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The potential for trading schemes in developing countries

This presentation builds on work completed under contracts with:

- DECC – Securing private sector engagement in Sectoral Approaches
- DFID – Supporting the development of the Indian Energy Efficiency trading scheme

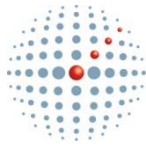
***The views expressed in this presentation are those of Camco
and should probably not be interpreted as those of the UK or Indian Governments***

21 September 2010

Keith Regan

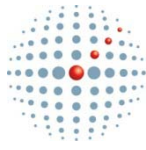
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Summary and context

- The CDM is in need of reform, especially for more advanced developing countries
- International finance needs to be scaled-up and as a result sector-wide approaches have been raised
- This presentation puts forward an alternative to sectoral trading, sectoral crediting, “no lose” sector-based targets, nested CDM etc. etc.
- It argues that an intensity-based carbon or energy efficiency trading scheme is an attractive solution
- It is a solution that:
 - Addresses “additionality” in an economically robust way, but that yet is very simple
 - Could generate large flows of carbon credits (and hence investment capital)
 - Can be credited as a single, national “project” (/NAMA)
 - Allows for economic growth in developing countries
- This presentation uses the Indian PAT scheme as a working example of how this can work, and then goes into some of the economics – for which I apologise in advance....

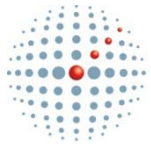


The Indian Perform Achieve and Trade scheme (PAT)

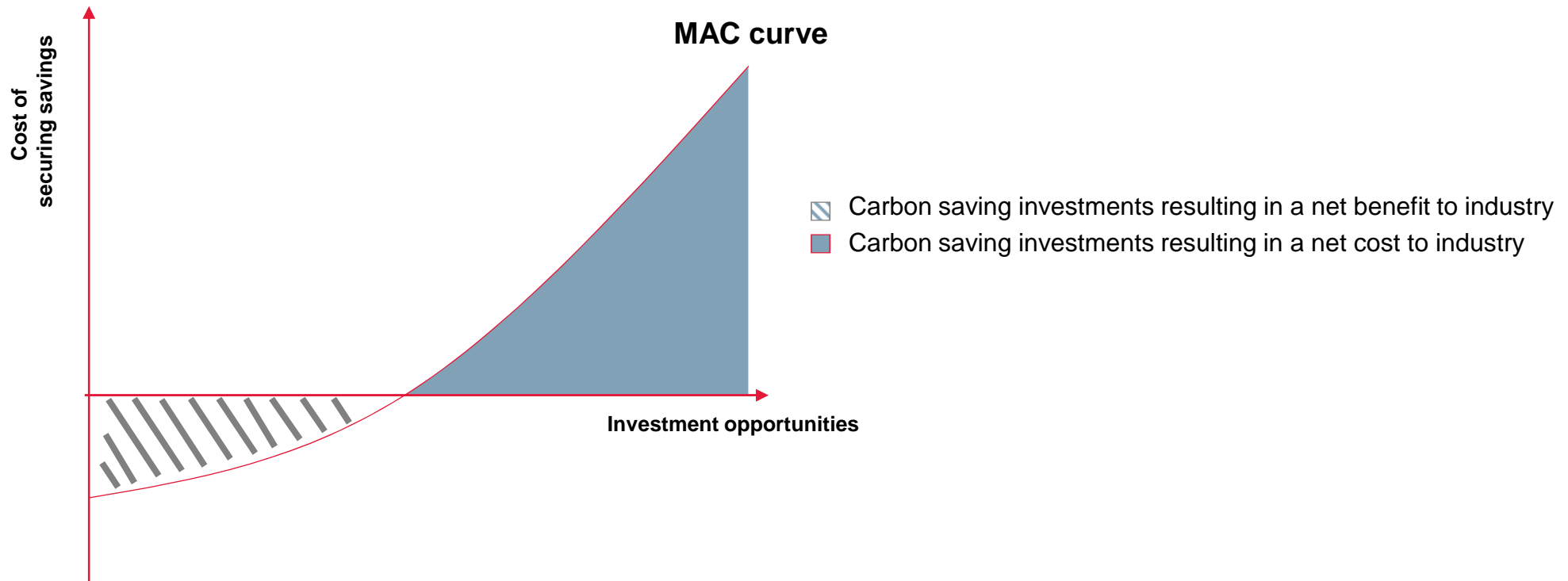
- India has a carbon intensive generation mix with coal and oil contributing 80%
- Key drivers for the policy are domestic:
 - competitiveness in a globalised market
 - energy security in the context of high forecasts
- 9 energy intensive sectors covered, 714 of the largest energy **producers** and **users**
- Installations are given **energy intensity** targets: it will be mandatory and measured in tonnes of oil (e)
- If participants beat the target, they are awarded energy saving certificates – if they fail to meet the target, they have to buy other installations' surplus certificates
- It is a domestic policy measure that follows a domestic-interest agenda

However....

