

Sectoral approaches and development

Workshop "Where development meets climate: development related mitigation options for a global climate change agreement"

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Ecofys

Consultancy for energy efficiency, renewable energy and climate protection since 1984 with now 400 employees



Outline of the paper

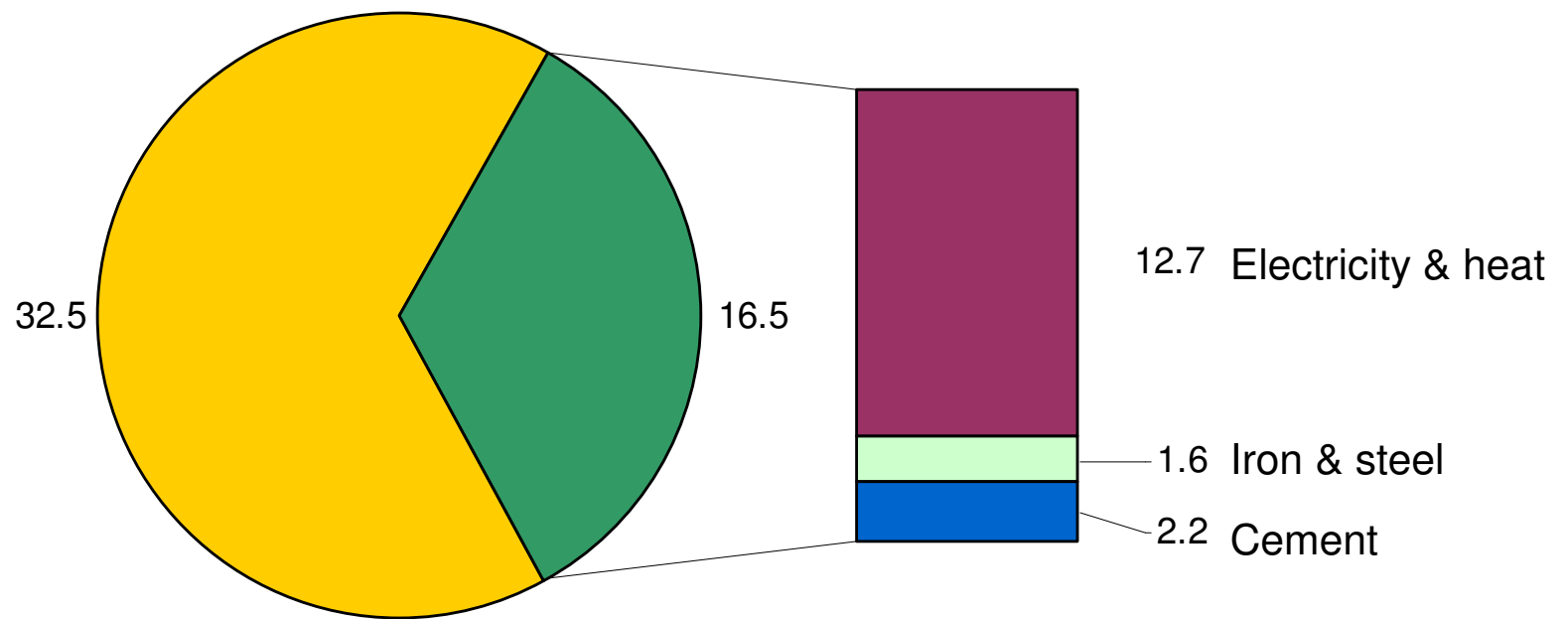
1. Introduction
2. Data compilation for sectoral approaches
 - Electricity
 - Iron and steel
 - Cement
3. Sectoral approaches – an overview
4. Sectoral approaches for developing countries: Three design options
 - Bottom up negotiated binding sectoral targets
 - BAT and Best Practice commitments
 - Sectoral sustainable development policies and measures (SD-PAMs)
5. What needs to be in a Copenhagen agreement?

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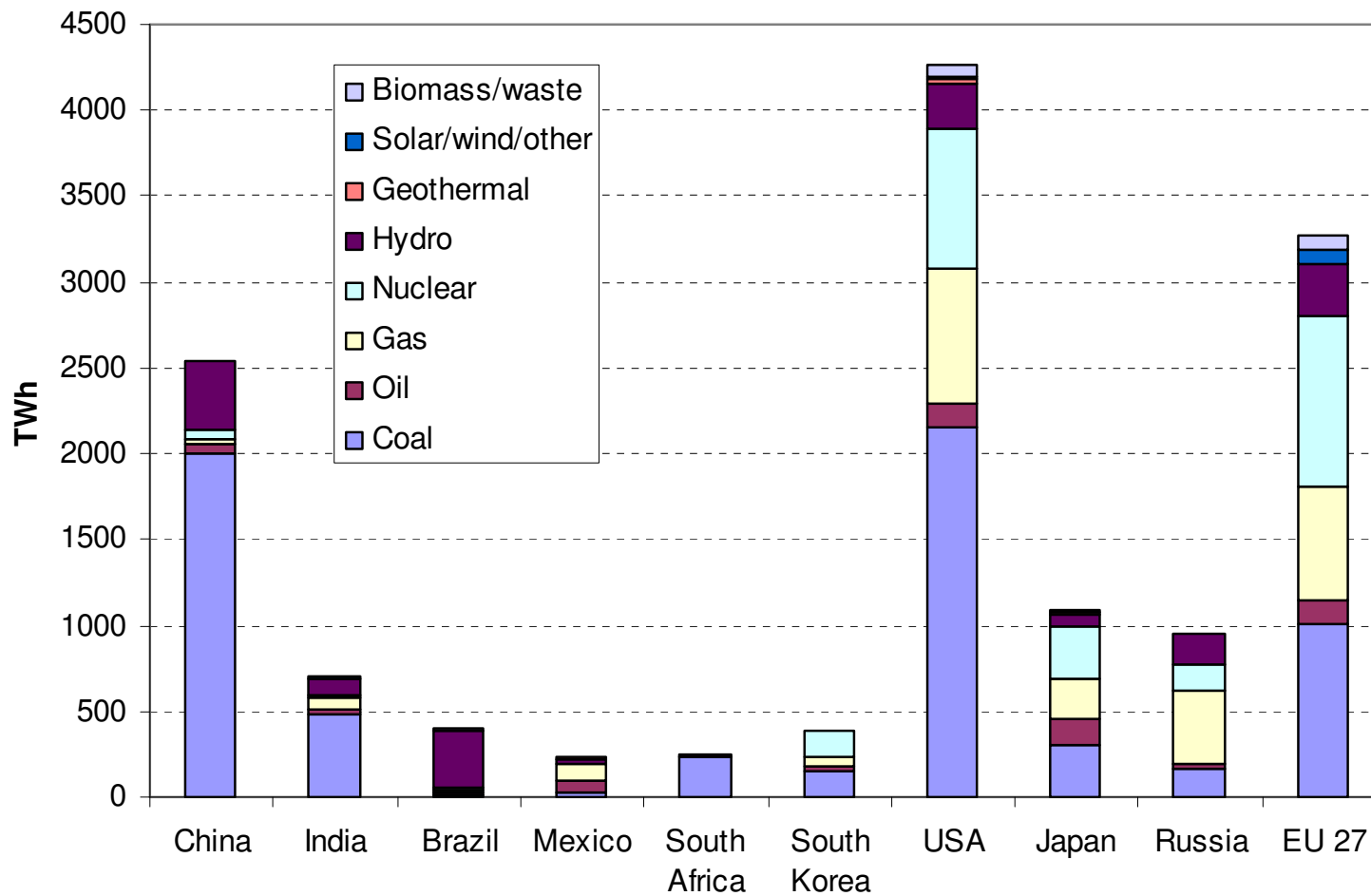
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Global GHG emissions

