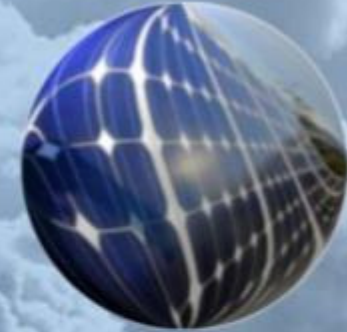


Pocket Guide to Carbon

August 2008

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COMMON ACRONYMS

Annex 1	Industrialised nations that have GHG reduction commitments
CDM	Clean Development Mechanism
CER	Certified Emission Reduction (unit for the CDM)
CO ₂ eq	Carbon dioxide equivalency: a quantity that describes, for a given mixture and amount of GHG, the amount of carbon dioxide that would have had the same GWP when measured over a particular timescale (generally 100 years)
DOE	Designated Operational Entity: an accredited organisation that validates and certifies CDM projects
DNA	Designated National Authority
EB	Executive Board: the highest authority for the CDM under the UNFCCC
ERU	Emission Reduction Unit (unit for JI)
EU ETS	European Union Emissions Trading Scheme
GHG	Greenhouse gas
GWh	Gigawatt hour (million kWh)
GWP	Global Warming Potential

COMMON ACRONYMS

IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
JI	Joint Implementation
kWh	Kilowatt hour
LULUCF	Land Use, Land Use Change and Forestry
MW	Megawatt
ODA	Official Development Assistance
PoA	Programme of Activities
PDD	Project Design Document
SD	Sustainable Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WMO	World Meteorological Organisation

CONTENTS

-  Overview of South Pole
-  Overview of the carbon markets
-  The Clean Development Mechanism
-  Carbon in Africa
-  The Voluntary Markets

SOUTH POLE HAS A WEALTH OF INTERNATIONAL EXPERIENCE

- 9 offices worldwide
- Over 40 carbon professionals
- Projects in 18 countries
- Carbon market experts from McKinsey and Company, myclimate Foundation and 500ppm Ltd
- Representation on UN Methodology Panel



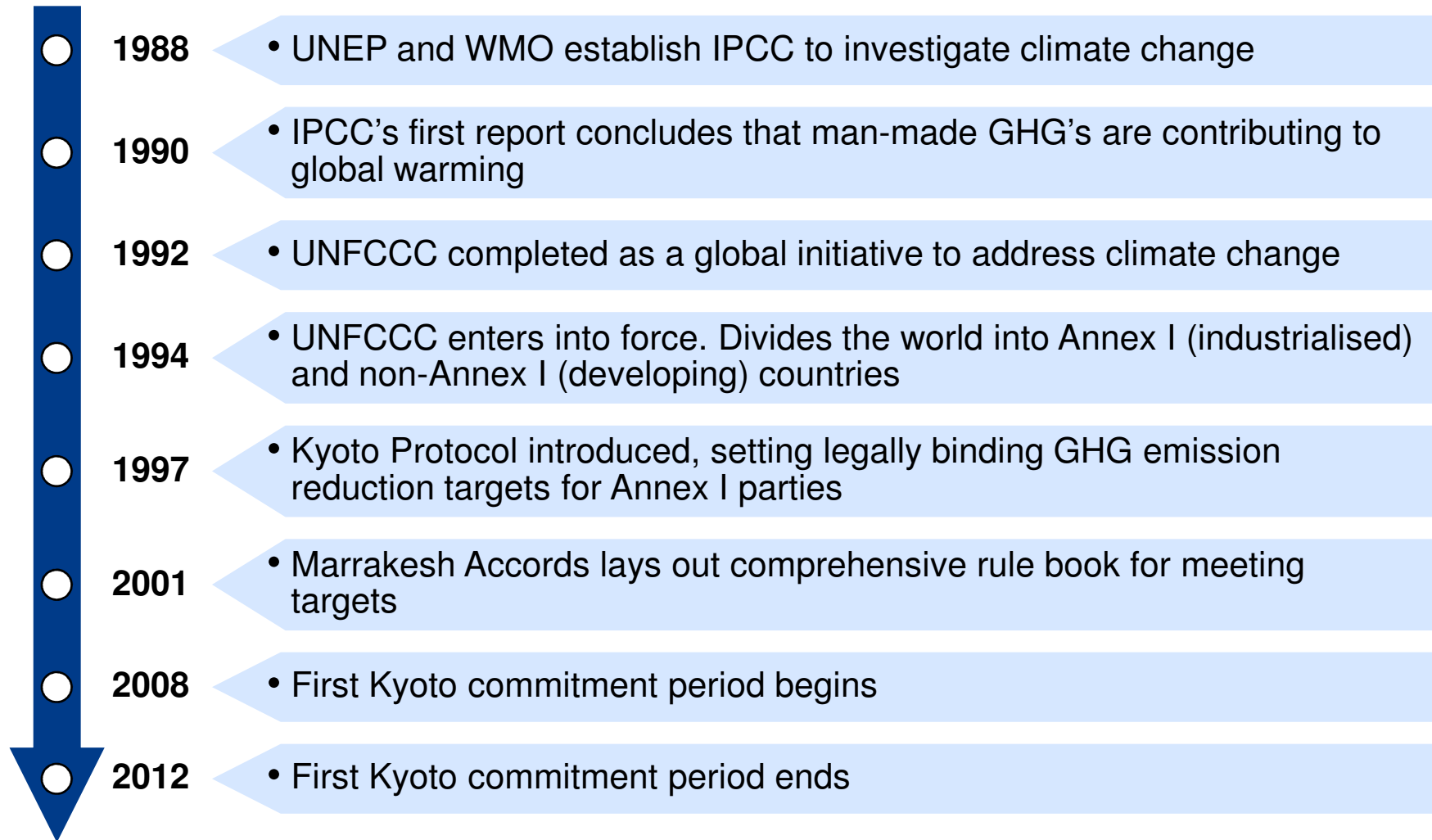
SIGNIFICANT EXPERIENCE IN THE CARBON INDUSTRY

Factor	Description
Diverse geographic and industry experience	<ul style="list-style-type: none">• Over 100 project across 18 countries worldwide• Span industries including renewable energy (wind, hydro, landfill gas, biomass), waste water treatment, biofuels, composting, energy efficiency, waste heat recovery
Successful track record of registered CER volume	<ul style="list-style-type: none">• Successful advisory of registered projects• More than 100 million tons CO₂e forecast until 2012
Unparalleled CDM regulatory insights	<ul style="list-style-type: none">• Two elected members of the CDM EB Methodology Panel• One elected member of the CDM EB Registration and Issuance Team• Participating in major climate change negotiations since 1997

