



The role of an International Carbon Reserve and our proposed Design



**The Carbon Ratings
Agency**

Background, framing the problem and IDEAcarbon's role

- Ongoing UNFCCC climate negotiations are not yet delivering the emissions reduction commitments required to keep global warming below 2°C.
- While the progress on a top-down global agreement continues, carbon trading is proliferating around the world, building substantial capacity for achieving emissions reductions.
- However, unless the wide range of carbon assets can be critically compared, and exchanged, the fragmented approach will be severely handicapped, with the potential for a 'race to the bottom'.
- Furthermore, experience with multiple carbon trading schemes to-date (RGGI, EU ETS, CDM) has shown that while abatement supply is adequate, fluctuations in demand can lead to a weak price signal for investors.

Defining the solution

- In order to shift the trajectory of global emissions towards levels which will prevent a 2°C rise in global mean temperature, a solution is needed that will embrace the current fragmented approach to climate policy but must address and correct for its flaws.
- To do this the solution must:
 1. Enable comparison between carbon units and link price to quality – to create a race to the top as opposed to a race to the bottom.
 2. Link carbon markets, in order to realise the massive gains in economic efficiency available from a globalised carbon market.
 3. Stabilise the price signal from carbon markets around the world.

Objectives for the design of ICaR

- The International Carbon Reserve (ICaR) goals are to provide forward-looking price stability in the international carbon market, to facilitate trade and to encourage a far greater level of investment and financial flows than would otherwise be likely.
- The price stability which an international carbon reserve could provide would enable greatly expanded financial flows into carbon abatement efforts globally.
- Linking heterogeneous abatement approaches globally, via an international carbon reserve would have many financial benefits, including improved liquidity, investment, price discovery, and economic efficiency as well as political benefits, by fostering shared goals, trading and principles among participants.
- The reserve's design and operational procedures would be created such that the sovereignty of participants in the ICaR scheme would not be impacted.

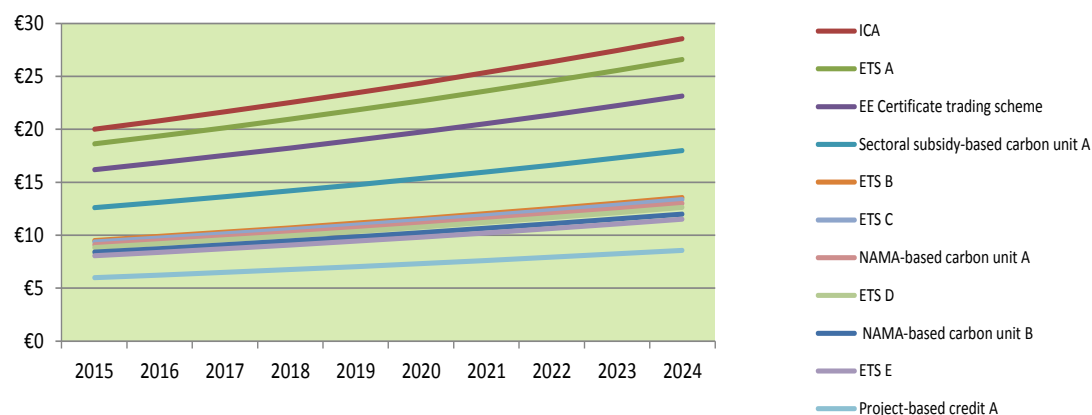
The ICaR value proposition

- The ICaR is built on the base of the national trading and abatement schemes and thus provides a unifying framework for connecting these schemes.
- The **key part** of the structure is the rating of the national schemes that will establish "the rate of exchange" between the domestic scheme and the International Carbon Reserve created by ICaR. An appropriate financial analogy is that of the rate of exchange between a national currency and Special Drawing Rights issued by the IMF.
- This rating has to be credible and hence the central role of an independent rating agency (CARA in this scheme). In fact, everything hinges on the willingness of the participants to accept the analysis of this entity therefore CARA's analytical capability is critical.
- ICaR connects domestic schemes and the global carbon market by allowing flows from the domestic scheme to ICA at the set rate of exchange. It gives domestic players an additional option in situations of oversupply or excess demand. Yet it does not require price equalisation and a dual price regime can continue.