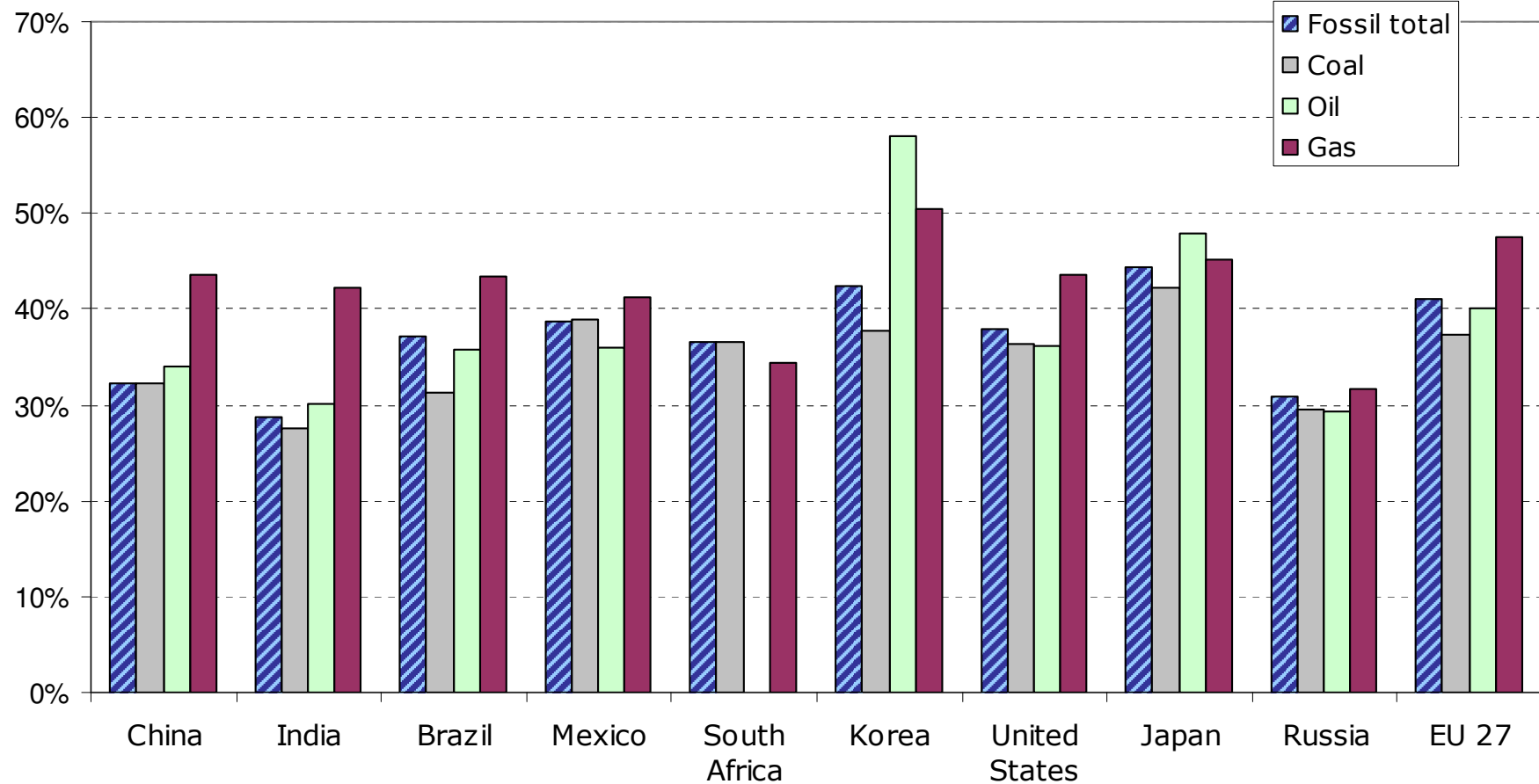
Global GHG emissions (GtCO₂)