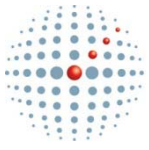
- ***Improving energy efficiency is a good proxy for emission reductions***
- ***International carbon finance could be used to drive higher EE targets***



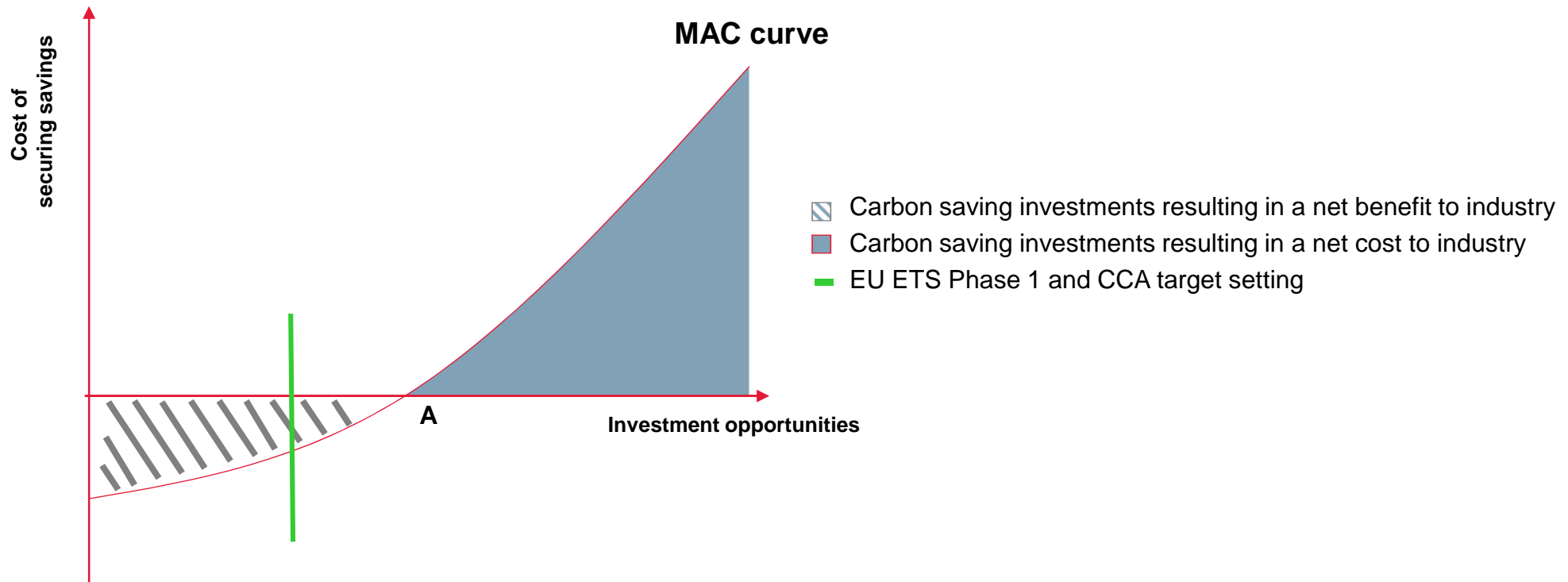
The standard MAC curve...



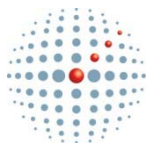
- In theory, projects with positive NPVs should already have been identified and undertaken (hashed area). Historically this has not held true because of market imperfections (management awareness, capital availability)
- The blue block-shaded area represents the area under the MAC curve where the cost of investment in emission reduction projects outweighs the benefits of reduced costs



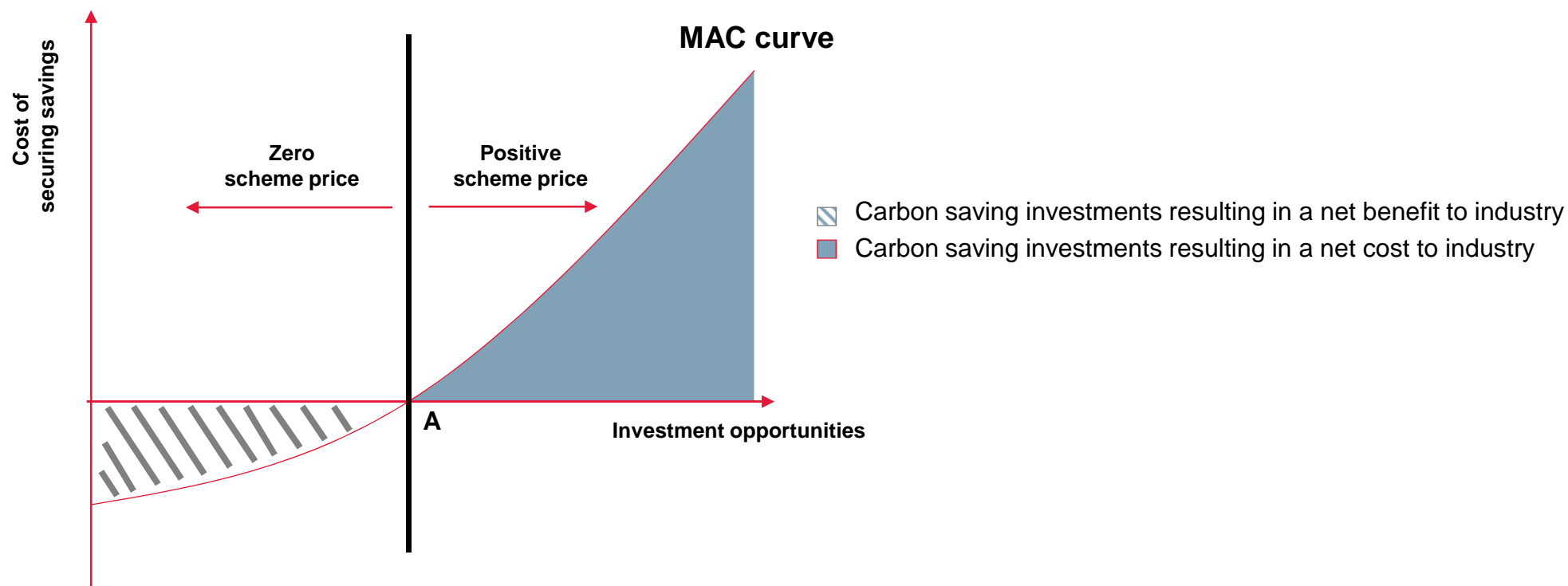
Some schemes have suffered from “zero” price issues



