 - NMM: **Finalise by COP-19 (end of 2013)**
 - Conservative methods, ambitious reference levels, adaptation tax
- Non-market mechanism: end 2013



NAMA PARTNERSHIP launched in Doha

- Objective:
 - enhance collaboration between multilateral, bilateral and other organizations
 - focus on information and knowledge sharing to deliver know-how in support of developing countries
 - in particular, on how to accelerate support to developing countries in preparation and implementation of their actions.
- No normative role in terms of setting standards, instead it aims to identify **best practices and share knowledge** to inform the preparation and implementation of NAMAs
- The three areas of work
 - NAMAs in the context of national development
 - Preparation and implementation of individual NAMAs in different sectors or technologies
 - Finance

The membership of the NAMA Partnership involves participation by technical organisations

Multilateral and Bilateral Development Banks



Bilateral Development Agencies

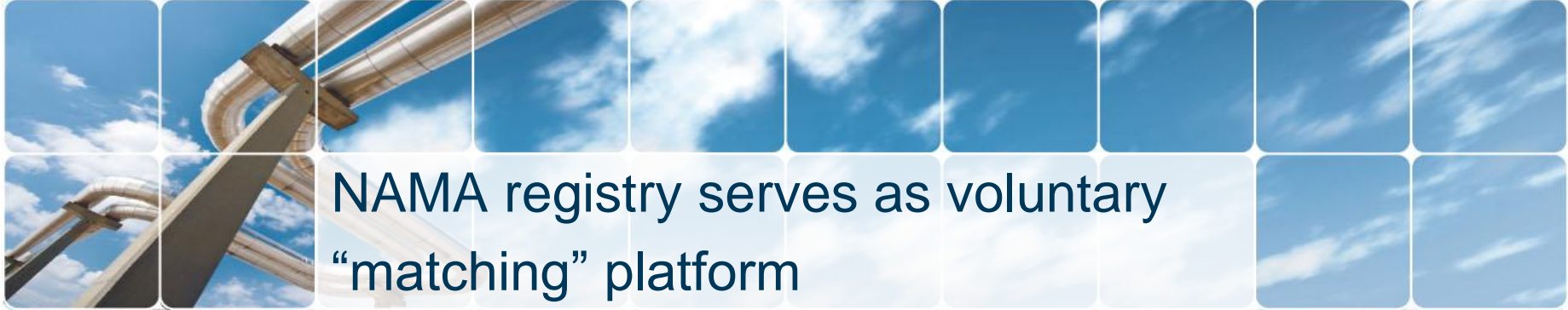


UN Agencies



International and national think-tanks from developed and developing countries