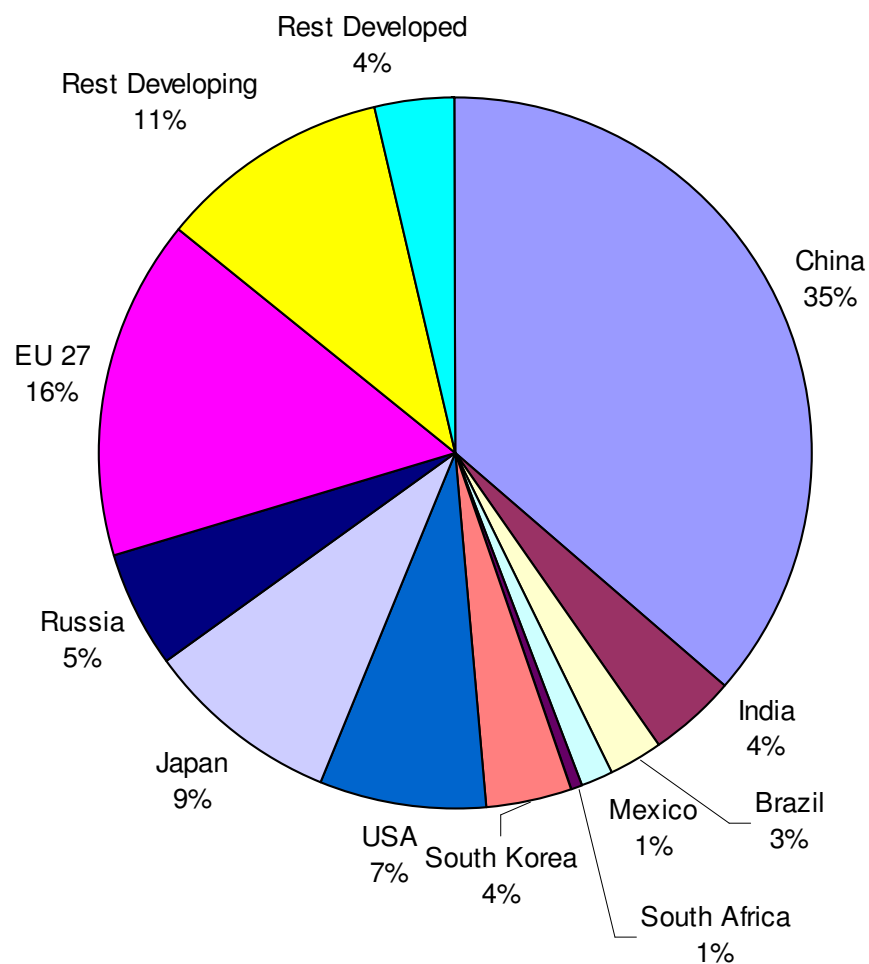
Electricity production



Electricity production efficiency

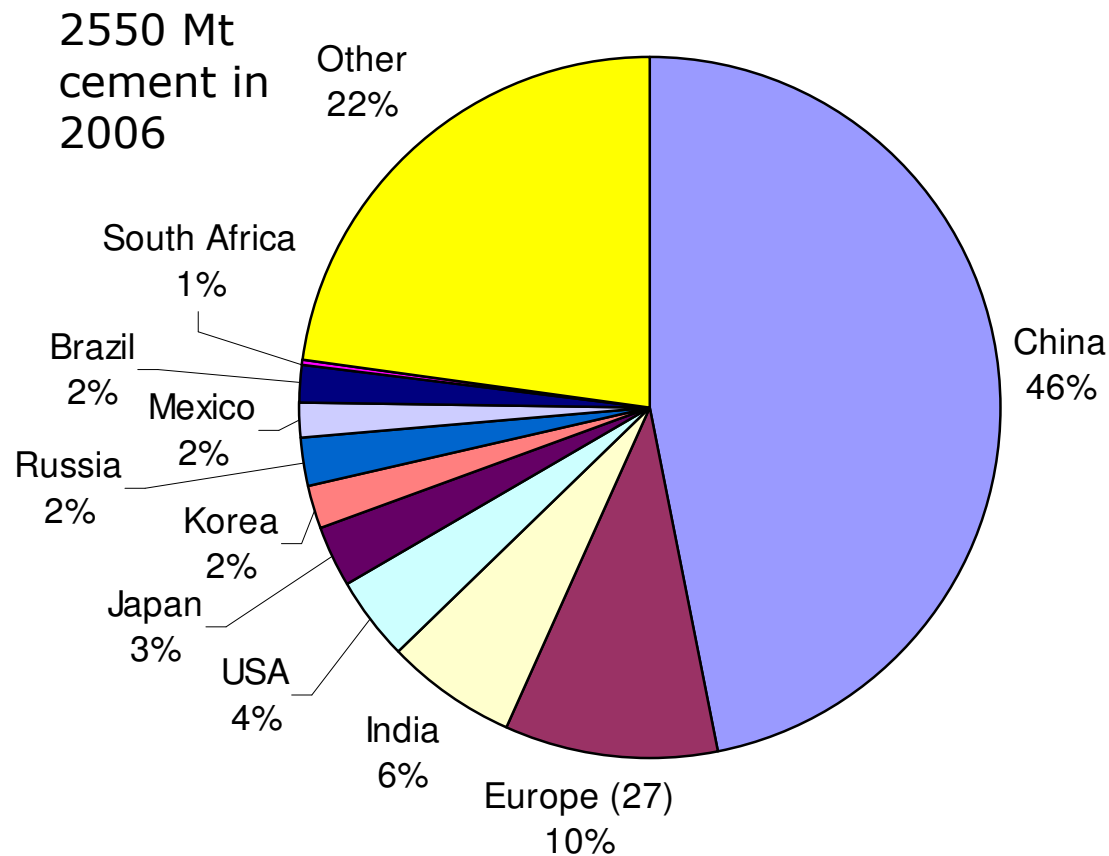


Iron and steel production



	Average annual growth	
	1990-1999	2000-2007
China	6.67%	15.60%
India	6.41%	8.91%
Brazil	2.07%	3.52%
Mexico	5.80%	1.40%
South Africa	-1.15%	1.74%
South Korea	6.00%	2.75%
USA	0.78%	-0.07%
Japan	-1.93%	2.92%
Russia	-3.45%	4.05%
EU 27	0.85%	1.67%
Rest Developing	6.03%	6.34%
Rest Developed	3.26%	1.44%
WORLD TOTAL	2.20%	6.41%