Functions and goals of an International Carbon Reserve

- ICaR will first establish the desirable global international price e.g. €20 per tonne CO₂e.
- ICaR will commit to keeping ICA price with a set range (+/- 15%) of this price.
- Prices of each carbon asset will be based upon ratings from a **fully independent** ratings agency (Carbon Asset Rating Agency, CARA), multiplied by the global price.
- Since ICaR's global price will rise at a 2% rate above inflation, each asset price will do likewise, unless there is a change in its rating.
- Rating changes will result in changes to the exchange rate.

Chart 1. ICaR 10-yr purchase commitments



How ICaR will use the independent CARA ratings

- CARA applies its common methodology to create a weighted relative value for each heterogeneous asset.
- Only assets passing ICaR's required benchmarks will be eligible for ICaR inclusion.

Abatement approach	Ambition index rating	Environmental integrity rating	ICaR set 'international price'	Exchange rate	CARA benchmark status
ICA	100%	100%	€20.00	1.0000	AAA
ETS A	110.00%	98%	€21.56	1.0780	AAA
EE Certificate trading scheme	90%	90%	€16.20	0.8100	AAA
Sectoral subsidy-based carbon unit A	90%	70%	€12.60	0.6300	BBB
ETS B	50%	95%	€9.50	0.4750	BBB
NAMA 1	65%	70%	€9.10	0.4550	BBB

ICaR treatment of allowances and credits

- ICaR must be able to handle both allowance-type assets (from trading schemes) and credit/offset-type assets (from external abatement approaches).
- As such, cross-rates between allowances and credits will be achieved.

	ICA	ETS A	EE Certific	Sectoral s	ETS B	ETS C	NAMA-ba	ETS D	NAMA-ba	ETS E	Project-ba
ICA	1.00	0.93	0.81	0.63	0.48	0.47	0.46	0.44	0.42	0.40	0.30
ETS A	1.07	1.00	0.87	0.68	0.51	0.50	0.49	0.47	0.45	0.43	0.32
EE Certific	1.23	1.15	1.00	0.78	0.59	0.58	0.56	0.55	0.52	0.50	0.37
Sectoral s	1.59	1.48	1.29	1.00	0.75	0.74	0.72	0.70	0.67	0.64	0.48
ETS B	2.11	1.96	1.71	1.33	1.00	0.99	0.96	0.93	0.88	0.85	0.63
ETS C	2.14	1.99	1.73	1.35	1.01	1.00	0.97	0.94	0.90	0.86	0.64
NAMA-ba	2.20	2.05	1.78	1.38	1.04	1.03	1.00	0.97	0.92	0.89	0.66
ETS D	2.26	2.11	1.83	1.43	1.07	1.06	1.03	1.00	0.95	0.91	0.68
NAMA-ba	2.38	2.22	1.93	1.50	1.13	1.11	1.08	1.05	1.00	0.96	0.71
ETS E	2.48	2.31	2.01	1.56	1.18	1.16	1.13	1.10	1.04	1.00	0.74
Project-ba	3.33	3.10	2.70	2.10	1.58	1.56	1.52	1.47	1.40	1.34	1.00

ICaR operations with trading schemes

- In order to protect the sovereignty of participants, ICaR will introduce a 'dual currency system' in each participating ETS by offering to swap a set percentage of domestic allowances for ICAs, at the CARA-provided exchange rate.
- Multiplying the swap rate by the ICA price will give the 'international price' of that scheme's allowances.
- ICAs must be given a domestic compliance value equal to the inverse of the CARA rating in each scheme, to ensure the domestic cap is not affected by the swaps.
- For these swaps ICaR would 'issue' ICAs and cancel the domestic allowances received.
- As such, an ICA can be thought of a claim against the basket of domestic carbon units in ICaR, in the same way an IMF Special Drawing Right is a claim against the basket of currencies of the IMF members.

