



# Australian Federal Government's Proposed Carbon Pricing Mechanism Overview

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# Context

# BlueScope's Greenhouse Policy Principles

Global issue	Reducing greenhouse gas emissions is a global problem that requires a global approach
Least cost	Australia should adopt policy that achieves emissions targets at least cost. Putting a price on carbon which is visible to consumers and producers, through a market mechanism (emissions trading or carbon tax), is likely to drive least cost abatement
Fair go	The competitiveness and financial viability of Australia's trade exposed steel industry must not be eroded. We cannot place our industries at a disadvantage to the rest of the world. Transitional measures for trade exposed industries - including the steel industry - will be essential for as long as our global competitors (India, China, US, Japan, Korea and Taiwan) do not face comparable carbon costs
Cut green tape	A single national carbon policy should be the goal of governments. Complementary policy measures adopted by Federal and State governments must be effective and least cost, and address recognised market failures. These policies must avoid market distortions or perverse incentives, overlap and unnecessary compliance costs and regulatory burden
Reinvest	Revenue raised by a carbon price should be earmarked for investment in greenhouse gas abatement and assistance for households and industry. Policy should provide incentives for research & development and investment in abatement, including appropriate recognition for early movers
No leakage	Policy must not lead to carbon leakage, by which Australian production is simply replaced by foreign production that may, in fact, be less carbon efficient
One in, all in	Policy should be comprehensive, including all sectors of the economy (and imports where appropriate), and be transparent
Investment certainty	Policy must recognise the very long time horizons for investment in the steel industry, including for potential next generation lower emissions iron and steelmaking technology

# The Australian Federal Government's Proposed Carbon Pricing Mechanism (CPM)

## What we know about the CPM<sup>1</sup>:

- The mechanism could commence as early as 1 July 2012
- The “fixed price” phase could be of between three and five years
  - “Fixed Price” means the price is set by the Government and not the market. The price is expected to increase during this period by a predetermined amount
  - During the fixed price phase, liable parties might not be entitled to use international emissions units for compliance
- “An option could exist to defer the commencement of the flexible price arrangements”
- “At the end of the fixed price period, the clear intent would be that the scheme convert to a flexible price cap-and-trade emissions trading scheme”
- “The overall package should take appropriate account of impacts on the competitiveness of all Australian industries”
- A framework for providing assistance to such industries under the former Carbon Pollution Reduction Scheme (CPRS) is being used as the basic framework for current consultation with business<sup>2</sup>
- Due to the lack of detailed information regarding the CPM analysis in this pack is based on the projected impact of the CPRS on BlueScope

<sup>1</sup> Multi-Party Climate Change Committee Carbon Price Mechanism announcement, 24th February 2011

<sup>2</sup> Greg Combet, Minister for Climate Change and Energy Efficiency, speech to National Press Club 13 April 2011

# “Ten things you need to know about the Government’s Carbon Tax...”

## BlueScope’s view of the proposed CPM

### ITEM 1: MAKING AUSTRALIA UNCOMPETITIVE

Australian-made products and exports will be taxed. Imports will be carbon tax-free. That will hurt Australian jobs, business and investment

### ITEM 2: A CARBON TAX ON STEEL WILL NOT REDUCE GLOBAL GREENHOUSE GAS

In 10 years China has ADDED the equivalent of 100 Port Kemblas, an EXTRA 1 billion tonnes of CO<sub>2</sub> with no carbon tax proposed. Australia generates just 1.5% of global greenhouse emissions, our steel industry generates just 3% of that 1.5%. If steel is not made in Australia it will be imported from overseas, which could potentially lead to higher overall greenhouse gas emissions

### ITEM 3: A LEVEL PLAYING FIELD BEFORE A CARBON TAX

A carbon tax on Australian steel is fine if China, Korea, Japan, India, Russia, America, Brazil and others are paying a similar tax too. At this stage they are not