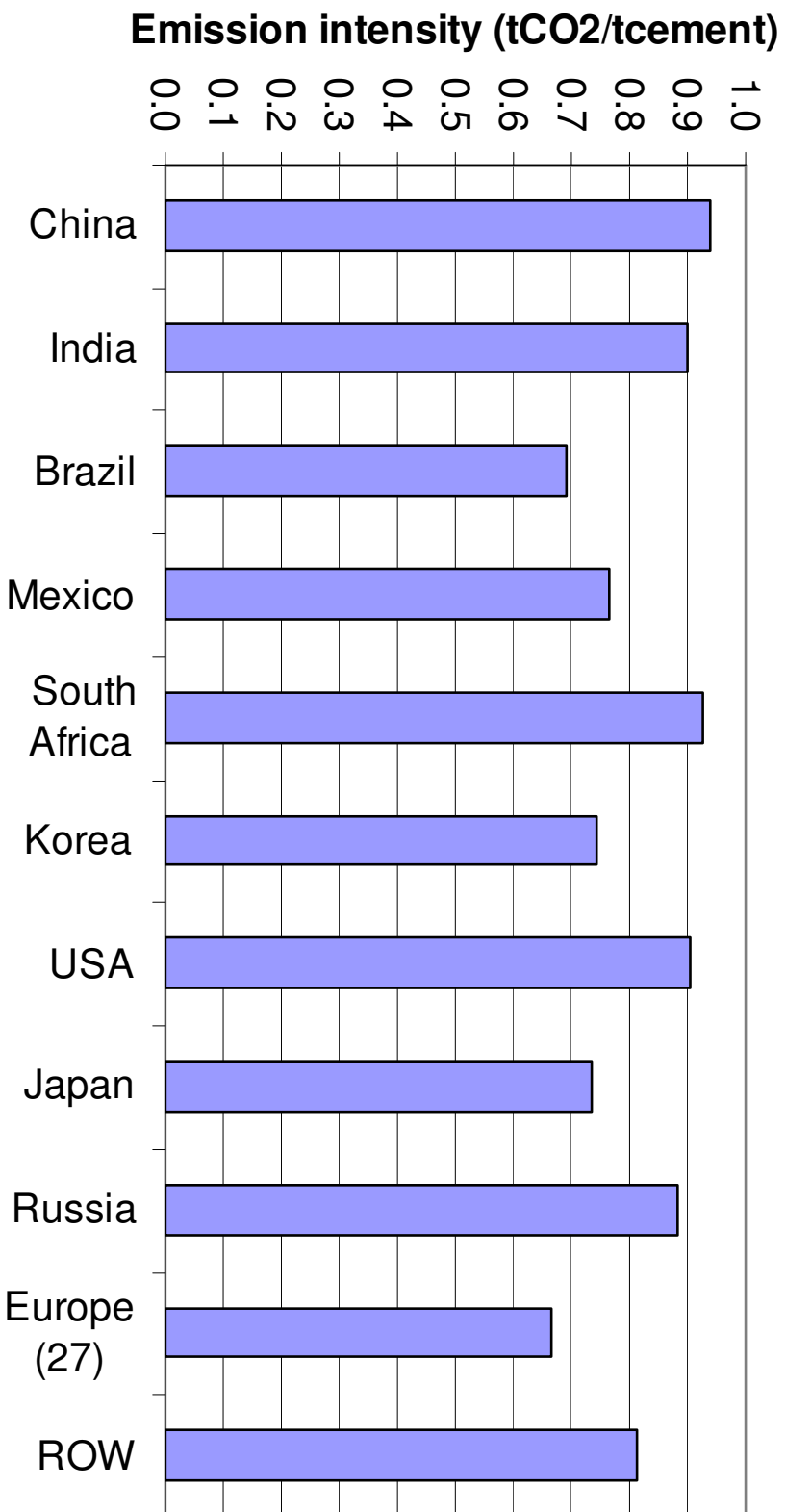
Cement production



	Average annual growth	
	1990-1999	2000-2007
China	9.67%	10.63%
India	5.79%	8.17%
Brazil	4.43%	0.32%
Mexico	1.88%	3.47%
South Africa	1.02%	5.60%
South Korea	4.12%	0.55%
USA	2.00%	3.45%
Japan	-1.13%	-2.16%
Russia	-12.00%	10.05%

Data source: USGS for 2006

Cement production



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Sectoral approaches – an overview

A SD-PAMs

Environmental impact sufficient? Acceptability high

B Technology cooperation

Environmental impact sufficient? Likely to enhance development

C Technology standards

Agreement on the use of standards is relatively easy, but explicit standards are difficult to define. No emission trading

D Transnational emission targets

Ambitious targets are unlikely in industry-led decision making processes

E Sectoral CDM Additionality? Scale?