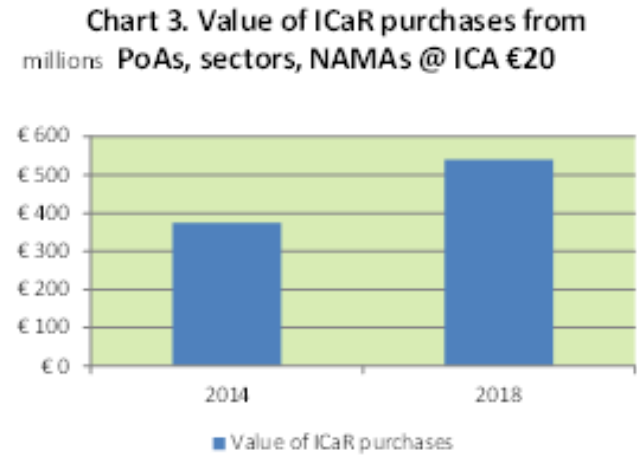
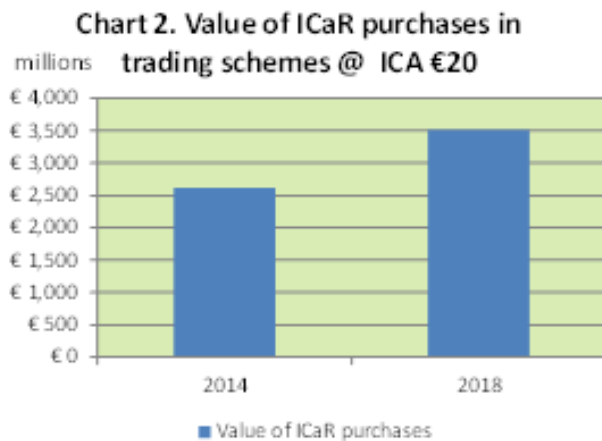
Example: If CARA rating for a domestic scheme is 50%, ICaR will set the scheme's exchange rate at 2:1, thus establishing the international price for the scheme at €10. ICAs would then be given a compliance value of 2 tonnes.

ICaR operations with external abatement activities

- ICaR will purchase pre-set values of carbon from national abatement activities. This could be done either with cash or via an exchange for ICAs.
- Either way would equate to the same price, since the exchange rate multiplied by the ICaR allowance value will give the implied price.
- As with an ICaR allowance swap, when a swap is undertaken with newly 'minted' ICAs, the swapped credits must be cancelled.
- Since cash has more 'moneyness' it will always be preferred over same value of ICAs. Therefore if liquidity in ICA's is to be increased, some discount may have to be offered.