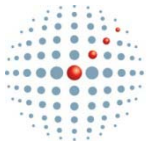
- In theory, projects with positive NPVs should already have been identified and undertaken. Historically this has not held true because of market imperfections (management awareness, capital availability)
- The blue block-shaded area represents the area under the MAC curve where the cost of investment in emission reduction projects outweighs the benefits of reduced costs
- When the target for abatement is set to the left of point A, there should be a zero price for the allowance (once the market has found its equilibrium point – q.v. EU ETS Phase 1)



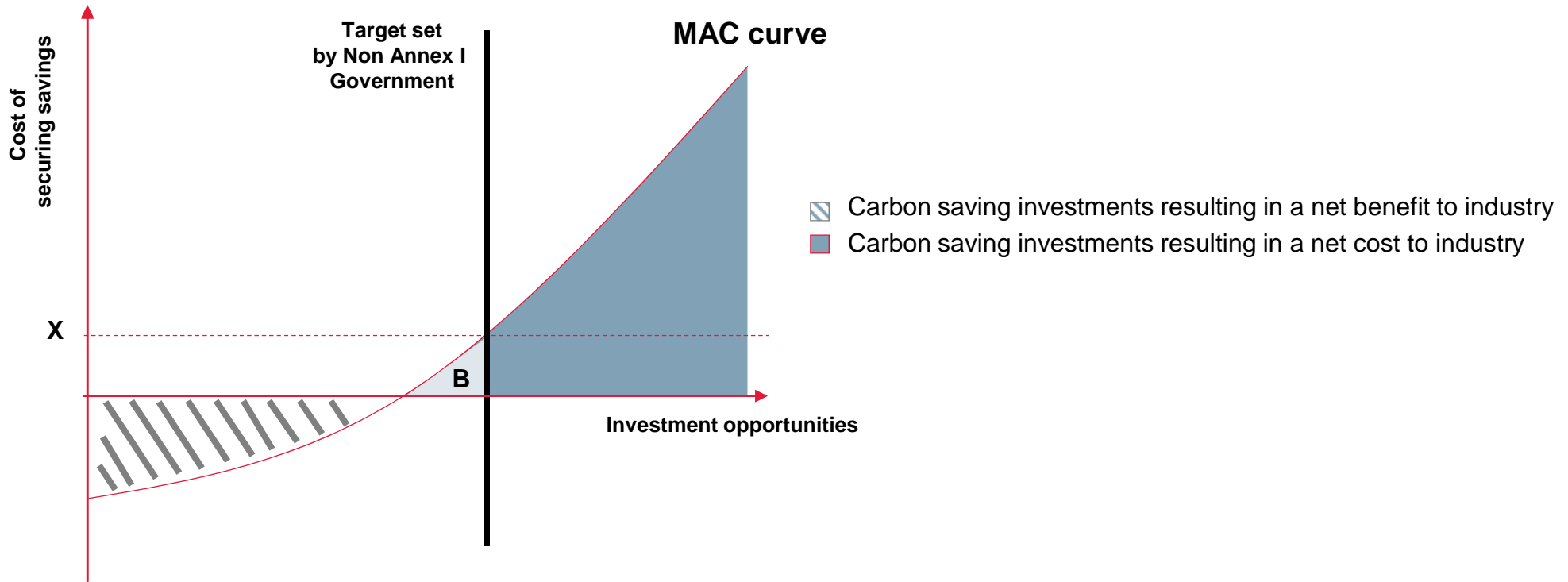
Key Point 1: Using a trading scheme to “discover” additionality