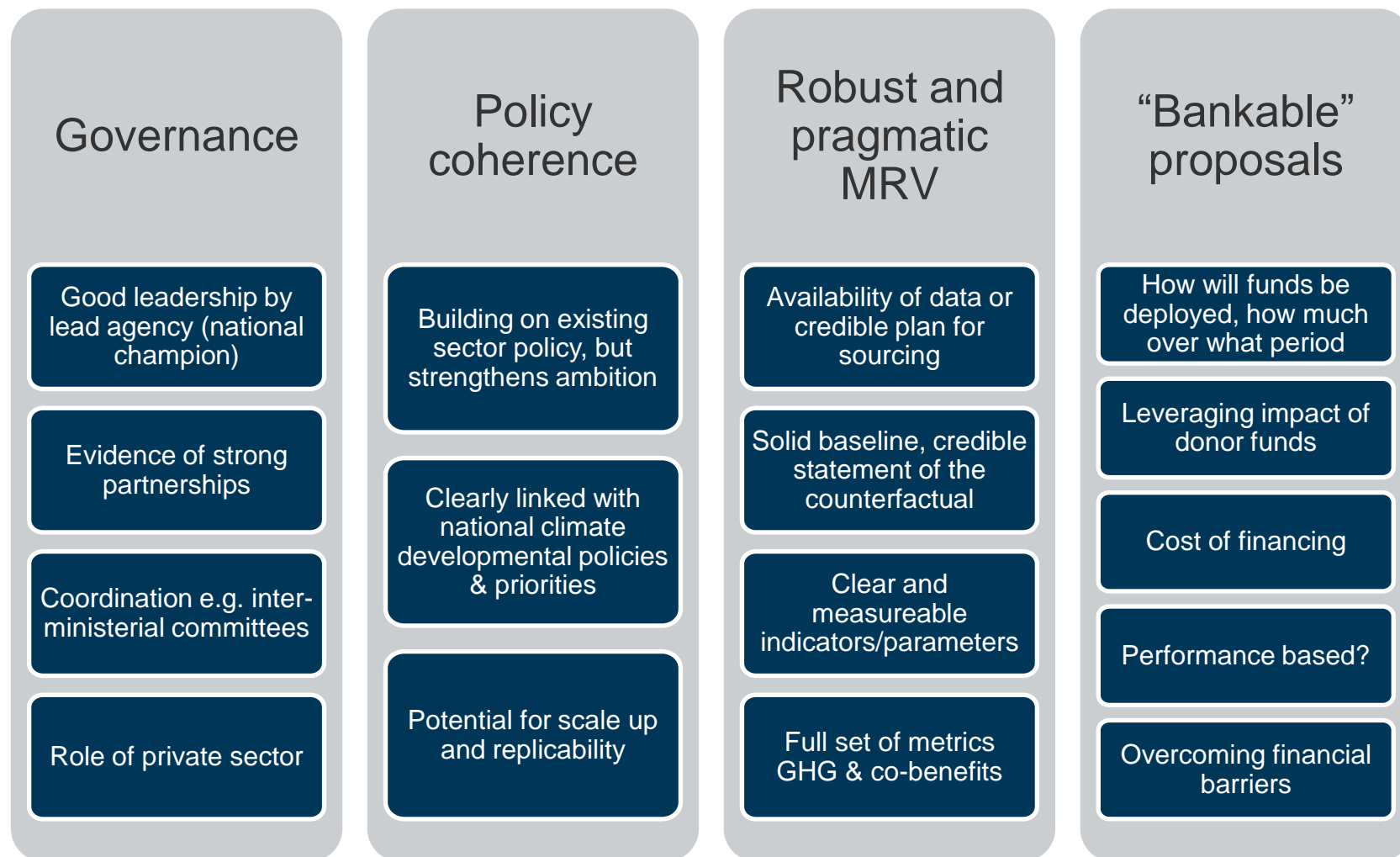




NAMA registry serves as voluntary “matching” platform

- **Dynamic, web-based platform** managed by a **dedicated team** in the UNFCCC Secretariat
- **Voluntary** participation
- **Flexible structure** “that clearly reflects the full range of the diversity of NAMAs, and a range of types of support”
- Solicited information, for the time being:
 1. Description of the mitigation action and the national implementing entity;
 2. Expected timeframe for the implementation of the mitigation action;
 3. Estimated full cost of the preparation;
 4. Estimated full cost and/or incremental cost of the implementation of the mitigation action;
 5. Amount and type of support (financial, technological and capacity-building) required to prepare and/or to implement the mitigation action;
 6. Estimated emission reductions;
 7. Other indicators of implementation;
 8. Other relevant information, including the co-benefits for local sustainable development, if information thereon exists

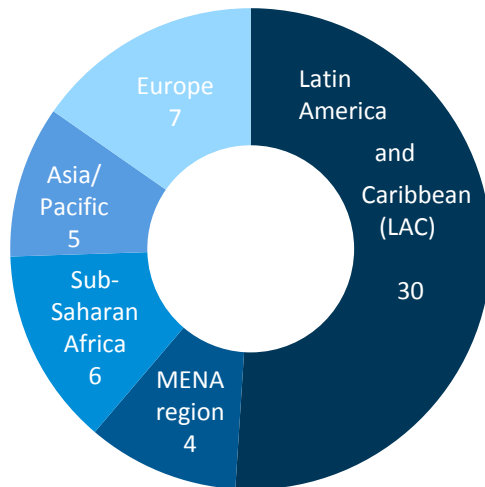
What are donors looking for?