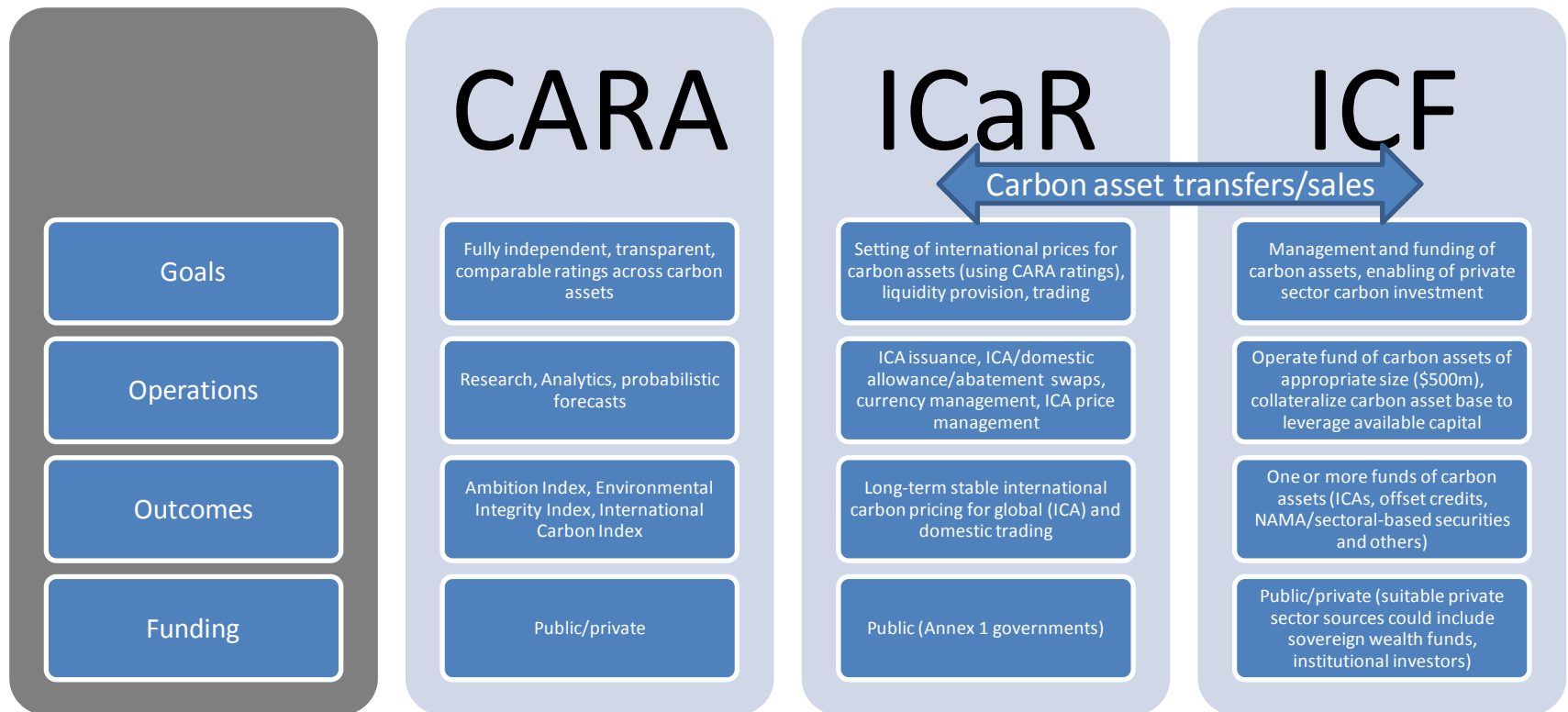
Funding ICA's price setting role

- Although ICA's will have multiple sources of demand (compliance and otherwise), in order to be a price setter ICA must be sufficiently well capitalised to defend ICA price against adverse conditions.
- We estimate that a capitalisation of no greater than \$40-\$50bn would be needed for a 10-year commitment, although this is highly dependent on factors such as price levels.
- Provided that ICA stays solvent its price interventions will result in trading profits, which could be used to fund other climate measures.



Structure and roles of CARA, ICaR and ICF

- Provided that the appropriate roles are allocated correctly and independence of the relevant bodies ensured, there may be a substantial role for public/private participation



Carbon 'Currency' Assets

- UN CER Assets (Global)
- Forestry (REDD+) Assets
- NAMA Assets
- 'ETS' Assets (California, China, EU, Quebec, New Zealand, etc)
- Energy Efficiency Certificate Assets (India, etc)
- UN FVA Assets
- Voluntary Carbon Assets
- Aviation Assets