### ITEM 4: TECHNOLOGICAL CONSTRAINTS

Using carbon (as coal) is the predominant way of extracting iron from iron ore. The chemistry to make iron and steel is the same the world over. Only cutting production cuts steelmaking emissions - hurting jobs, investment and exports

### ITEM 5: WORLD CLASS EFFICIENCY

Port Kembla Steelworks is in the top third of carbon efficiency among 84 global steelworks, as surveyed by the World Steel Association. Taxing efficient Australian steel producers will make global emissions worse as production moves offshore

# “Ten things you need to know about the Government’s Carbon Tax...”

## **ITEM 6: HIDING THE CARBON**

In Europe, emissions from industrial production have not risen since 1990, but emissions from consumption of imported products have risen by 47%. Europe has off-shored its emissions to the developing world to ‘hide the carbon’

## **ITEM 7: NO QUICK FIX**

The Australian steel industry and CSIRO have invested millions in R&D, seeking low carbon steelmaking technology. Commercial solutions are likely to be a decade or more away

## **ITEM 8: A CARBON TAX THREATENS INVESTMENT**

Cash is required to reinvest in plant and equipment to maintain our globally competitive operations. The more cash that goes to a carbon tax – the less for reinvestment

## **ITEM 9: A BETTER WAY**

The carbon tax will not reduce the emissions of Australian steelmakers. A better way would be more R&D funding to help find a lower carbon steelmaking solution

## **ITEM 10: IT IS JUST NOT FAIR**

It is not fair to tax Australian manufacturers and risk large numbers of jobs, while imports get a free ride

# BlueScope's Greenhouse Policy Principles

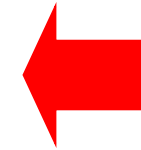
✗	Global issue	A legally binding international agreement that places obligations on emitters is still not in place. Steel producers in competitor countries do not face comparable carbon costs
?	Least cost	An ETS or Carbon Tax could be configured to achieve least cost abatement, however elements of the CPRS and proposed CPM (e.g. inability to use potentially lower cost international permits in the fixed price period) could increase compliance costs
✗	Fair go	The CPRS and CPM place our industry at a disadvantage to the rest of the world. Our global competitors (India, China, US, Japan, Korea and Taiwan) do not face comparable carbon costs and will be able to import into Australia without any form of border adjustment. BlueScope will also compete on the international market with companies in countries without a carbon constraint
?	Cut green tape	CPM announcement read: "Further consideration could also be given to reviewing existing Commonwealth, State and Territory policies so that they are complementary to the mechanism ". As part of their project comparing carbon policies internationally , the Productivity Commission identified 230 'carbon' policies operating in Australia <sup>1</sup> , of these RET has the most significant direct impact on BlueScope
?	Reinvest	CPM will be revenue neutral. There is considerable uncertainty over how revenue will be allocated. Minister Combet recently announced that "More than 50 per cent of the carbon price revenue will be used to assist households". It is also unclear whether liquid fuels will be included in any compensatory arrangements and how much revenue might be available to support research & development and investment in abatement
✗	No leakage	By directly and adversely impacting the international competitiveness of BlueScope Steel, investment leakage, and eventual carbon leakage remains a real threat to the viability of our Australian Businesses
✗	One in, all in	Policy does not include imports, who have tax-free access to the Australian market, nor rebate exports
✗	Investment certainty	By imposing significant, and increasing costs on the steel industry from the outset, the scheme makes long term investments (such as a BF reline or cogeneration plant) more difficult. Unlike some other industries, the steel industry does not have a portfolio of growth projects that would become more attractive with a carbon price in place. In addition the nature and timing of the transition from Carbon Tax to ETS is unclear

1. [http://www.pc.gov.au/\\_\\_data/assets/pdf\\_file/0005/107159/comparing-carbon-internationally.pdf](http://www.pc.gov.au/__data/assets/pdf_file/0005/107159/comparing-carbon-internationally.pdf)



# Sources of Greenhouse Gas (GHG) Emissions

Scope 1 emissions : All direct GHG emissions



Scope 2 emissions : Indirect GHG emissions from consumption of purchased electricity, heat or steam.