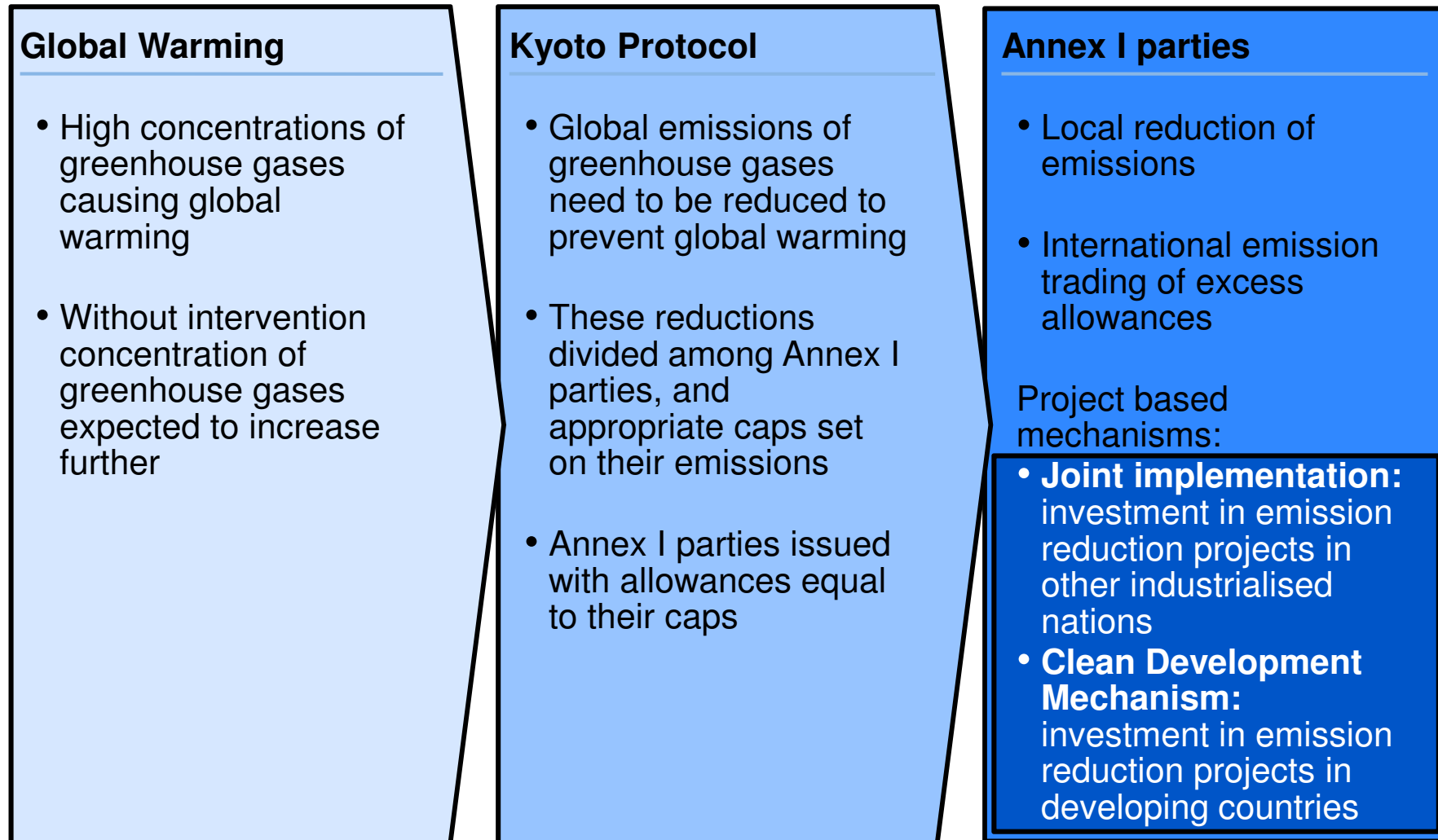
SOUTH POLE CAN PROVIDE A WIDE RANGE OF SERVICES TO EMISSION REDUCTION PROJECTS

Service area	Description
1 Carbon asset management	<ul style="list-style-type: none">• Support through all steps of carbon registration process• Sales of resulting credits to our network of AA-rated buyers at premium prices• No fees charged by South Pole for carbon development and registration. South Pole takes on full risk on behalf of project and is remunerated through a commission on sale of credits
2 Carbon structuring	<ul style="list-style-type: none">• Structuring of carbon revenues to optimise for cash flow requirements of projects
3 Equity financing	<ul style="list-style-type: none">• Up to 40% equity and mezzanine debt financing (equivalent to between €3-15m) through our Gold Standard Fund, formed together with Credit Suisse and AIL Structured Finance
4 Debt financing	<ul style="list-style-type: none">• Prioritised access to debt financing through our partnership with local banking partners
5 Technology support	<ul style="list-style-type: none">• Technical support and turnkey solutions through our broad network of technology partners, across a number of technologies