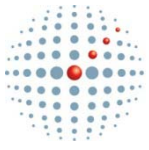
- If there is to be an Carbon price >0 , the scheme target (represented by the black vertical line) will need to be located in the blue-shaded area of the MAC curve.
- To use CDM language, the black line above could be said to represent the boundary between “additional” and non-additional projects
- It is my hypothesis that the area to the right of point A could, or even should, be funded through international finance
- ***A positive trading price = a cost to industry = “additional” action***



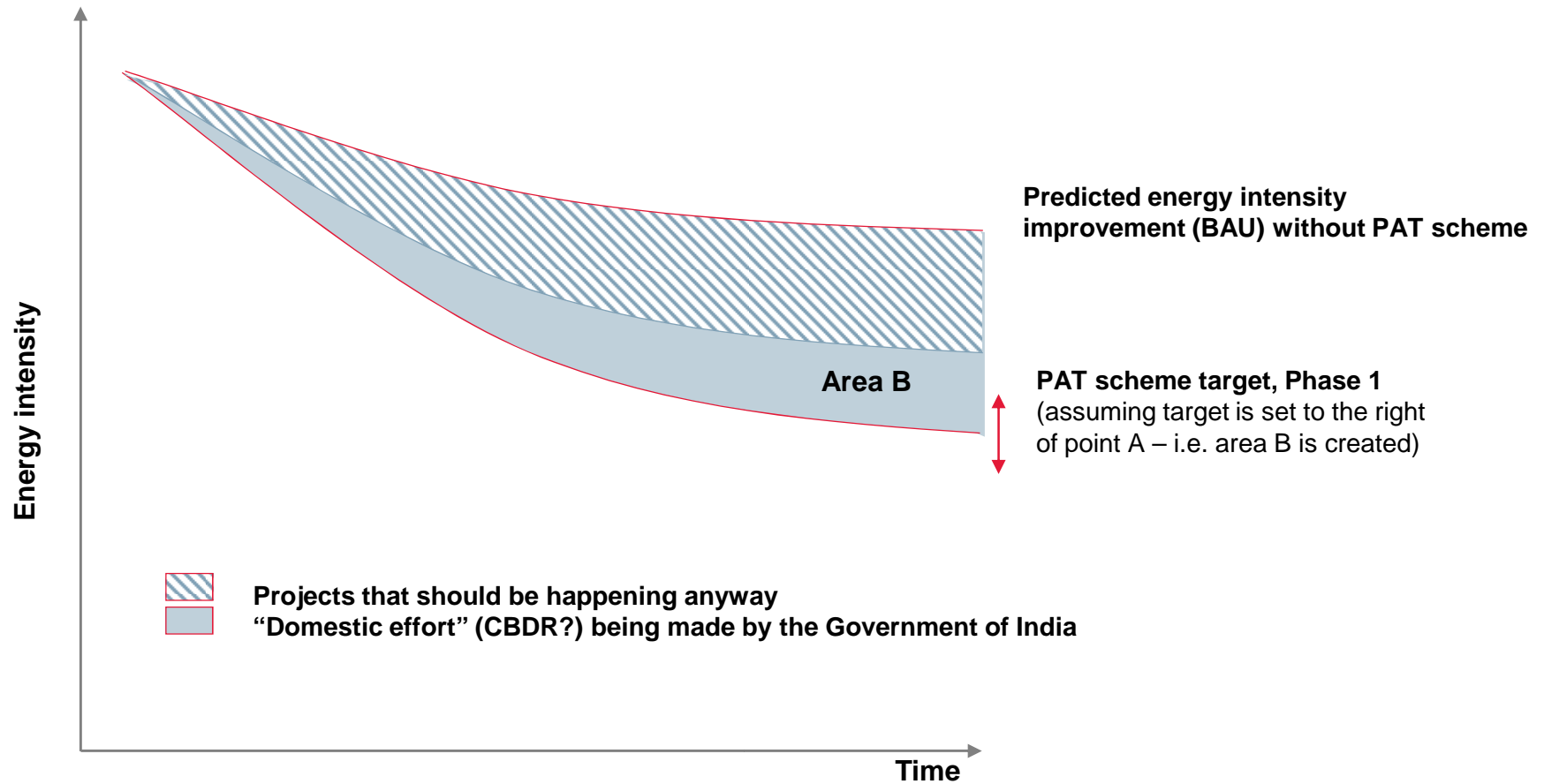
Robust trading schemes could be supported through Fast Start

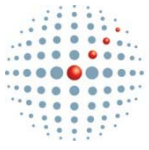


- Non Annex I Government sets a scheme carbon saving target that results in a “cost of compliance” **X**
- **Area B could be viewed as “CBDR” contribution**