F Sectoral targets

Potential impact high. Complex target setting

Sectoral approaches – an overview

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Sectoral sustainable development policies and measures (SD-PAMs)

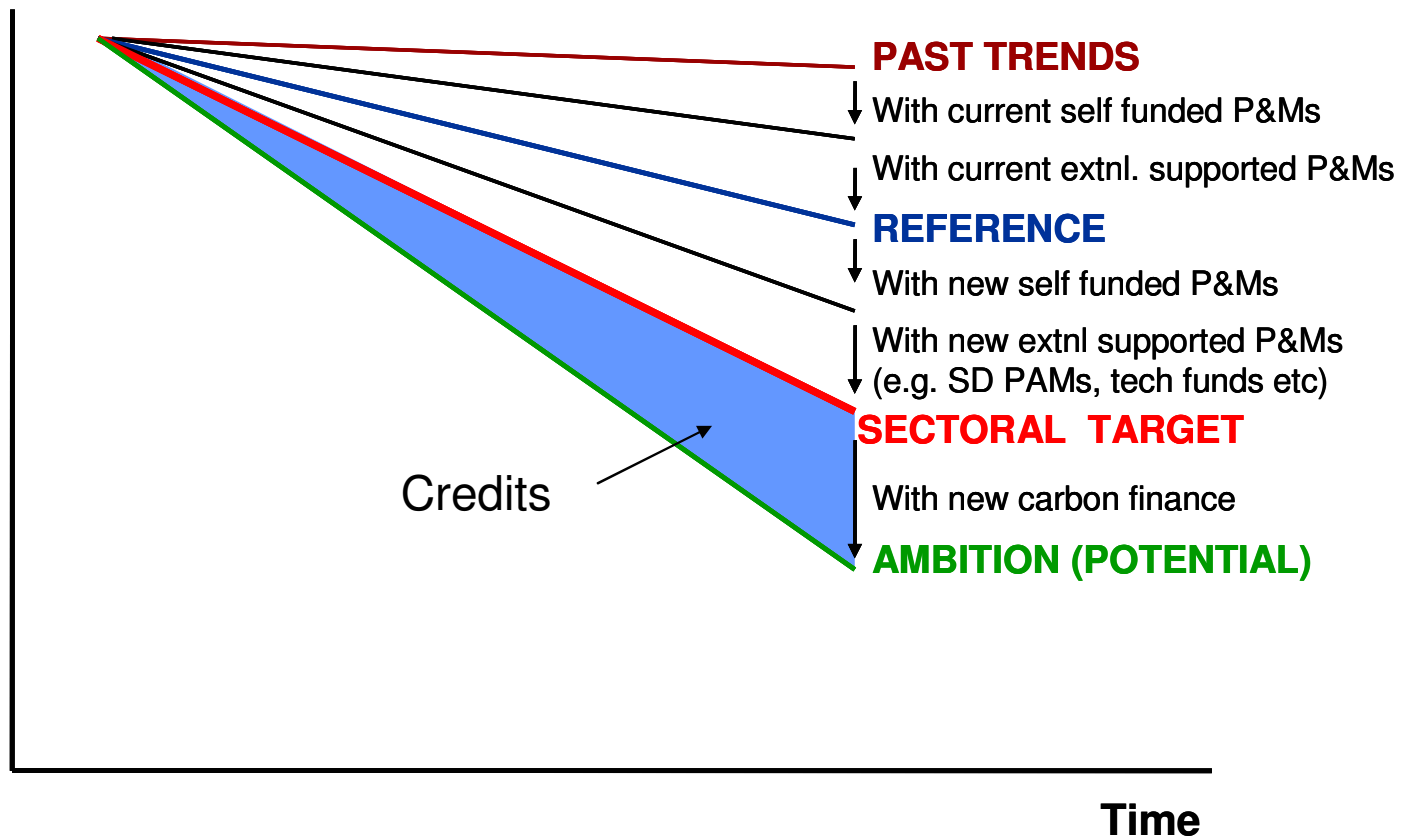
- Commit to implement specific policies the aim at development and also have a climate benefit
- Ambitious and comprehensive to be comparable to other options
- International funding to support implementation
- No emission trading

BAT and best practice commitments

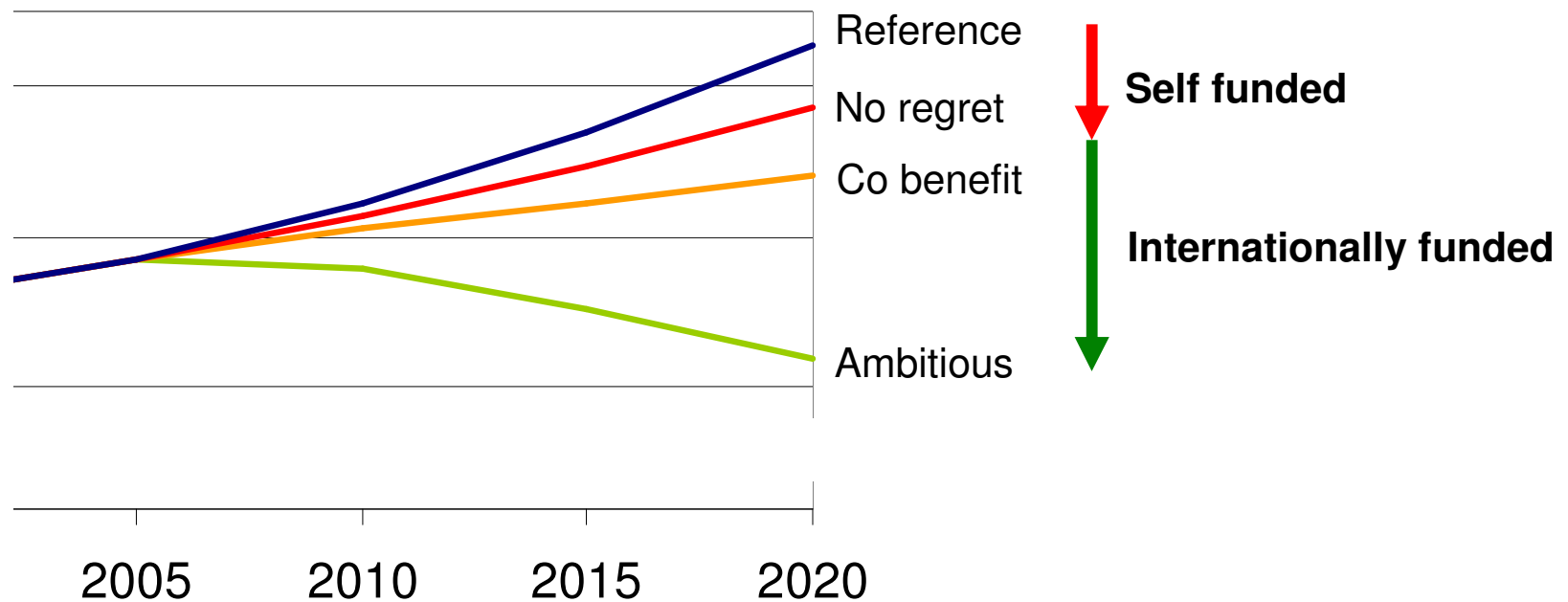
- Commit to apply best available technology (BAT) for new and best practice (BP) for existing installations in a given sector
- Committees set BAT and BP
- International funding to support implementation
- Possibly differentiated timeframe for implementation
- No emission trading