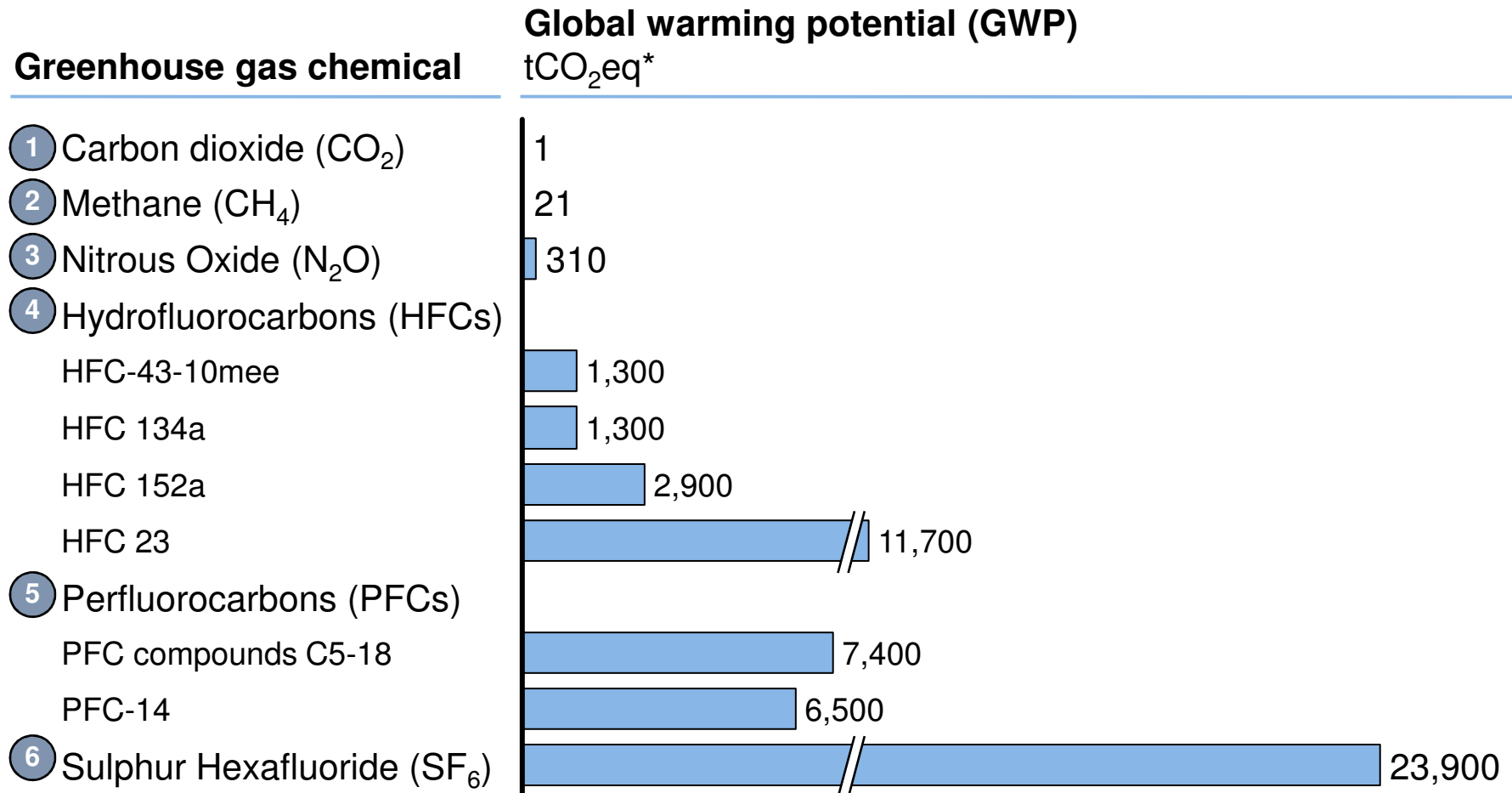
THE CARBON MARKETS HAVE BEEN FORMED OVER THE LAST 20 YEARS



THE CARBON MARKETS HAVE BEEN FORMED TO ASSIST IN PREVENTING GLOBAL WARMING

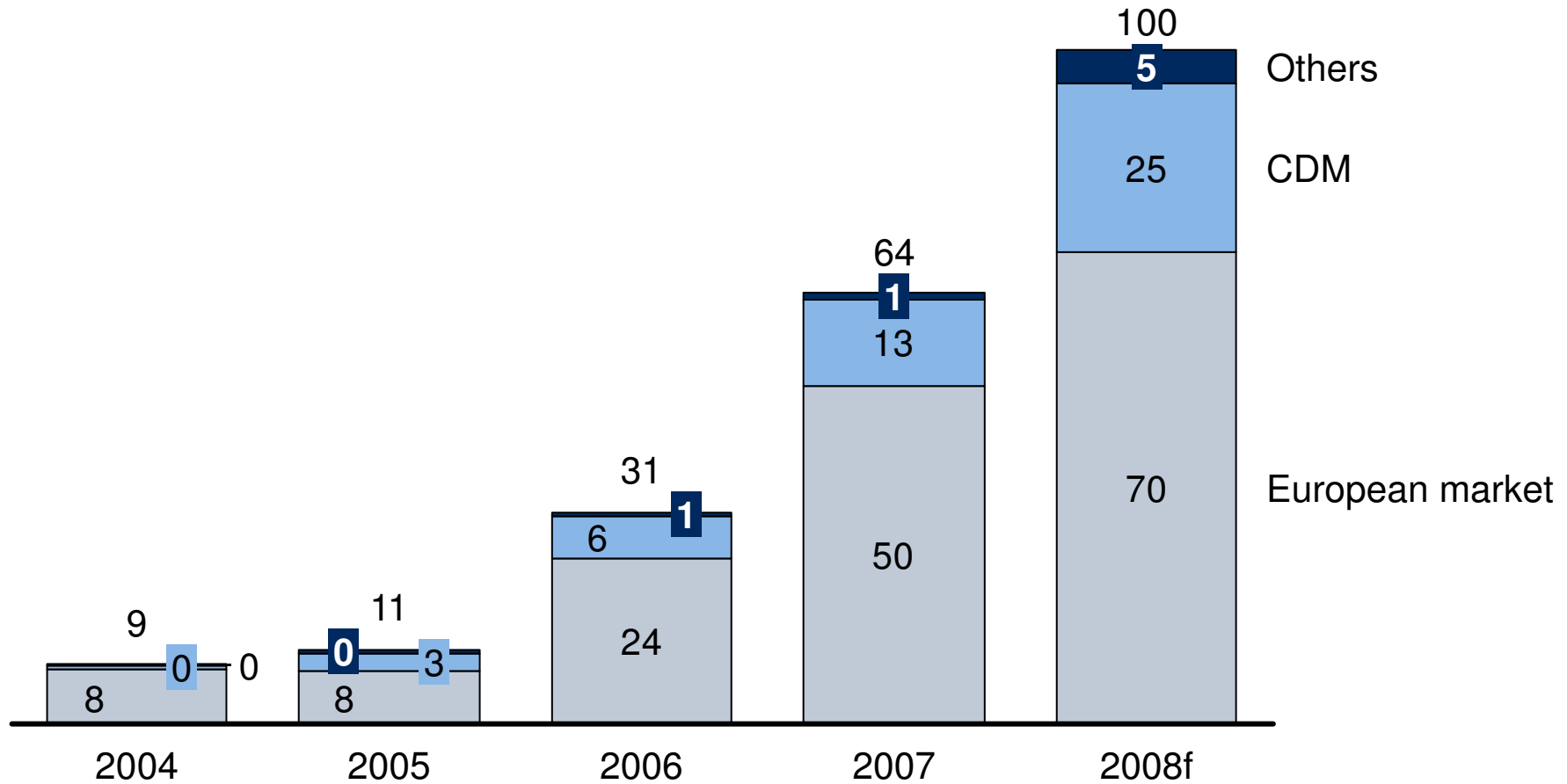


THERE ARE SIX GHG'S CONTROLLED UNDER THE KYOTO PROTOCOL, EACH WITH VARYING IMPACTS ON GLOBAL WARMING



CARBON TRANSACTIONS GROWING EXPONENTIALLY AND EXPECTED TO REACH USD100BN IN 2008

Value of global carbon transactions
USD bn



SOUTH POLE SPECIALISES IN THE GOLD STANDARD, A QUALITY LABEL FOR CDM PROJECTS



Formation

- Initiated by WWF, SSN and Helio International
- Launched in 2003 after wide ranging stakeholder consultations
- Endorsed by 51 NGOs and charitable organisations worldwide