Scope 3 emissions : Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not controlled, outsourced activities

## BlueScope under the CPRS

## BlueScope under the CPRS

- A framework for providing assistance to such industries under the former Carbon Pollution Reduction Scheme (CPRS) is being used as the basic framework for current consultation with business.
- Due to the lack of detailed information regarding the CPM, analysis in this pack is based on the projected impact of the former CPRS on BlueScope
- The following slides assess the potential impact on BlueScope of the former CPRS as a proxy for the CPM
- Assumptions used in the projections in this section are:
  - Production levels remain constant at FY2010 levels
  - BlueScope Scope 1, 2 and cryogenics-related carbon efficiency improves by 0.18% p.a.
  - BlueScope moves to 'Method 2' to calculate liabilities associated with the use of coal and coke at PKSW
  - Permit allocation rate begins at 94.5% in Year 1 and decreases by 1.3% p.a.
  - Permit price is assumed to follow treasury modelling -5% series, increasing from \$26.10 in Year 1 to \$43.20 in Year 8
  - No permit allocation for Scope 3 emissions (excluding cryogenics) and no ability to pass through increased costs to consumers
  - All values are in nominal terms

## Industry Liability under the former CPRS

- The CPRS would have required facilities emitting over 25,000 tonnes of CO<sub>2</sub>-e per year to acquire and surrender to the government permits for these emissions
- Each permit was to be equivalent to one tonne of carbon dioxide equivalent (CO<sub>2</sub>-e)
- Permits would have to be surrendered to the government on an annual basis based on a company's NGER's (National Greenhouse and Energy Reporting) reported direct emissions.
- While companies faced no direct liability for Scope 2 emissions, the imposition of carbon cost on electricity generators and distributors would lead to increases in electricity costs.
- If suppliers were able to pass on all of, or a proportion of their Scope 1 and 2 liabilities, customers of these suppliers would be exposed to these costs as 'Scope 3' emissions.