Bottom up negotiated binding sectoral targets

GHG Intensity



Financing



Evaluation

	Sectoral sustainable development policies and measures	Best available technology and best practice commitments	Negotiated binding sectoral targets
Environmental	Depends on stringency of policies Possibly not covering all emission reduction options	Impact potentially high Reduce demand for products shift between technologies?	Impact potentially high If intensity based, reduce demand for products?
Economic	Sources and distribution of financing? No emission trading	Sources and distribution of financing? No emission trading	Emission trading is a major funding source Globally cost effective if broad participation
Distribution and equity	Concept: host country development objectives	Concept: technology upgrading Adjustments for availability of natural resources Differentiated timelines	Bottom up negotiated May be seen as a limiting economic growth
Technical and institutional	Only the <i>implementation</i> of the policies has to be monitored Difficult to determine the stringency of the effort	Agreement on the approach possible in December 2009 Technical specification of the BAT and BP levels is very difficult	Exact amount of emission reductions not ready for December 2009 High government capacity needed to implement national measures

Possible agreement in Copenhagen

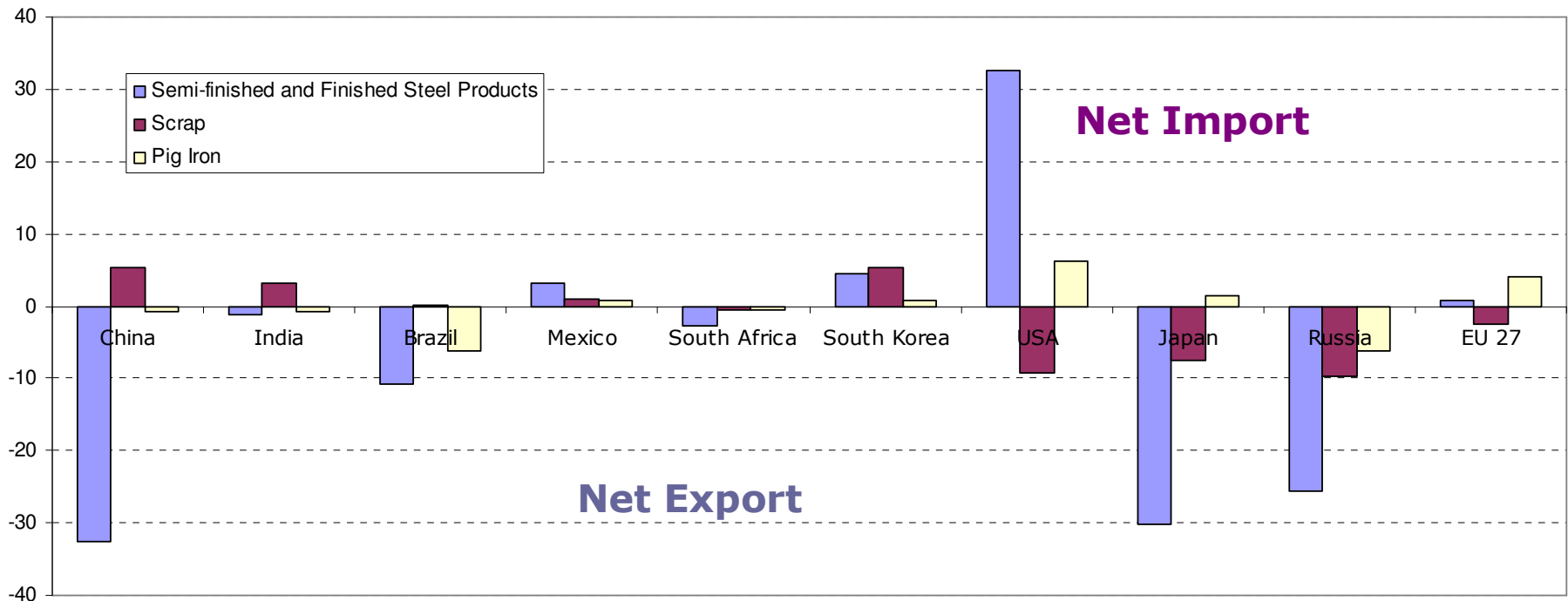
Sectoral sustainable development policies and measures	Best available technology and best practice commitments	Negotiated binding sectoral targets
<ul style="list-style-type: none"> • Level of funding, rules for incentives for ambitious SD-PAMs 	<ul style="list-style-type: none"> • Level of funding, origin and split among countries 	<ul style="list-style-type: none"> • Level of funding available (ambitious targets or purchase requirements)
<ul style="list-style-type: none"> • Qualified developing country parties commit to applying SD-PAMS in specific sectors (without details) 	<ul style="list-style-type: none"> • Qualified developing countries commit to apply BAT/BP in specific sectors 	<ul style="list-style-type: none"> • Developing countries as a group agree on an indicative level of emission reductions
<ul style="list-style-type: none"> • Mandate to SBSTA to review country proposals 	<ul style="list-style-type: none"> • Mandate for BAT/BP-setting committee 	<ul style="list-style-type: none"> • Mandate for SBSTA to review country proposals
<ul style="list-style-type: none"> • Format for the proposals of SD-PAMs 		<ul style="list-style-type: none"> • Minimum requirements for the in-country bottom-up analysis
<ul style="list-style-type: none"> • Consequences of non-compliance 	<ul style="list-style-type: none"> • Consequences of non-compliance 	<ul style="list-style-type: none"> • Consequences of non-compliance

Thank you!