Purpose

- Quality label for carbon credits from CDM, JI and voluntary projects
- Provides assurance that the project (1) reduces emissions and (2) contributes to sustainable development goals of host country

South Pole and the GS

- South Pole specialises in Gold Standard projects
- South Pole developed and brought to market the first CERs from a CDM Gold Standard project

UNDER THE CDM, COUNTRIES CAN USE CREDITS EARNED FROM REDUCING EMISSIONS ABROAD TO MEET THEIR CAPS



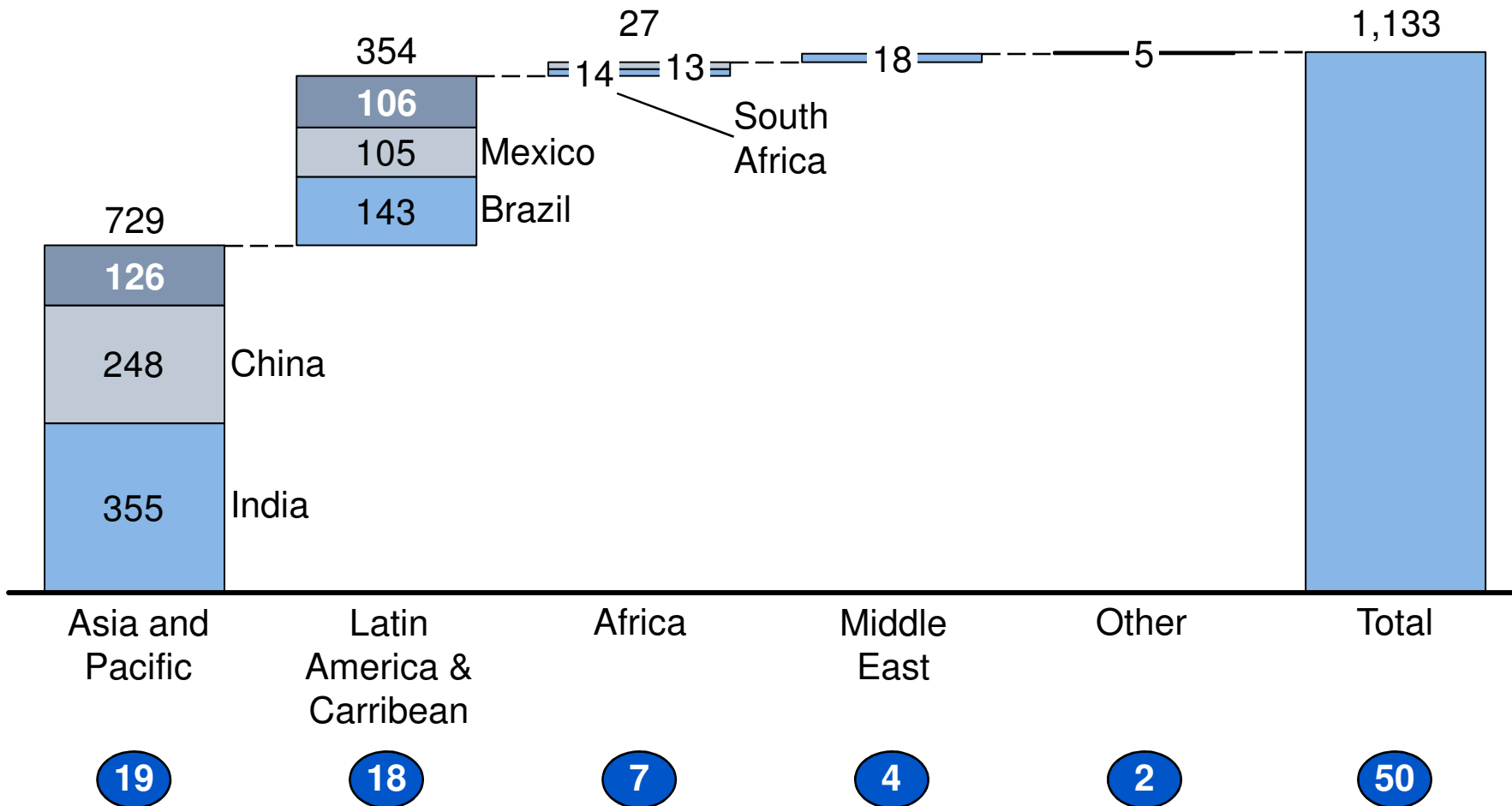
Hypothetical example

- Switzerland finds it costly to reduce emissions
- Cheap GHG emission reduction projects can be implemented in South Africa
- **CDM** ('Clean Development Mechanism') allows industrialised countries to invest in emission reduction projects in developing countries as an alternative to more costly emission reductions at home. CDM credits are called '**CERs**' and can be used to meet a country's cap
- Switzerland buys credits ('**CERs**') from project developers in South Africa

MOST CDM PROJECTS ARE LOCATED IN ASIA AND LATIN AMERICA, WITH AFRICA FAR BEHIND

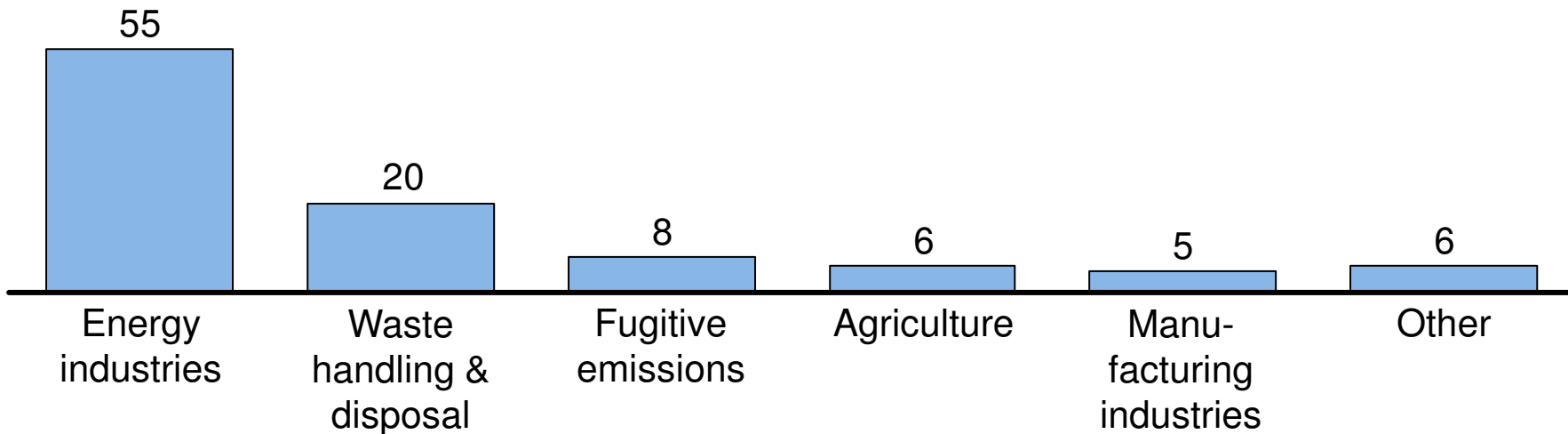
Number of countries with projects

Number of CDM projects by region (as of 1 Aug 08)



ENERGY INDUSTRIES, WASTE HANDLING AND DISPOSAL AND PREVENTION OF FUGITIVE EMISSIONS ACCOUNT FOR MOST PROJECTS

Percent of CDM projects by scope (as of 1 Aug 08)



Including...