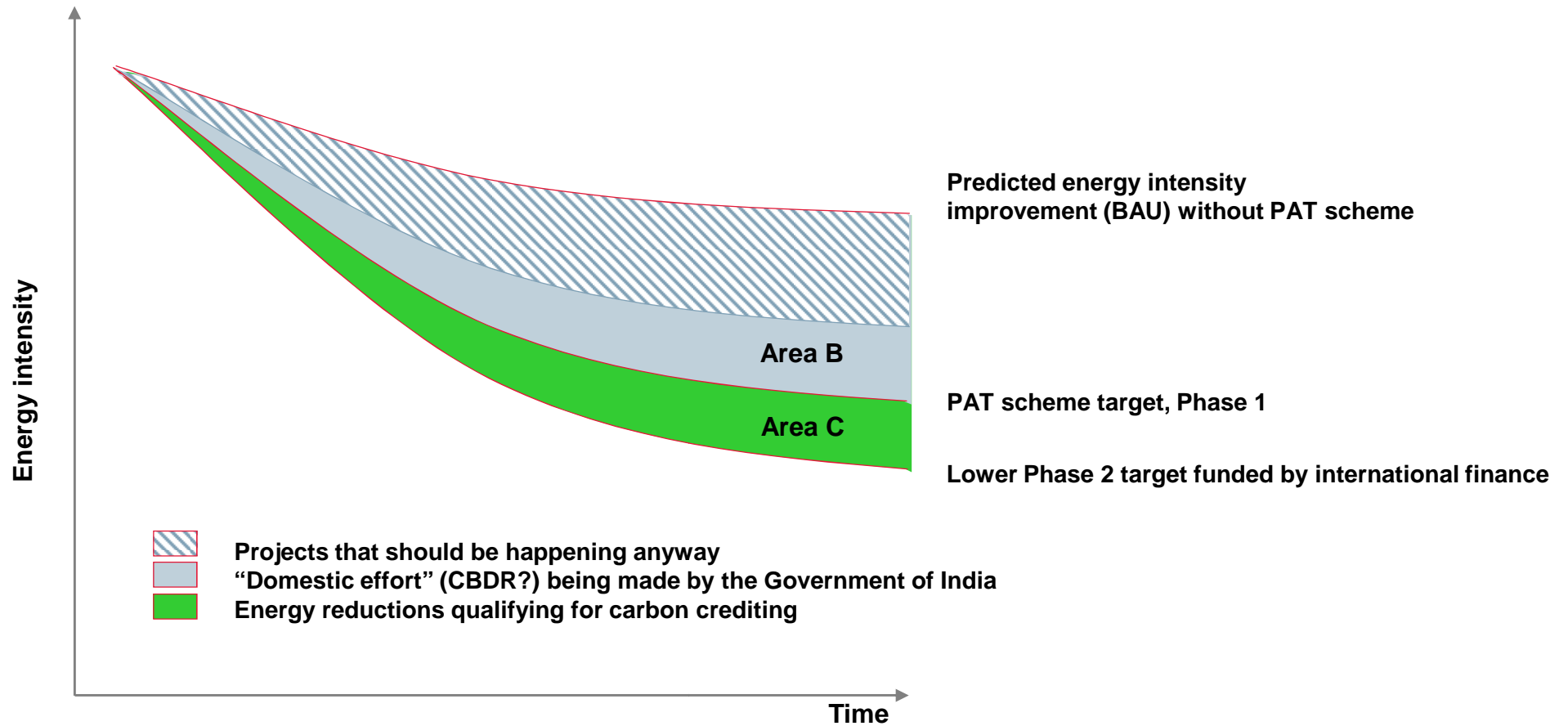


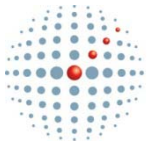
A different way of looking at the same areas: the PAT scheme