## Permit allocation for Emissions Intensive Trade Exposed (EITE) Activities (based on CPRS)

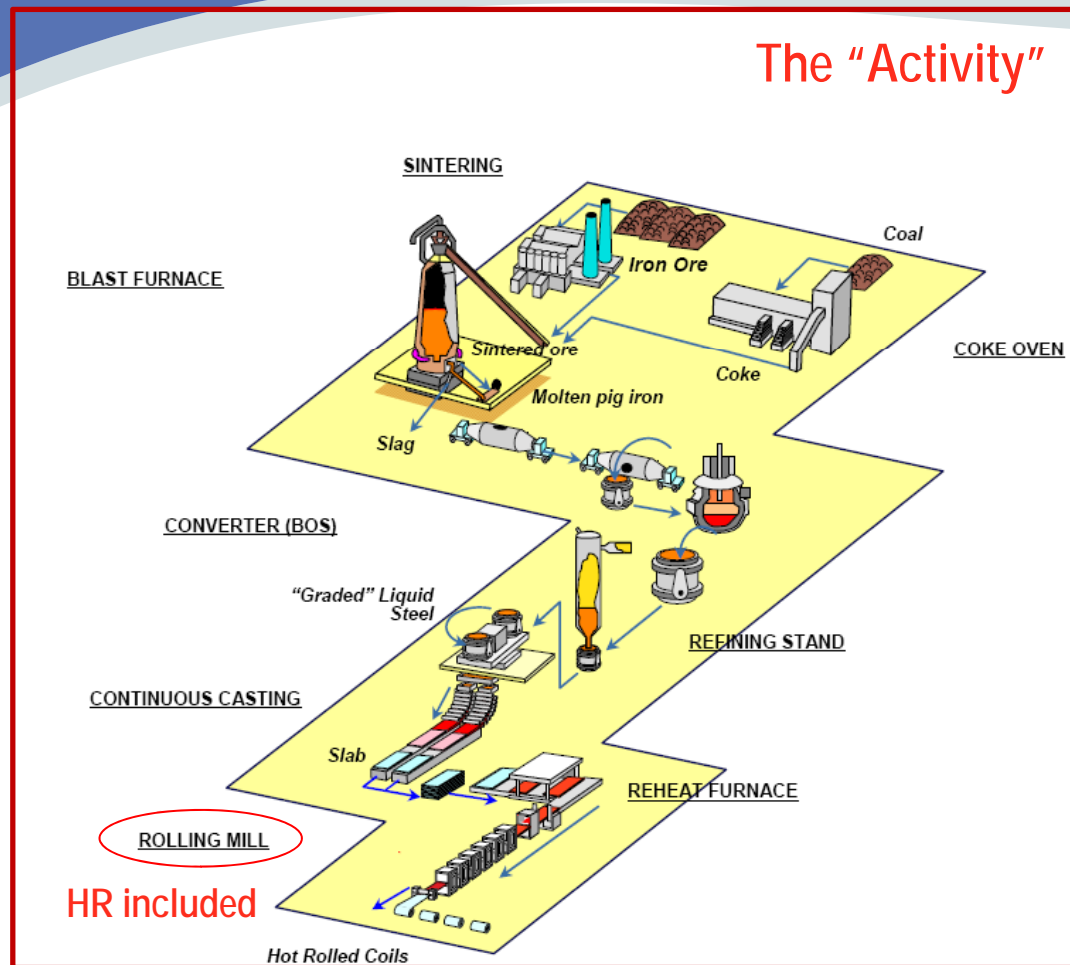
### Direct (Scope 1) Emissions (10.8Mt):

- A proportion of permits will also be allocated at no cost to qualifying EITE activities
- Allocation will be based on 1) BlueScope's production of eligible sub products [see slide 17] 2) the average Australian Steel Industry emissions intensity of production and 3) the permit allocation rate for the respective year (i.e. 94.5% in year 1 and declining thereafter)
- Integrated Iron and Steelmaking has been assessed under the Renewable Energy Target (RET) EITE assistance programme and has been determined to be "Highly EITE<sup>1</sup>" and should therefore qualify for permit allocation at the maximum rate
- A proportion of our business does not qualify as EITE and will not receive any permits

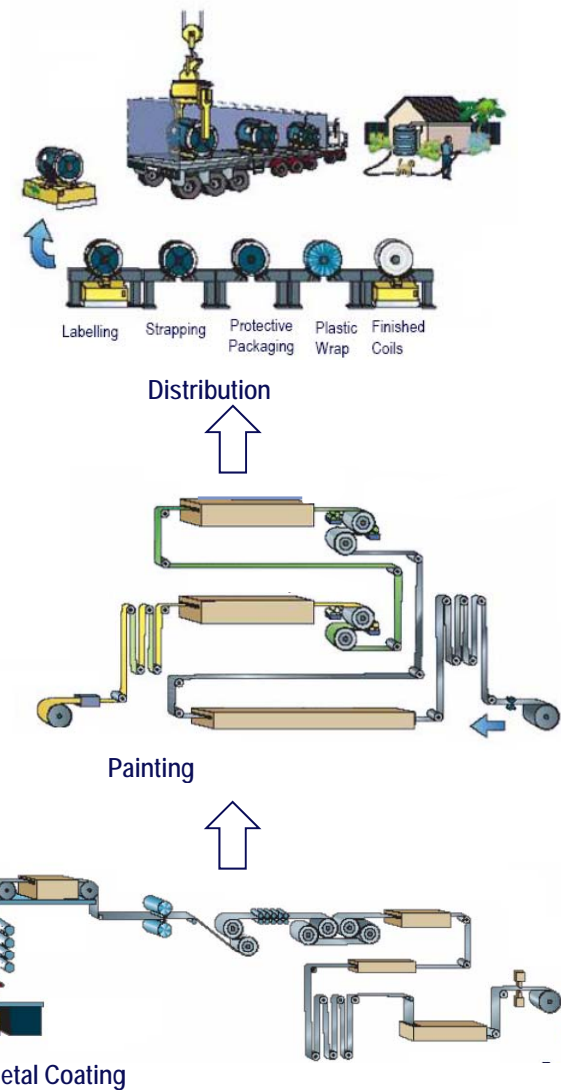
<sup>1</sup> Establishing the eligibility of emissions-intensive trade-exposed activities , March 2011,  
<http://www.climatechange.gov.au/government/initiatives/cprs/cprs-progress/~media/publications/eite/activity-eligibility-2011-pdf.pdf>