Further information:

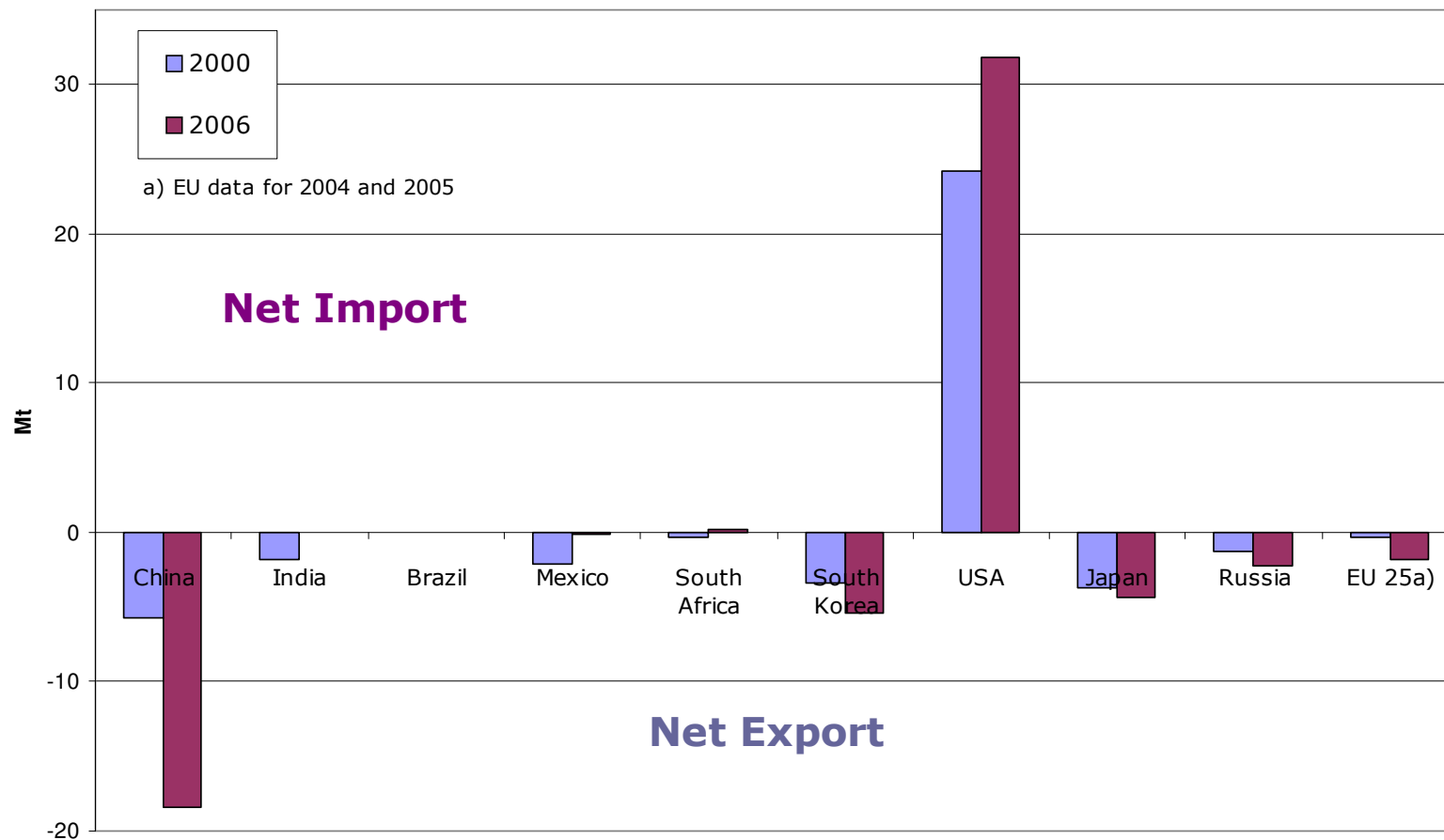
Niklas Höhne, n.hoehne@ecofys.com

Iron and steel exports and imports



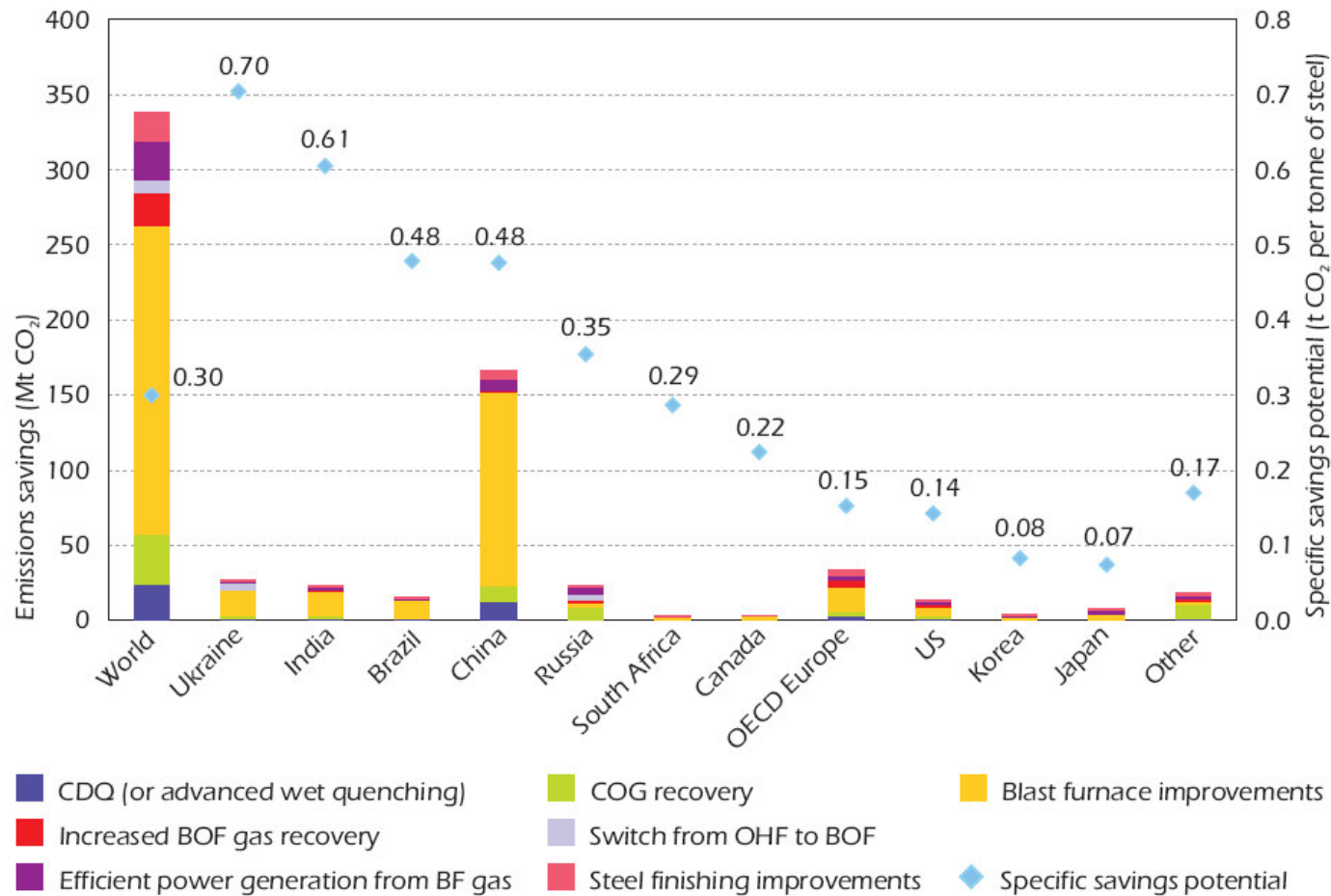
Data source: UN Data