- Renewable energy
- Natural gas
- Waste heat recovery
- Energy efficiency
- Waste water treatment
- Landfill gas
- Methane recovery from biomass decay
- Gas recovery from oil wells
- Pipeline leak reduction
- Coal bed methane capture
- Methane recovery from manure and agricultural residue
- Fuel switch
- Cogeneration
- Energy efficiency
- HFC avoidance
- N2O avoidance in fertilizer production
- Transport efficiency
- Forestry

THE CDM YIELDS FOUR MAIN BENEFITS

Benefit	Description
Reduction in GHG emissions	<ul style="list-style-type: none">• The CDM assists in reducing global greenhouse gas emissions
Sustainable development	<ul style="list-style-type: none">• One of the core goals of the CDM is to contribute to sustainable development in developing countries by focusing on projects with strong development benefits
Foreign investment	<ul style="list-style-type: none">• Results in an inflow of Euro-denominated foreign investment into developing countries
Technology transfer	<ul style="list-style-type: none">• Promotes technology transfer of emission reduction technologies from industrialised to developing countries

IN ORDER TO BE ELIGIBLE UNDER THE CDM, PROJECTS NEED TO MEET CERTAIN REQUIREMENTS

Requirement	Additionality	Sustainable development
Description	<ul style="list-style-type: none"> • The project must not have happened without CERs • This is to ensure that the CDM leads to an additional reduction in emissions, and does not simply issue credits to meet Annex I caps for projects which would have happened anyway 	<ul style="list-style-type: none"> • The project must contribute to the sustainable development goals of the host country as defined by the Designated National Authority
Examples	<ul style="list-style-type: none"> • The project is not financially feasible without CERs, but is with CERs • There is an investment barrier which is overcome through upfront payment of CERs • The project involves technological risk which the project owner is willing to take on because of the higher potential upside presented by CERs 	<ul style="list-style-type: none"> • Social – improved quality of life and alleviation of poverty • Financial – returns to local entities, foreign direct investment, technology transfer • Environmental – reduction of harmful gases, conservation of resources, health benefits

TO COVER COSTS ASSOCIATED WITH REGISTERING A CDM PROJECT, IT SHOULD EXCEED A MINIMUM SIZE OF 30,000 TONS CO₂e P.A.



Energy efficiency: equivalent of 250,000 incandescent bulbs replaced with CFLs or the installation of 15,000 solar water heaters



Renewable energy: equivalent of 25,000MWh of electricity production per annum, or about 7MW of capacity at a 40% overall efficiency



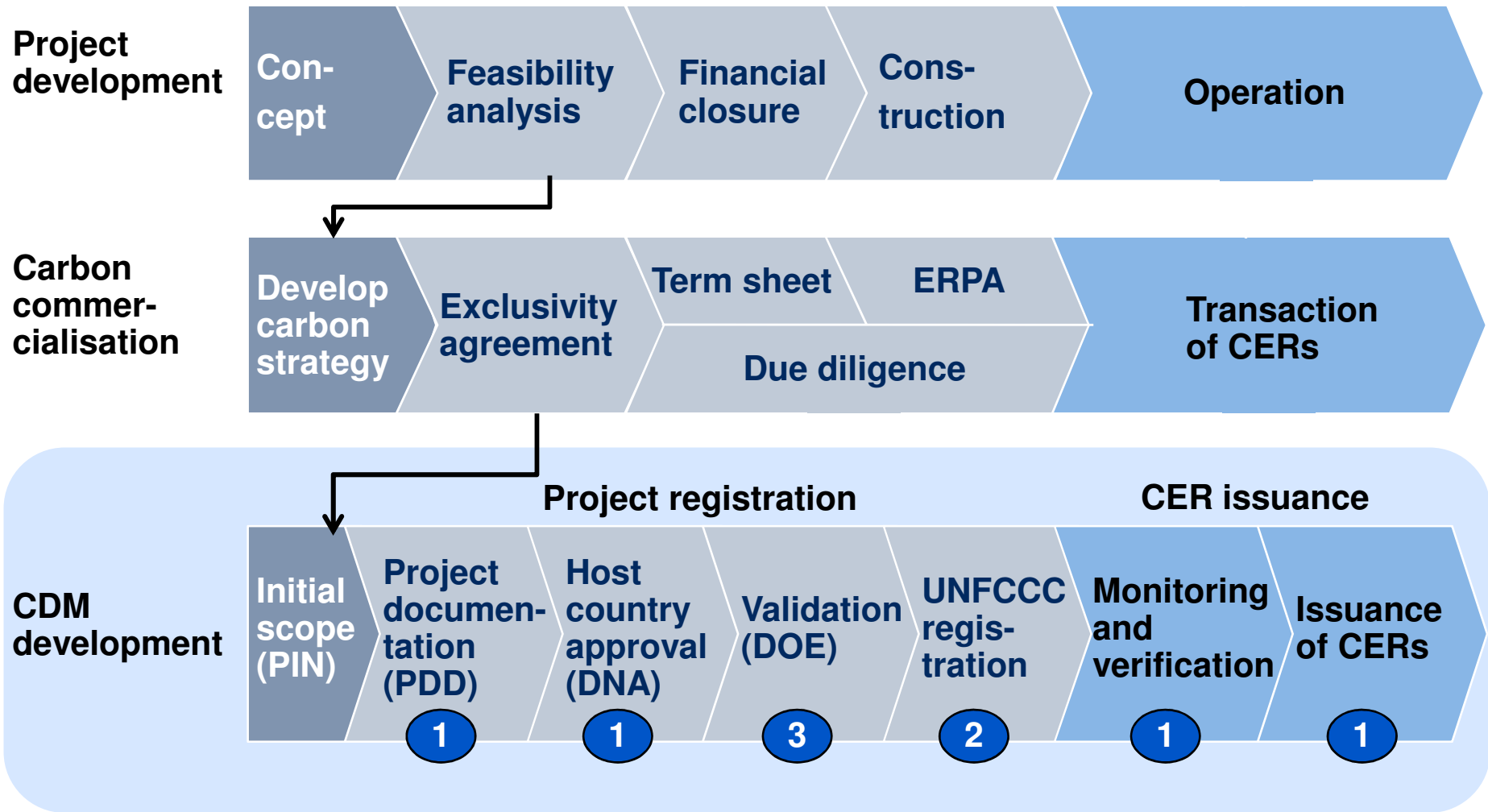
Forestry: the forestation or avoided deforestation of 5000 hectares of land