# BSL EITE and Non-EITE activities

## The "Activity"



## Non-EITE emissions



## Permit allocation for Emissions Intensive Trade Exposed (EITE) Activities (based on CPRS)

### Indirect (Scope 2) Emissions (1.4Mt): \*

- Electricity prices will rise due to the CPM as generators will need to buy permits to cover their direct emissions
- Permits will be allocated to EITE activities based on their electricity usage in partial compensation for the rise in electricity costs
- Allocation will be based on 1) BlueScope's production of eligible sub products [see slide 17] 2) average Australian electricity intensity of production and 3) the permit allocation rate for the respective year (i.e. 94.5% in year 1 and declining thereafter)
- Again, a proportion of our business does not qualify as EITE and therefore will be exposed to the full electricity cost increase as a result of the CPM

\*Under the CPRS permit allocation in relation to electricity emissions was to be provided at a rate of 1 permit per megawatt hour of electricity consumed by an activity.

\*Under the CPRS an allocation of permits was to be made to the most emissions intensive generators to offset an expected decrease in their asset values.

## Permit allocation for Emissions Intensive Trade Exposed (EITE) Activities (based on CPRS)

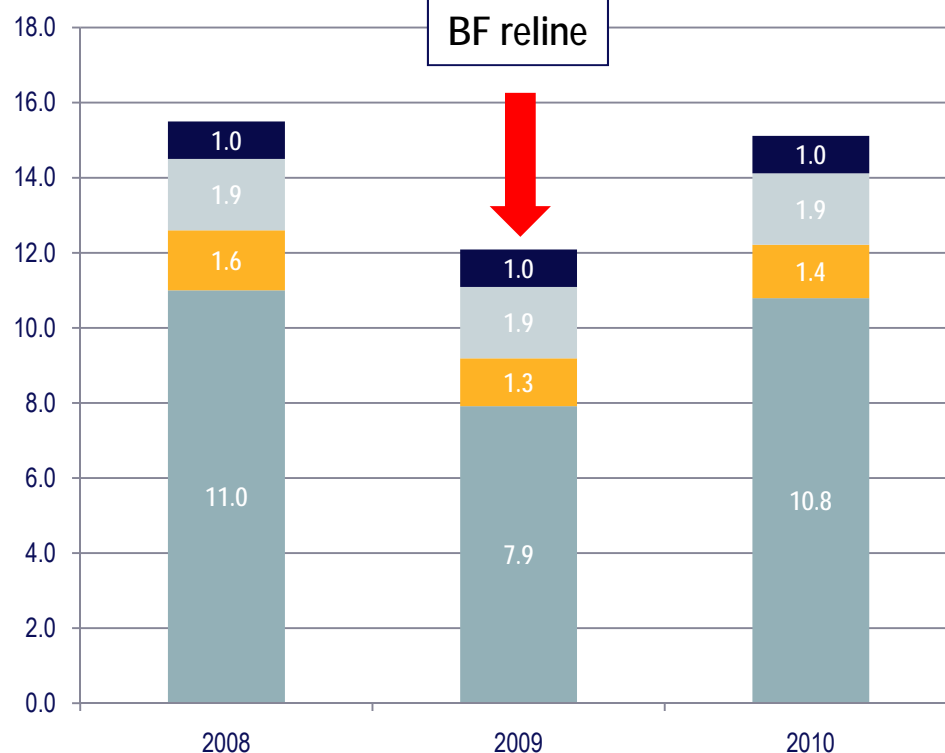
### Indirect (Scope 3) Emissions (Est. 2.9Mt):