International
Carbon
Asset
Index

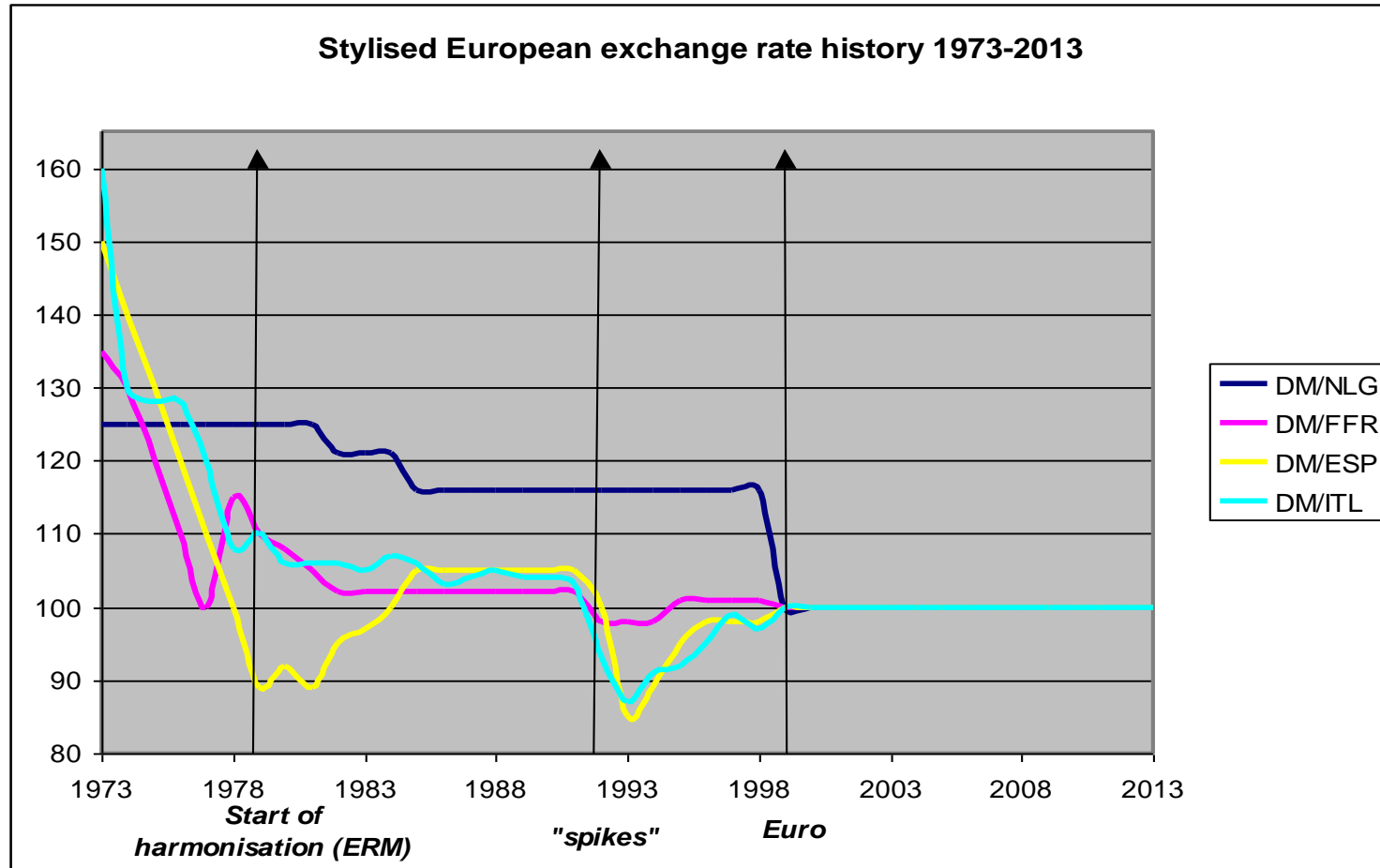
"Exchange" Rates
of Assets
Against
International
Carbon
Allowances