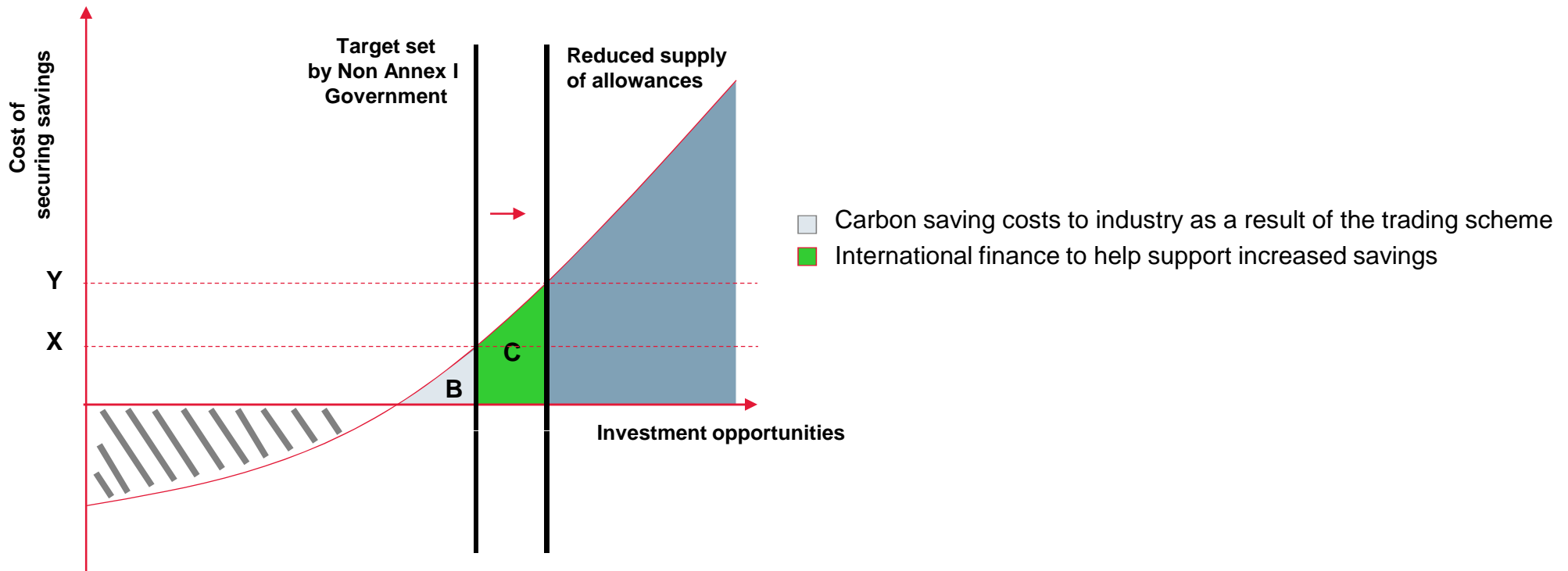


Key Point 2: Using International Finance to fund deeper targets





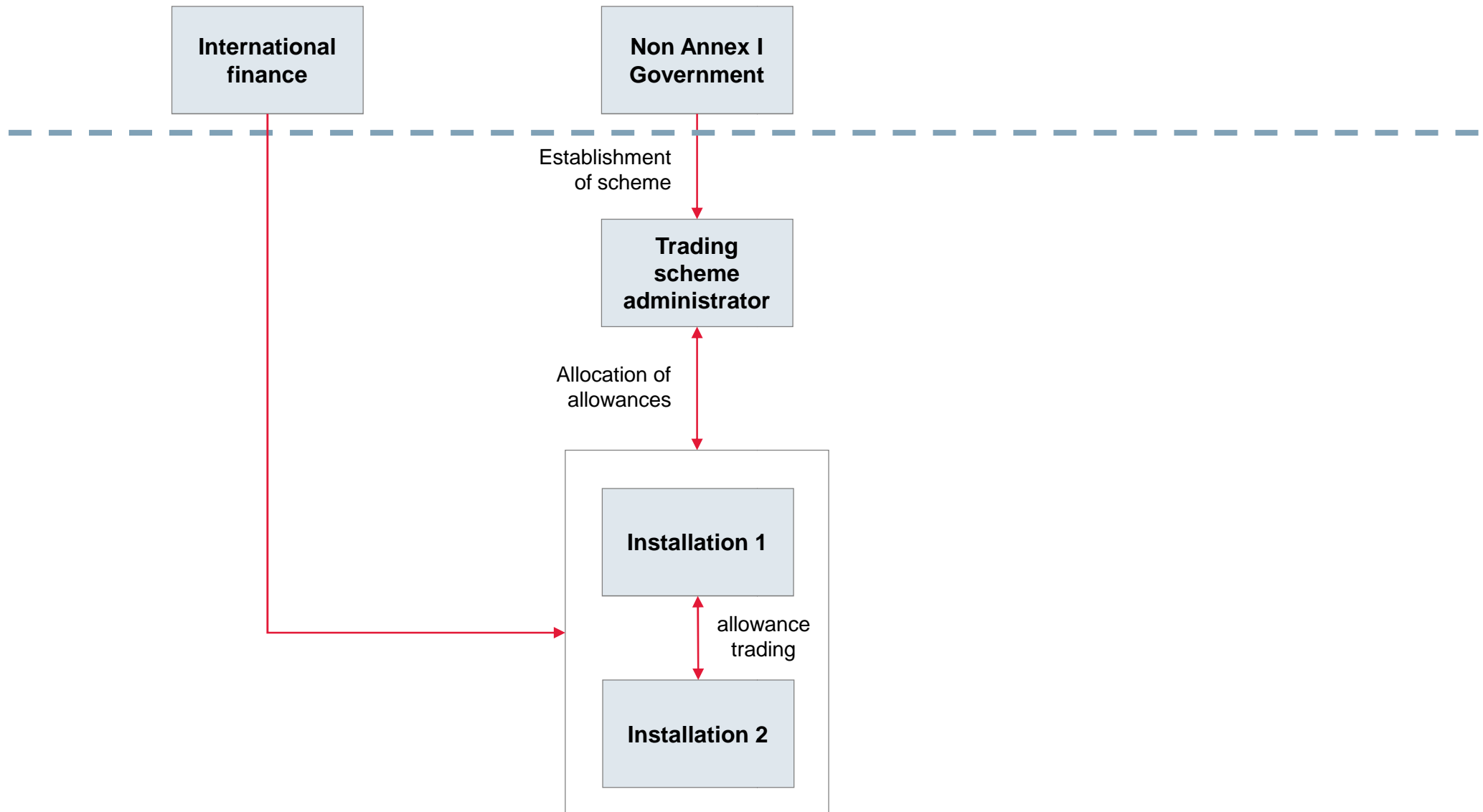
Three mechanisms to deepen the target (and generate finance)