- BSL's Scope 3 emissions are our suppliers' Scope 1 and Scope 2 emissions
- The full extent of cost pass through from Scope 3 emissions is unknown
- Under CPRS very limited Scope 3 assistance was provided to EITE activities
- Of BSL's Scope 3 emissions, approximately 2 Mt derive from the supply of metallurgical coal that we use. Other sources include transport and other raw materials (e.g. iron ore, limestone)
- BSL is particularly concerned that Scope 3 coal costs could be passed on to the steel industry



# BlueScope's Australian Emissions Profile

Mt CO<sub>2</sub>-e



- Scope 1 (direct)
- Scope 2 \*
- Scope 1 & 2 total \*
- Scope 3 coal (est)
- Scope 3 other (est)
- Scope 1,2,3 Total

2008	2009	2010
11	7.9	10.8
1.6	1.3	1.42
12.6	9.2	12.2
1.9	1.9	1.9
1	1	1
15.5	12.1	15.1

The overwhelming majority of BSL's direct emissions are chemical process emissions derived from the reduction of iron ore to metallic iron via the Blast Furnace route. e.g.



Of BSL's estimated Scope 3 emissions, approximately 2 Mt derive from the supply of metallurgical coal

\* BSL is not liable directly for Scope 2 emissions but will experience some degree of cost pass through from electricity generators. In this calculation 2008 Scope 2 emissions have been calculated based on a weighted average of Australian electricity carbon intensity factors. 2009 and 2010 Scope 2 emissions are taken from BSL's NGRS report. BSL is not liable directly for Scope 3 emissions but expect to experience some cost pass through. Scope 3 emissions are BSL estimates.

# Permit Allocation for EITEs under CPRS

- Under the CPRS, allocation was not based on a proportion of emissions
  - One cannot calculate initial exposure by multiplying a proportion of BlueScope's emissions by 94.5% and the term 'Eligible emissions' has no real meaning
- The reality is more complicated
  - The issue of permits would have been calculated using allocative baselines<sup>1</sup> determined by Government based on the average emissions intensity of the Australian Iron and Steelmaking Industry (BSL & OST)

Product	Combined baseline tCo2-e/t	Product	Combined baseline tCo2-e/t
Sinter	0.2667	Crude carbon steel (residual)	1.705
Iron ore pellets	0.1882	Flat products of hot rolled steel	0.1477
Coke oven coke	0.5017	Long products of hot rolled steel	0.2086
Lime	0.8655		

- For every tonne of production of a given product (see table above), Government makes an allocation of permits
- For every tonne of production of a given product , Government makes an allocation of permits. For example, every 1000 tonnes of Sinter produced represents 267 permits ( $1000 \times 0.2667$ ), and every 1000 tonnes of slab produced represents 1705 permits ( $1000 \times 1.705$ )
- In this way the permit allocation is built up, The final total is then multiplied by the allocation rate (94.5% in the first year) to arrive at the number of permits the company would actually receive

<sup>1</sup> "Establishing the eligibility of emissions-intensive trade-exposed activities", DCCEE, March 2011, page 56

<sup>2</sup> Under CPRS Government proposed issuing 'Scope 2' permits at a ratio of 1 tonne of CO<sub>2</sub>-e per MWh of electricity consumed.