Real Exchange
Value
Ascribed
versus ICA,
via ICaR

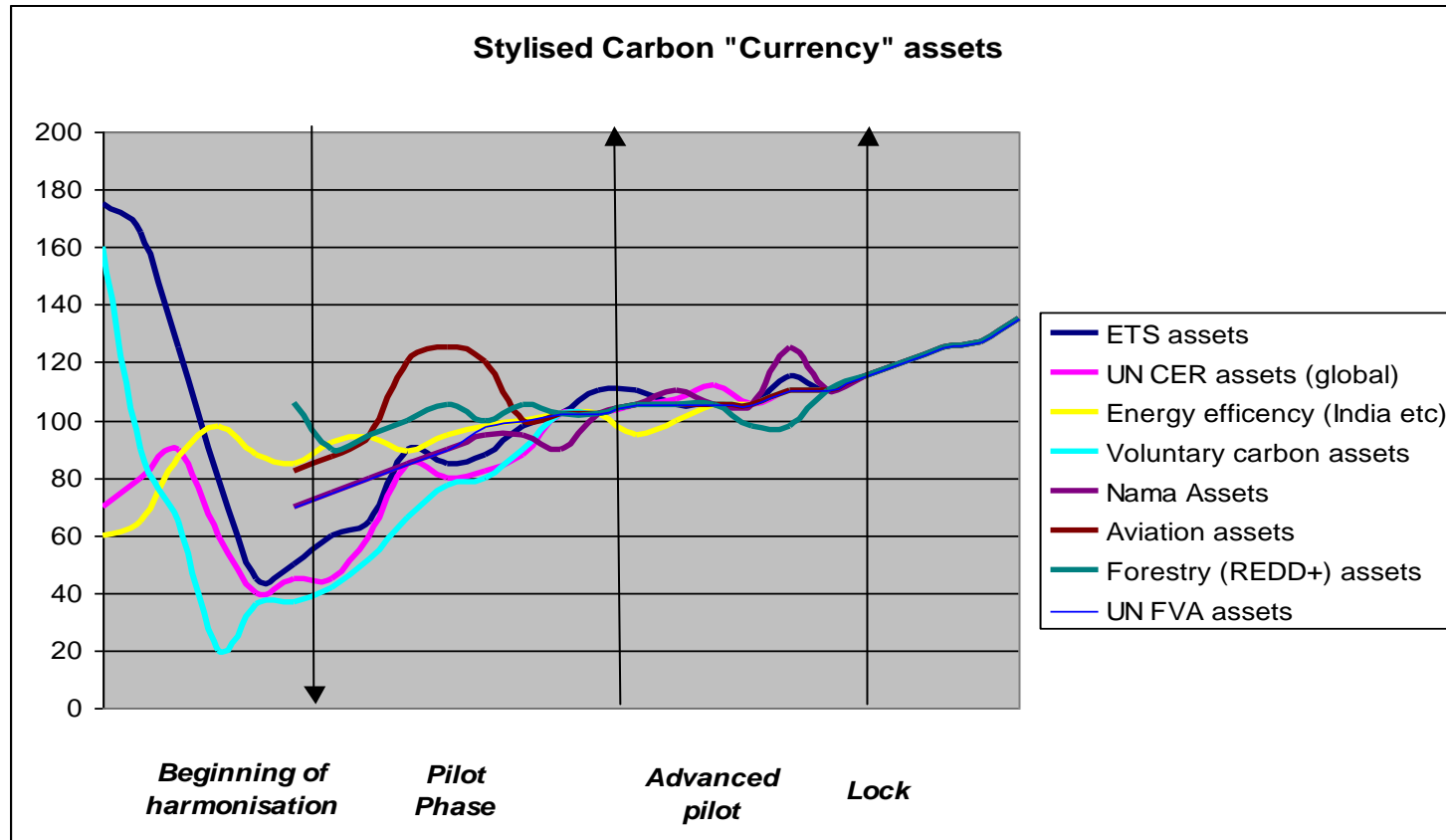
Input from our advisory group and friends

- IDEAglobal's advisory board and network of friends which includes Helmut Schlesinger, Neil Eckhert, Ng Kok Song, Nick Stern and others suggest experience of currency convergence, such as that of the European Monetary Union, can provide a helpful guide to design.
- Assessment of complex criteria for currency convergence is not new, and the IDEAglobal group has substantial expertise in the in the design of processes and assessments for managing currency convergence.