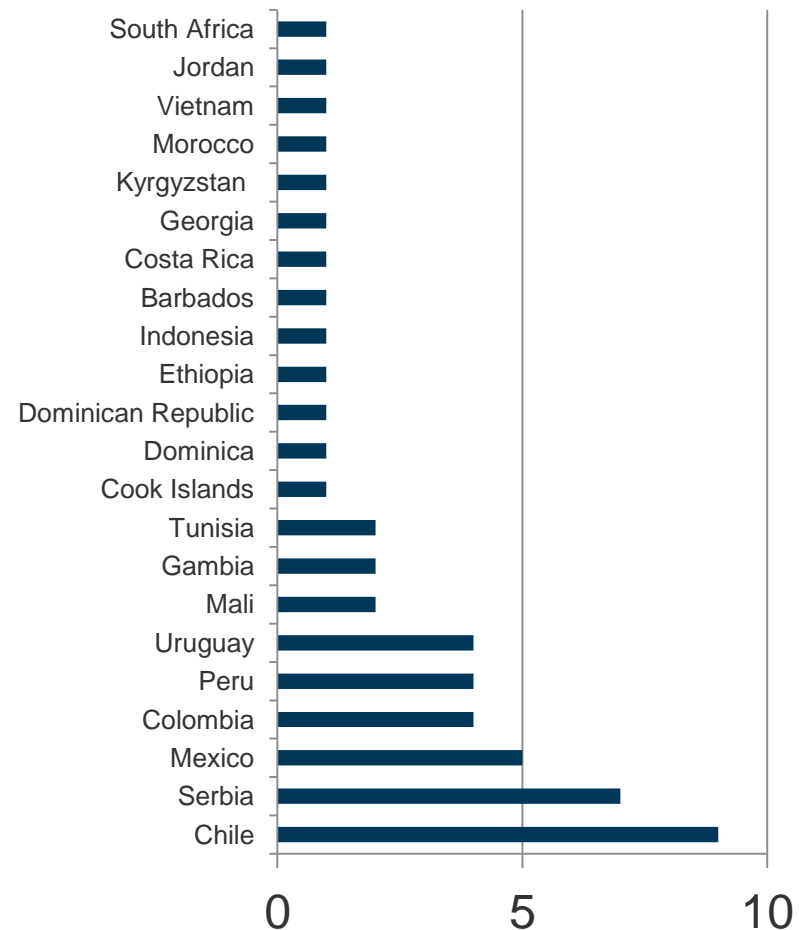
Source: Adapted from NEFCO, Supported NAMAs - the Funder's Perspective. UNFCCC Colombian Ministry of Environment workshop on NAMAs Medellin, 9-10 October, 2012

Currently 52 NAMAs in 22 countries are proposed with a concentration on Latin America and Africa ...

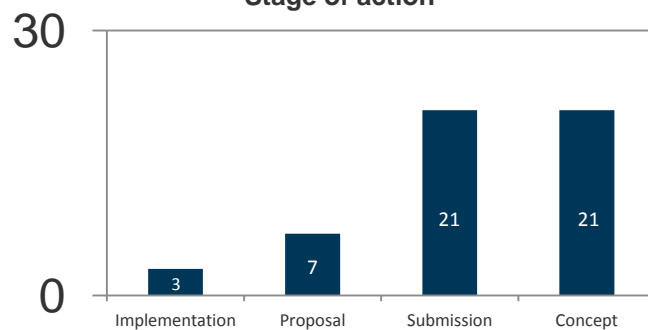
Regional distribution of NAMAs



Distribution of NAMAs by Country



Stage of action



Other future mechanisms



NMM and FVA Next Steps

- **Doha decisions:**
 - Parties decided on a work programme under SBSTA to elaborate modalities and procedures for the so called New Market Mechanism (NMM) to be agreed upon at COP19
 - Doha didn't bring much clarity to what the “framework for various approaches” would entail but concluded on a broad work programme.

- **Years of considerable research has gone into the conceptualisation of “Sectoral Mechanisms” which will be considered for the design of the NMM, i.e.:**
 - Sectoral Trading
 - Sectoral Crediting

Outlook



Outlook and possible next steps

- **CCS under **sectoral** approaches (New Market Mechanism)**
 - NMM standards & requirements not clearly defined by COP
 - Innovative, not yet significantly discussed
- **CCS under **Nationally Appropriate Mitigation Actions** (NAMAs)**
 - NAMA concept allows support for CCS feasibility studies, capacity building, regulatory and governance framework development on national level
 - > **preparation of concrete CCS application**
 - No CCS NAMA submission yet
 - Initial brainstorming with interested stakeholders

Thanks for your attention!

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David Lunsford
lunsford@perspectives.cc
Perspectives GmbH, Zurich