# Permit Allocation under the CPRS in practice – case study

## Consider 2010

	Combined baseline	Production (t)	Allocation (tCO2-e)
Sinter	0.2667	5,405,630	1,441,682
Iron ore pellets	0.1882	-	-
Coke oven coke	0.5017	2,121,510	1,064,362
Lime	0.8655	256,986	222,421
Crude carbon steel (residual)	1.705	4,709,934	8,030,437
Flat products of hot rolled steel	0.1477	4,032,532	595,605
Long products of hot rolled steel	0.2086	-	-
Total			11,354,507

Year 1 permit allocation rate	94.50%
Year 1 permit allocation	10,730,009

No allocation is made for processes beyond Hot Rolling

## BlueScope Permit Allocation and initial liability

- The numbers most representative of BlueScope's Australian GHG liabilities are the GHG inventory in our NGERS and Community Safety and Environment (CSE) reports
- Based on numbers provided to BlueScope by DCCEE, BlueScope's carbon liability in year 1 (Scope 1 and 2 only) of the scheme varies between \$33M and \$43M depending on assumptions
- Key Assumptions include the treatment and scale of emissions associated with electrical distribution losses and cryogenic gases, the degree of cost pass through from electricity generators, and the methodology used by BlueScope to calculate our direct emissions liabilities
- Many of these issues are currently the subject of detailed discussions between the company and the Government

## Impact on BlueScope in the first eight years of the CPM

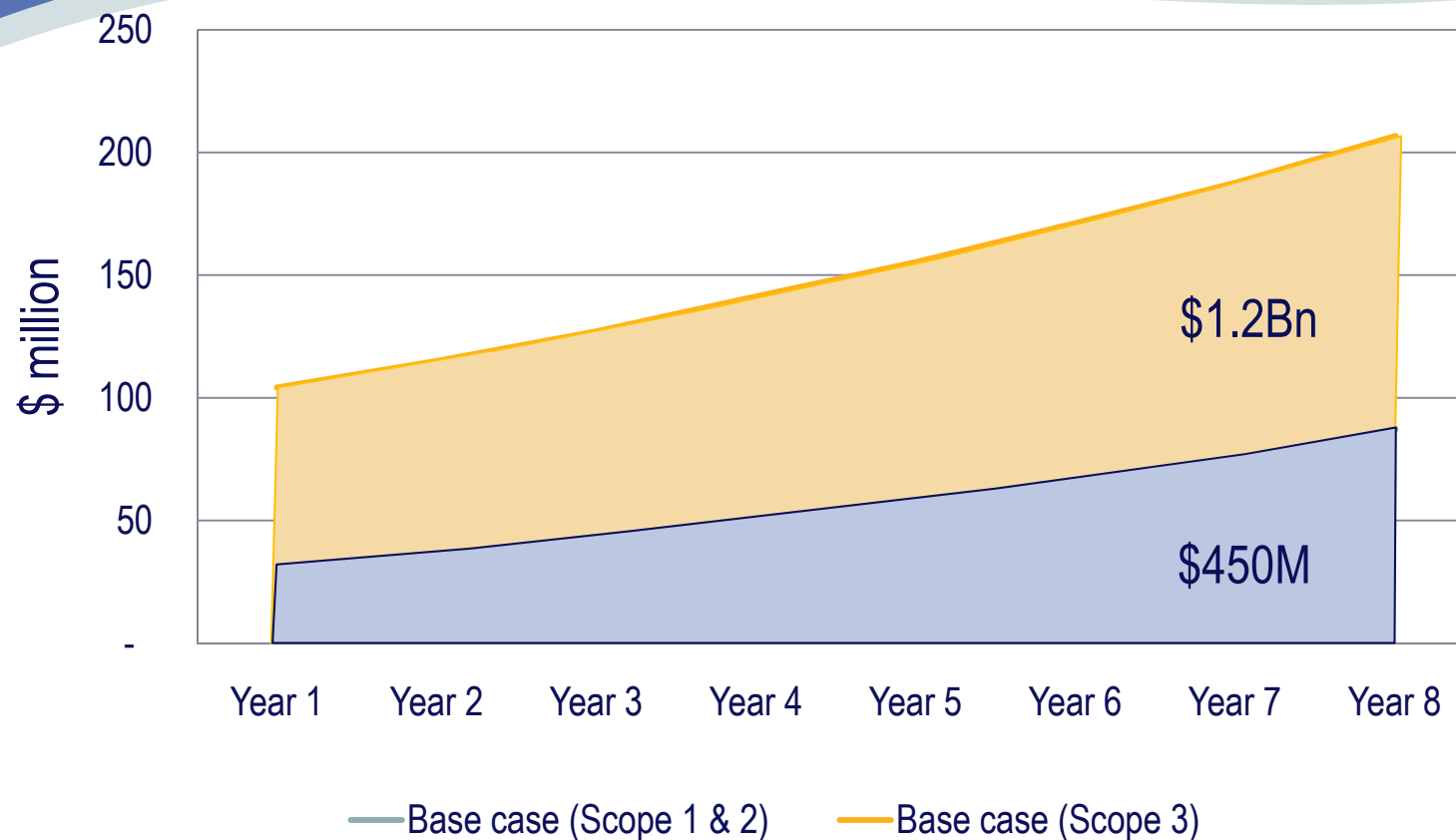
*Policy must recognise the very long time horizons for investment in the steel industry, including for potential next generation lower emissions iron and steelmaking technology*