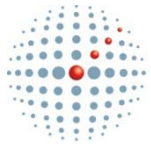


1. Allowing an international link where trading scheme participants can exchange scheme allowances for carbon credits (e.g. CERs issued by the UNFCCC). This reduces the supply of allowances in the scheme, thereby “tightening” supply. This approach would inflate the domestic scheme price up to the international carbon price level. The carbon revenue would flow directly to industry
2. Non Annex I Government buys and retires scheme allowances during trading period in exchange for carbon credits. By limiting its intervention, the Non Annex I government could exert control on how high the domestic price was allowed to climb. The carbon revenue would flow to the Non Annex I Government
3. Non Annex I Government tightens the overall targets upfront or during a periodic review (e.g. between Phase 1 and Phase 2). The Non Annex I Government would receive a one-off payment (which could be carbon credits) to reflect the deepening of the targets

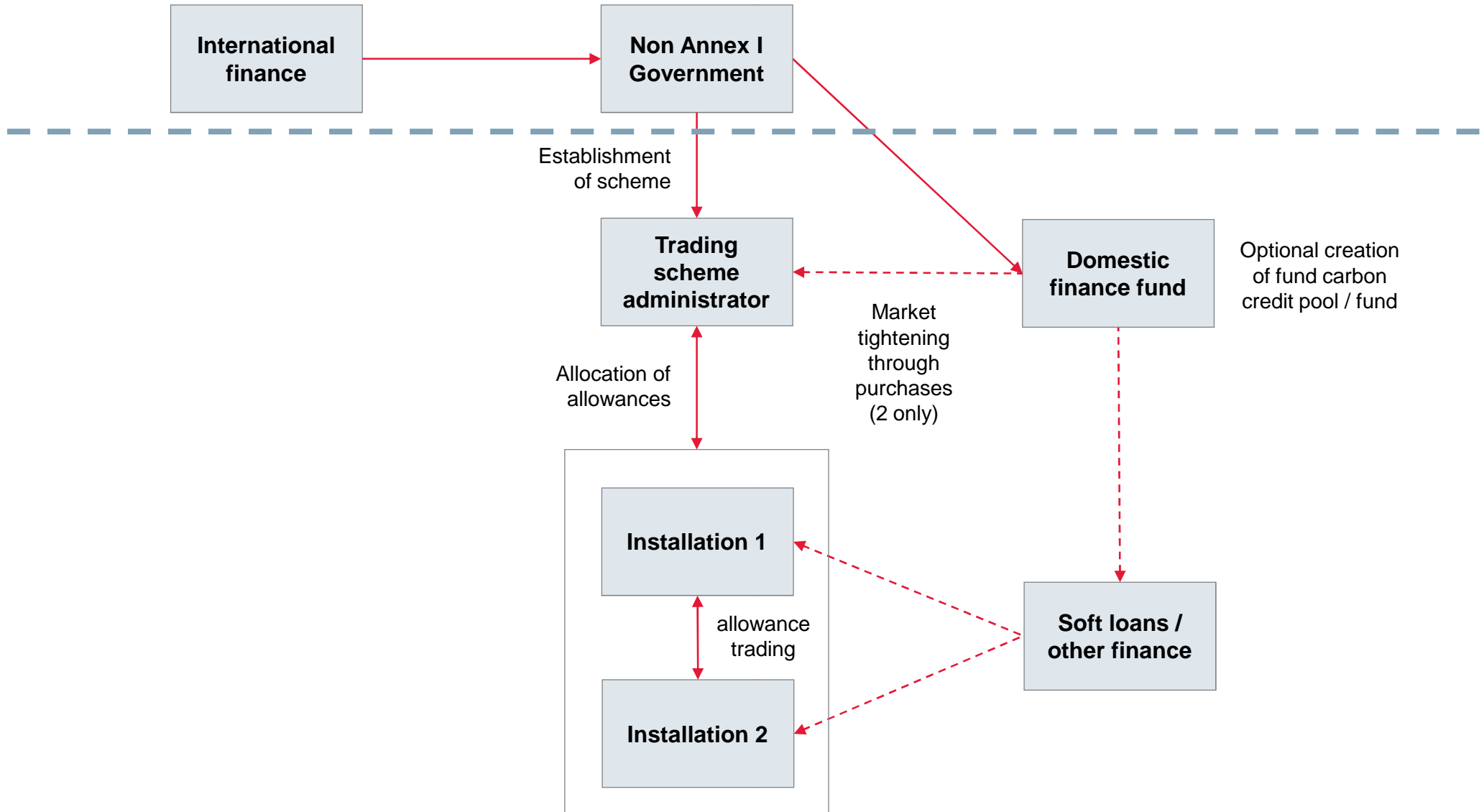


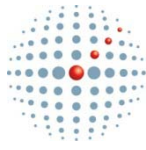
A possible structure for securing international finance (1)