European exchange rate experience



Carbon "currency" assets



Key questions and answers

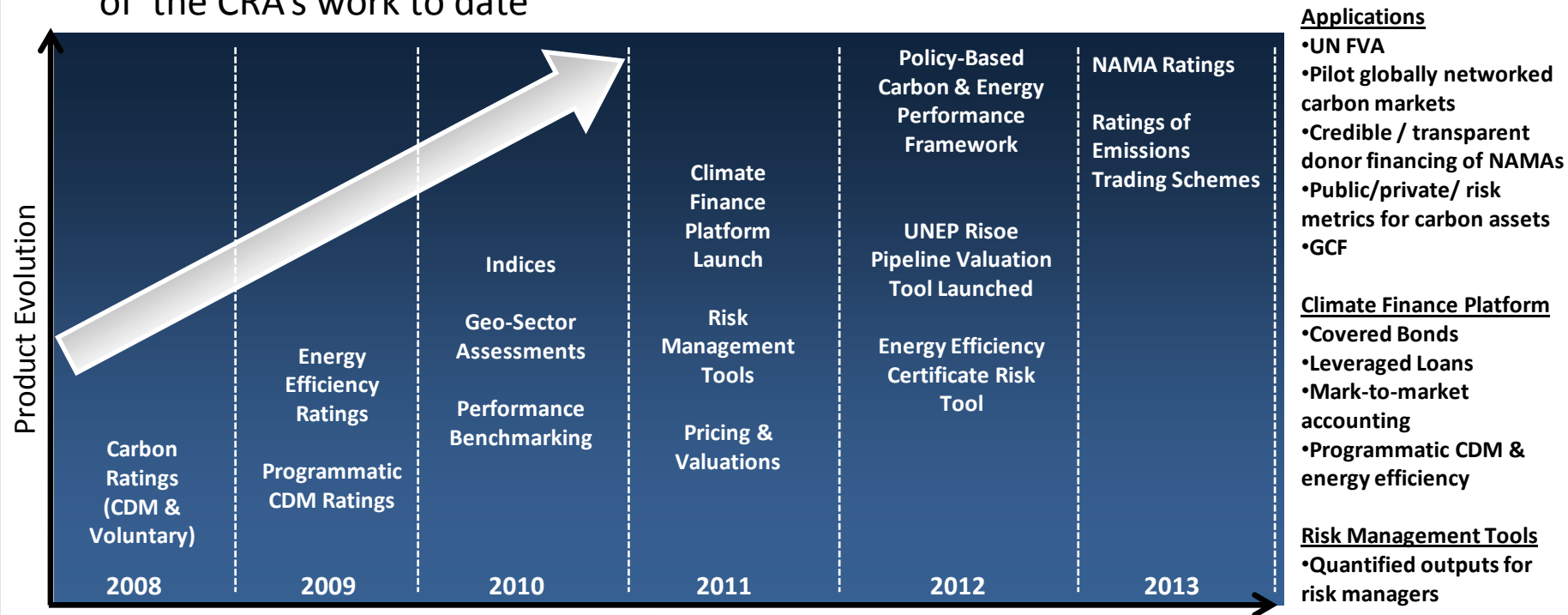
Five important questions we have been asked:

1. How is it possible to consistently rate different carbon assets?
2. How does an ICA become useable for international compliance?
3. How do ideas for a CDM/CER stabilization fund fit in with the ICaR scheme?
4. Will the ICaR need a 'endless pot of cash'?
5. How can the ICaR system recognise the other non-market climate policies that countries are enacting?

Q1: How is it possible to consistently rate different carbon assets?

The CRA's Product Cycle to date

- Ratings must be credible, transparent, rigorous and comparable to other asset classes.
- The CRA has already built a suite of rating capabilities to NAMA level.
- Ratings of 'abatement approaches' and international carbon index, natural extension of the CRA's work to date



Ratings work necessary to operationalize climate action

- The work to rate these different carbon assets (NAMAs, schemes, sectors, etc) to operationalize key global initiatives:
 - 1) UN Framework for Various Approaches
 - 2) Globally Linked Carbon Market
 - 3) Credible funding for the GCF
- Ratings must be to standard and rigour:
 - 1) comparable to ratings in other assets classes
 - 2) satisfy risk officers and regulators (margining, NAV, capital allocation etc)
 - 3) Enable credible public-private risk sharing

Those who have contributed to IDEAcarbon and the CRA

Mr Ian Johnson



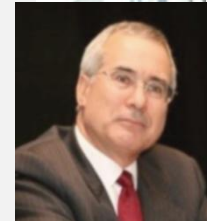
Mr Johnson co-founded both IDEAcarbon and the Carbon Rating Agency (CRA), following a distinguished career at the World Bank. For eight years he was the Bank's Vice President for Sustainable Development overseeing its work on climate change and carbon finance. Prior to that he played a major role in negotiating the establishment of the Global Environment Facility (GEF) and managed its day-to-day operations for six years.