Methane avoidance: treatment of 500 tons of organic waste per day through composting, landfill gas capture and flaring, or other methods

CARBON REGISTRATION TAKES PLACE IN PARALLEL TO PROJECT IMPLEMENTATION AND TAKES UP TO 12 MONTHS

Approximate number of months



CDM PROJECTS CAN BE DEFINED BY THEIR SCALE OR BY THE NUMBER OF PROJECT ACTIVITIES THAT THEY INVOLVE

	Small-scale	Large-scale
Regular	<ul style="list-style-type: none"> • Renewable energy up to 15MW • Energy efficiency up to 15GWh per year • Others that reduce emissions by up to 15,000 tons CO₂e p.a. • Methodologies simpler and transaction costs lower 	<ul style="list-style-type: none"> • Projects exceeding small-scale limits • Methodologies more onerous and transaction costs higher
Bundle	<ul style="list-style-type: none"> • A single project activity 	
Programme of Activities	<ul style="list-style-type: none"> • Multiple identical activities which can all be defined upfront in the PDD • To qualify as small-scale, sum of bundle must meet limits • Bundling reduces transaction costs compared to registering separately 	
	<ul style="list-style-type: none"> • Umbrella project which defines baseline and monitoring methodologies of future projects upfront • Project activities can be added to the PoA at a later stage 	

DUE TO INHERENT RISKS, CER PRICES HAVE BEEN CONSISTENTLY LOWER THAN EUA PRICES

Comparison of CER and EUA prices

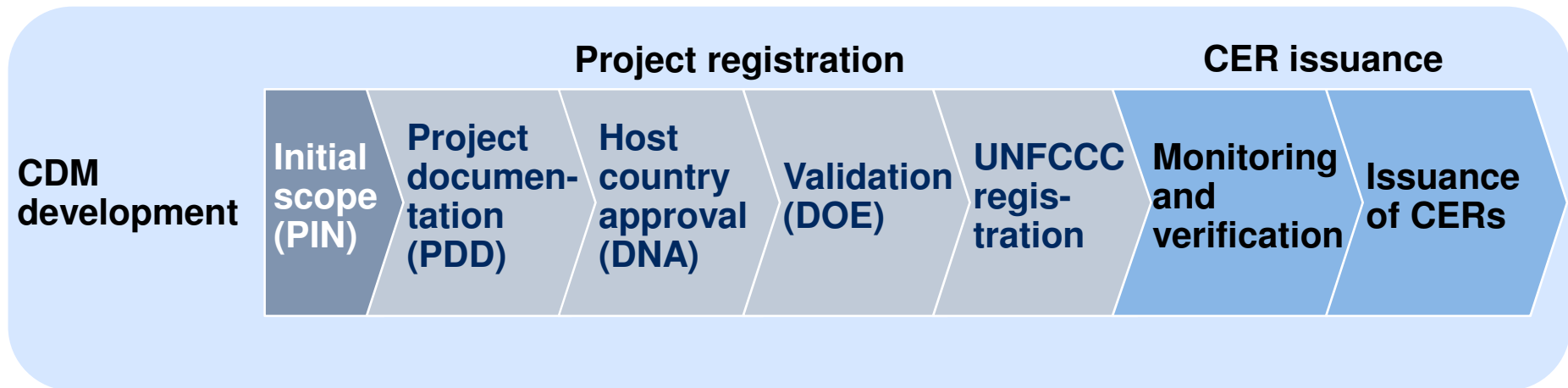
€ / ton



CER prices consistently below EUA prices due to...

- DNA risk
- Validation risk
- Registration risk
- Monitoring risk
- Verification risk