Cement exports and imports



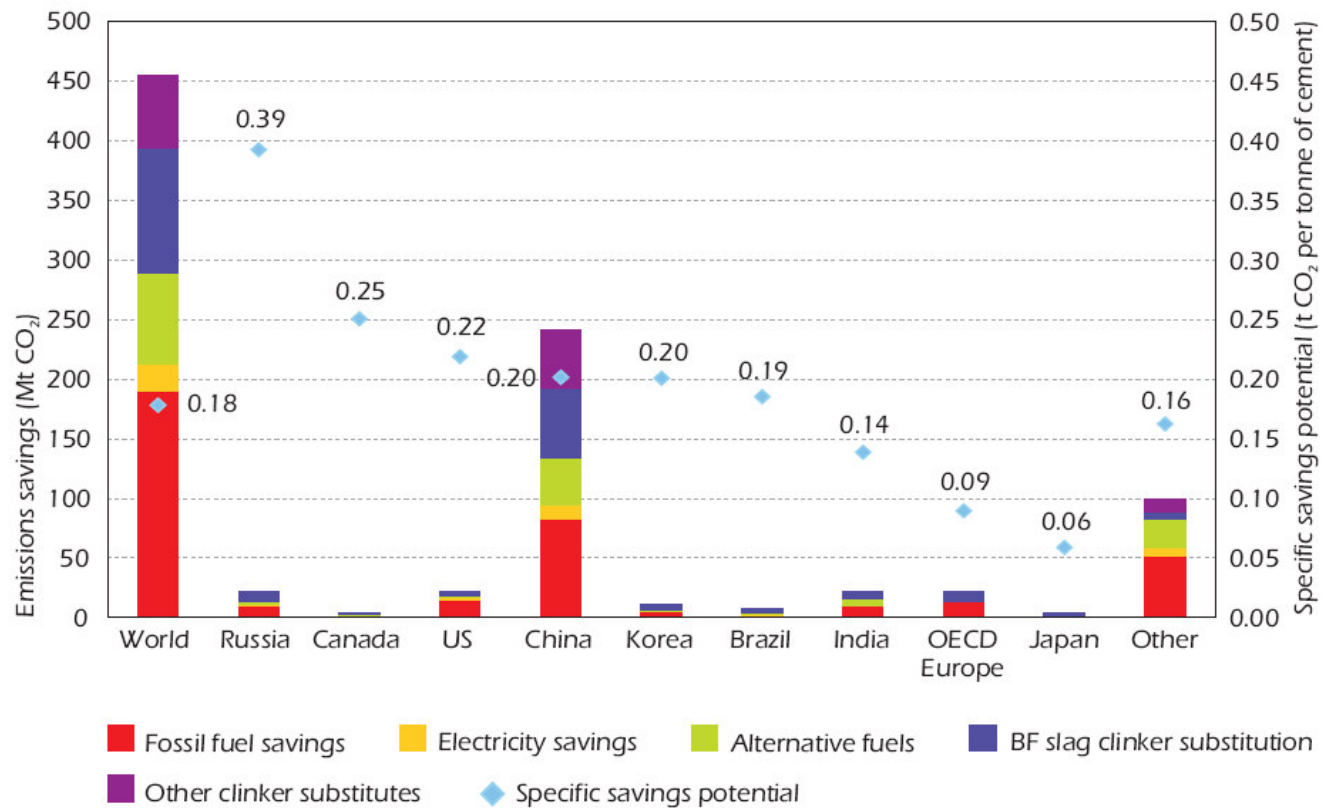
Data source: UN Data

Reduction potential iron & steel



Source: IEA 2008

Reduction potential cement



Source: IEA 2008