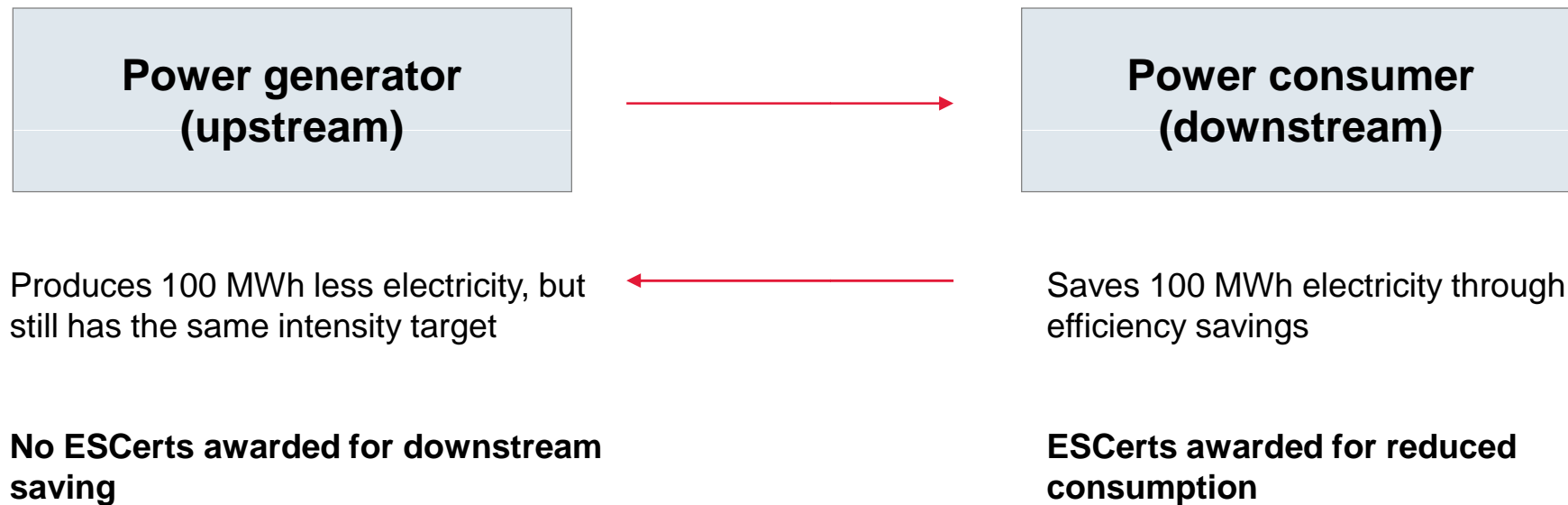
A possible structure for securing international finance (2 & 3)



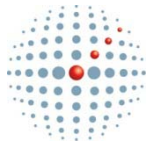


Key Point 3: Intensity-based schemes have advantages

- The focus on EE enables the targeting of both production and consumption without the “double counting” issues that would be created if the EU ETS wanted to cover electrical energy consumption
- In the PAT scheme, reduced consumption downstream does not automatically lead to an upstream benefit for the electricity generation sector



- ***The focus on energy efficiency (an intensity measure) allows the PAT scheme to tackle both energy production and consumption***



Intensity-based schemes for Annex I countries?

- The primary driver for using **absolute** targets in Annex I countries is the belief that only absolute caps can guarantee emission reductions. This is true, technically, but highly misleading

Assume 2% long term annual economic growth

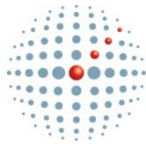
Required p.a. intensity improvement

- 20% (30%) reduction target by 2020
- 60% (80%) reduction target by 2050

4.1% (5.4%)

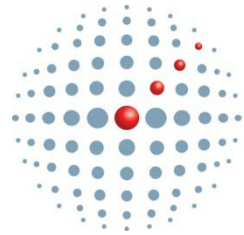
4.2% (5.8%)

- If actual economic growth is above the forecast in any one period, total emissions would be slightly above the long term target. If growth is below the forecast, total emissions would be ahead of the target
- Economic growth would have to be higher than the required intensity reduction target for absolute emissions to increase
- With the required intensity targets more than double the growth rate, this is unlikely...
- [An absolute cap is a special case intensity scheme where the economic growth variable is arbitrarily fixed at 0%]
- ***While intensity targets cannot guarantee absolute reductions, the numbers do!***



Conclusion

- Carbon or energy efficiency trading schemes are an attractive solution because they:
 1. Address “additionality” in an economically robust and elegant way
 2. Have the potential to generate large flows of carbon credits (and hence investment capital):
 - Uses International Finance to support emission reductions in Non Annex I countries
 - A trading scheme can be created as a single, national “project” (/NAMA) covering large % of emission sources
 3. Intensity-based targets (for energy or carbon) are attractive because they:
 - Can cover more of the economy than absolute targets by avoiding double counting issues
 - Allow for strong economic growth in developing countries
- As targets deepen, intensity-based trading schemes could be revisited in Annex I countries



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