PROJECTS CAN COMMIT TO SELLING CERs AT ANY TIME DURING THE CARBON DEVELOPMENT CYCLE



Stage of project

▲
Category 1
At idea / concept stage

▲
Category 2
PDD developed and submitted to DOE for validation

▲
Category 3
Project registered by UNFCCC and LOA received from host country

▲
Category 4
CERs issued

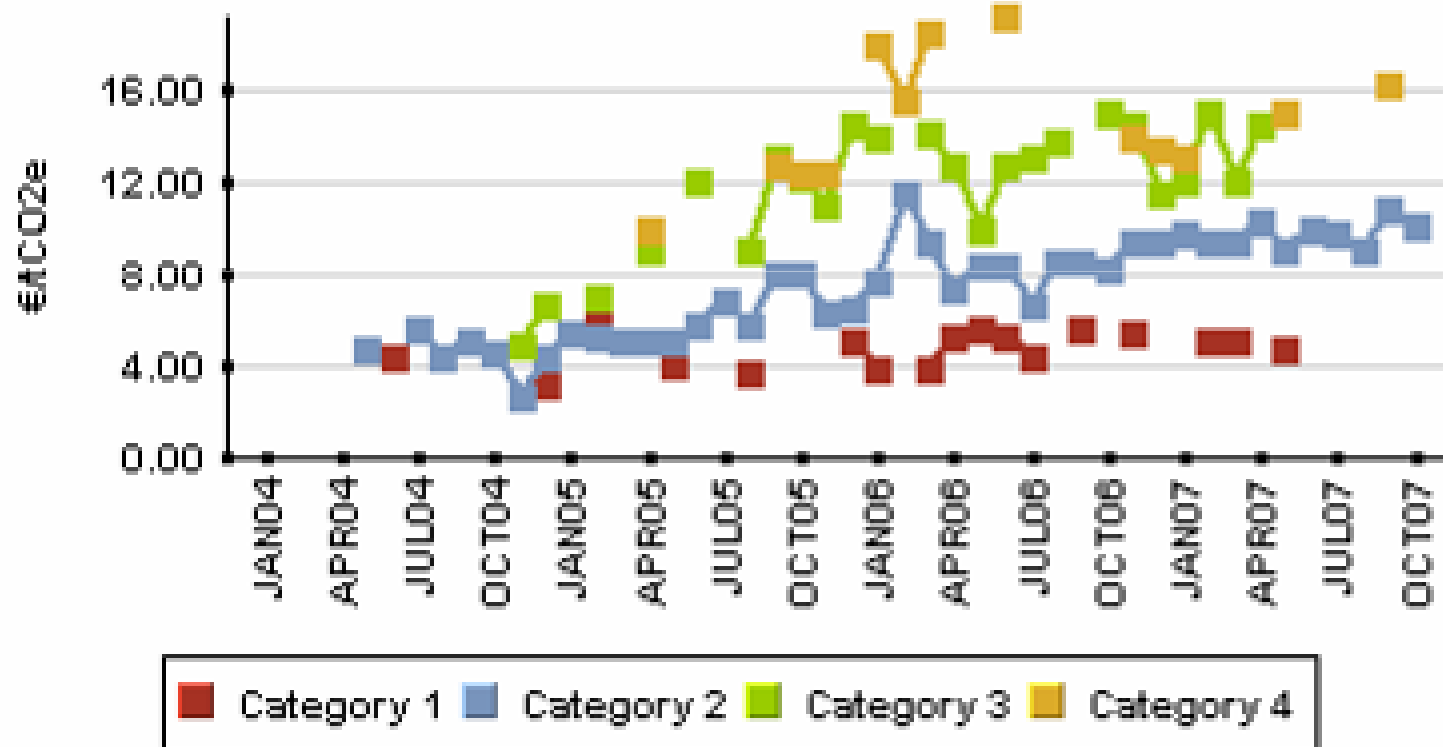
Type of contract

Forward contract

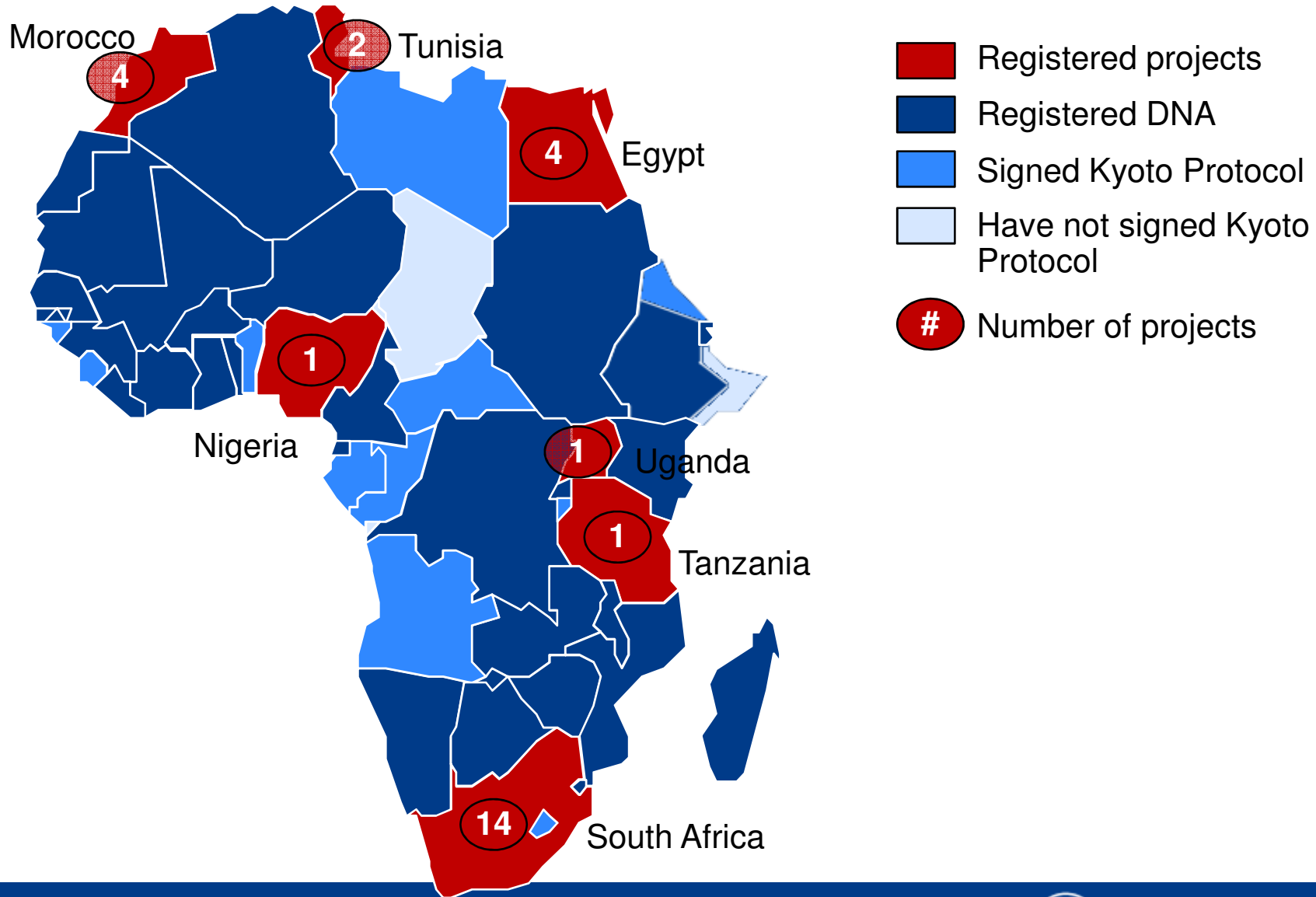
Spot contract

THE LATER A PROJECT COMMITS TO SELLING CERs, THE LOWER THE DELIVERY RISK AND THE HIGHER THE PRICE

Actual prices paid for CERs of each category since 2004
EUR per CER



MOST AFRICAN COUNTRIES HAVE SIGNED THE KYOTO PROTOCOL AND HAVE SET UP DNA'S WHILE VERY FEW HAVE REGISTERED PROJECTS