Ms Christiana Figueres



Ms Figueres joined as Vice Chairman of the Carbon Ratings Agency in February 2009 and left in July 2010 as the new Executive Secretary of the UNFCCC and as such had to relinquish her role with the CRA. She sat on all CRA rating committee meetings during her tenure and initiated CRA's analysis work for programmatic CDM.

Lord Nicholas Stern



Lord Stern rejoined the IDEAGlobal advisory board in 2007 until March 2013 and was vice chairman of IDEAGlobal group between 2007 and 2008. The author of the seminal Review on the Economics of Climate Change and former Chief Economist at the World Bank, currently the IG Patel Professor of Economics and Government at the London School of Economics. He was Adviser to the UK Government on the Economics of Climate Change and Development, reporting to the Prime Minister from 2003-2007

Mr Nitin Desai



Mr Desai joined IDEAcarbon's Advisory Board in 2008. Mr Desai is a Special Advisor to the UN Secretary General for Internet Governance, and chairs the Advisory Group that organises the annual UN Internet Governance Forum. He is an Honorary Fellow of the London School of Economics and Political Science (LSE), and advises the Indian Government on its national climate change action plan.

NAMA Ratings

- Ratings are anchored in fundamental and portfolio ratings
- This pattern parallels the development of ratings in other well-accepted financial asset classes
- The Carbon Ratings Agency is well-positioned to develop ratings of carbon assets on the basis of related experience developed to date

Q2: How does an ICA become useable for international compliance?

A:

- When a national or sub-national scheme joins the ICaR scheme, it automatically accepts the ICA as valid for compliance in its own scheme.
- Furthermore, it is quite possible that the UNFCCC could approve the ICA for compliance under the FVA, and therefore recognized for UNFCCC obligations.
- Even further, it is possible that an ICaR member scheme, whose units did not pass the UNFCCC's tests for FVA, could participate in the FVA via swapping its units for ICAs at the CARA discount rate (since the discount would effectively give them FVA approval).

Q3: How do ideas for a CDM/CER stabilization fund fit in with the ICaR scheme?

A:

- ICaR treats CER's as just another carbon 'asset' or currency in the index & allows CER's participation within the ICaR framework
- This inclusion rightly compares CERs relative to other key ICaR assets and gives them appropriate 'credibility & value'
- Inclusion provides valuable relative value to CER's (irrespective of a stabilization fund) 10 year forward 'price discovery' within the ICaR's structure leverages CER's (or pooled CER fund) to all benefits of ICaR
- In summary, the value of a 'CER stabilization fund' is enormously strengthened within an ICaR framework

Q4: Will the ICaR need a 'endless pot of cash'

A:

- With appropriate market regulation, it is possible to calculate ICaR's capitalisation requirements for any given set of domestic scheme members, by multiplying the volumetric purchase commitment by the set of price commitments.
- Furthermore, this maximum capitalisation requirement would only be tested in the case of global demand falling off completely.
- The required regulation to safeguard ICaR would be a ban on 'naked' short selling of ICA's.

Q5: How can the ICaR system recognise the other non-market climate policies that countries are enacting?

A:

- CARA ratings will take into account all of the relevant climate policies which interact with any carbon asset it rates.
- For instance, in a scheme where the 'shadow' price of carbon is higher than the allowance price this could push the ambition rating above the 100% level. Potentially leading to a domestic unit's international price being above the ICA price.
- Similarly, different ratings could be given to the same asset but from different countries. For instance, within the EU there are substantially different climate policies in various countries, on top of the EU ETS. A country with generous subsidies for wind and solar, would achieve a higher rating on its EUAs than a country which does not.