MOST AFRICAN PROJECTS INVOLVE RENEWABLE ENERGY, LANDFILL GAS, N2O ABATEMENT OR FUEL SWITCH

Number of projects



Landfill gas

7



Wind

3



Hydro

1



Biomass cogen and fuel switch

6



Energy efficiency

2



Oil well gas recovery

1



N₂O abatement in fertilizers

5



Solar

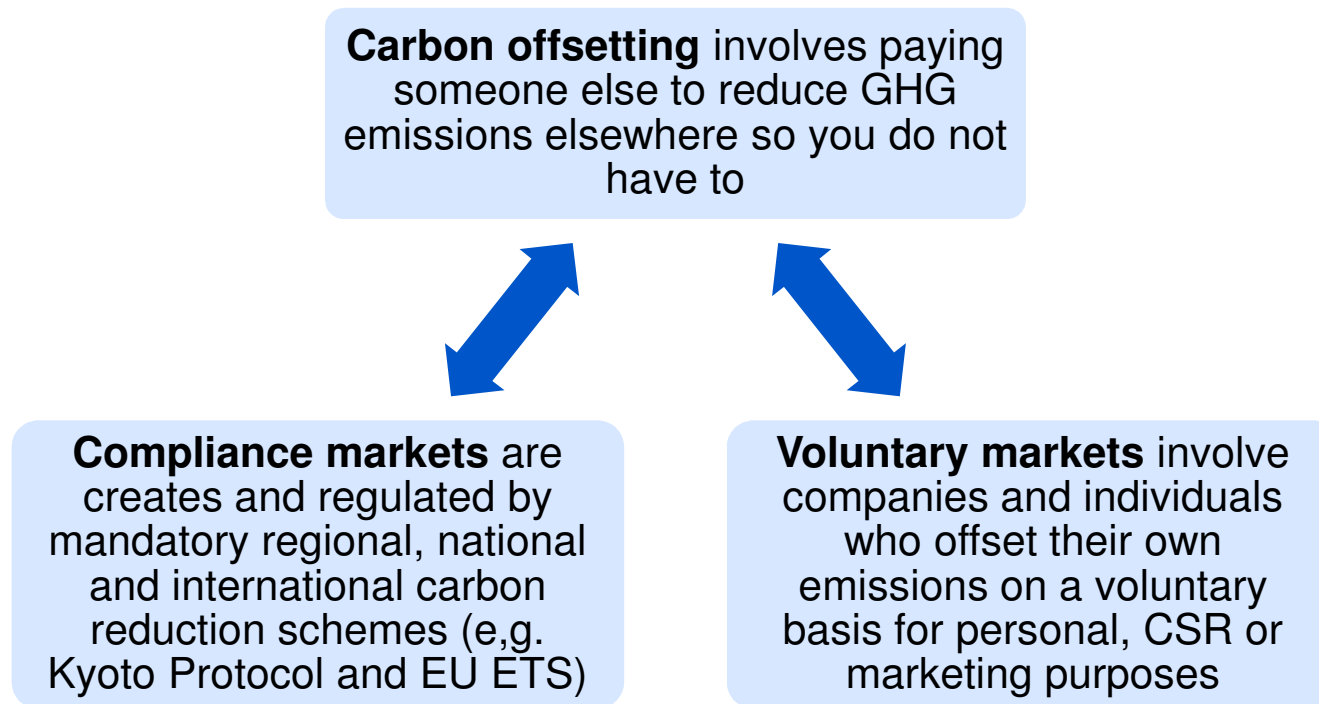
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Waste gas recovery

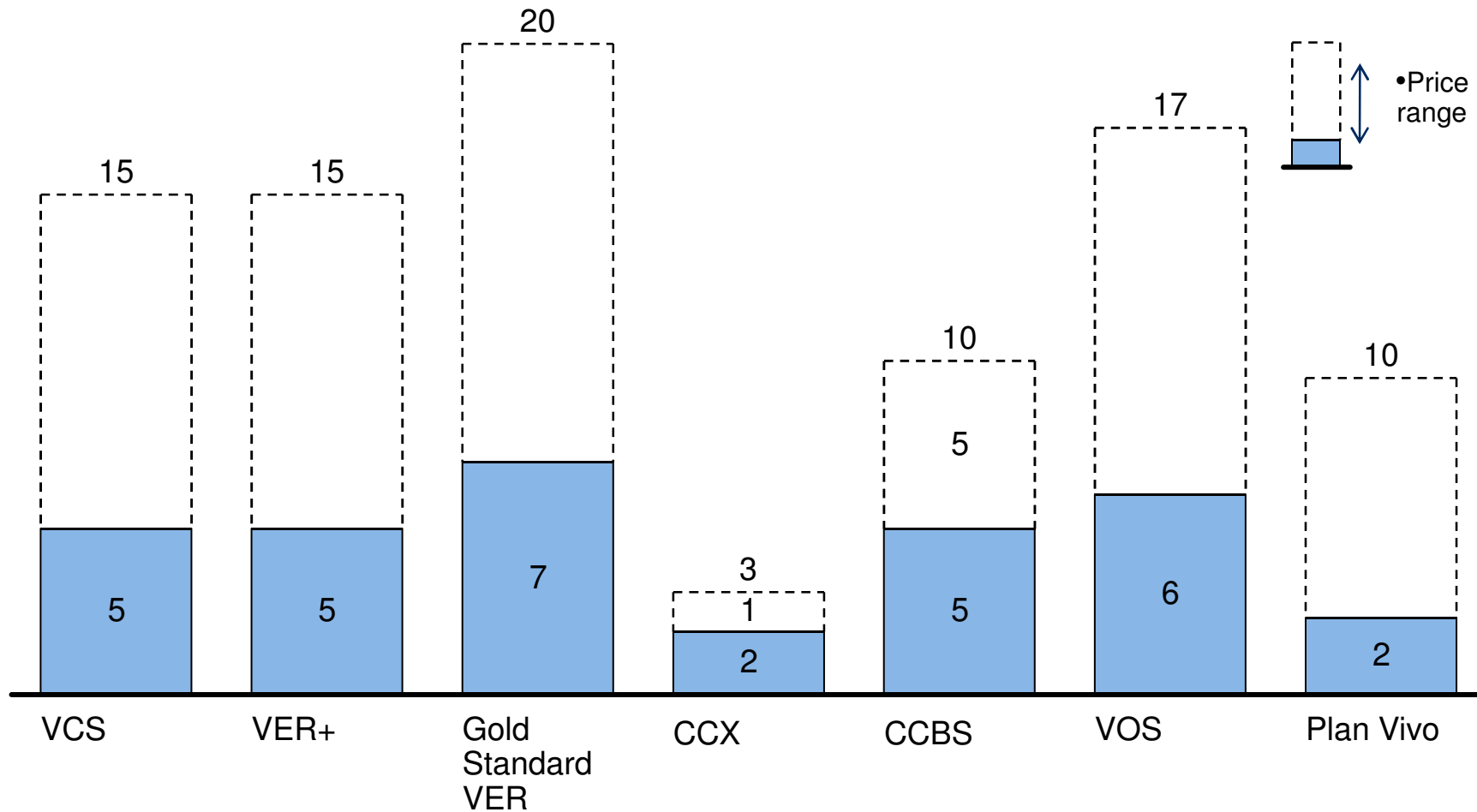
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THE VOLUNTARY MARKETS ASSIST COMPANIES AND INDIVIDUALS TO BECOME CLIMATE NEUTRAL



VARIOUS VOLUNTARY STANDARDS EXIST, EACH WITH DIFFERENT PRICE IMPLICATIONS

Price per Carbon Credit, broken down by Standard type
Euro per tCO₂eq, 2007



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