*BlueScope GHG Principles*

- It is important to look beyond year 1 of the scheme, over time the effect of decay in allocation and escalating carbon prices increase the impact on the scheme on the company
- Given how little we know the mechanics of the CPM, making predictions of medium term costs is an imprecise science, however BlueScope internal modelling suggests
  - Costs associated with Scope 1 and Scope 2 costs over the first 8 years (2012-2020) of the scheme to be of the order of \$450M
  - Potential for pass-through of Scope 3 costs. Current 'unknowns' (i.e. coal industry arrangements) make predicting the cost impact difficult. If full pass through of Scope 3 costs are included in the analysis these costs could be as high as \$1.2Bn (2012-2020). The treatment of fugitive emissions of methane from the mines the company sources its coking coal from will be critical

1. Assumptions: Permit allocation decays by 1.3% per year, BlueScope carbon efficiency improves by 0.18% per year (1.8% over ten years), the design of the mechanism is broadly inline with the CPRS, Steel Production remains static at 2010 levels, BlueScope move to Method 2 to calculate liabilities associated with the use of coal and coke at PKSW, Permit price trajectory as per treasury modelling -5% series. Cost estimates are expressed as nominal dollars

# Indicative Projected Impact of CPM on BlueScope Steel



- The details of the CPM mechanism are not known at this stage, this analysis is based on CPRS as it would have applied to BlueScope.
- This graph shows the results of one analysis of potential impact of the CPM on BlueScope in order to illustrate the combined impact of declining permit allocation and escalating carbon prices leading to an increasing cost impost over time.

1. Assumptions: Permit allocation decays by 1.3% per year, BlueScope carbon efficiency improves by 0.18% per year (1.8% over ten years), the design of the mechanism is broadly inline with the CPRS, Steel Production remains static at 2010 levels, BlueScope move to Method 2 to calculate liabilities associated with the use of coal and coke at PKSW, Permit price trajectory as per treasury modelling -5% series. Cost estimates are expressed as nominal dollars

# Environmental Responsibility and Conclusions

# Environmentally Responsible

....a proven track record - with 30 years of environmental footprint improvements

## Investment Track Record:

- BlueScope has invested \$500 million on environmental related improvements globally
- 150 separate pollution reduction projects - improving air, water and waste management at Port Kembla Steelworks (PKSW) alone
- PKSW recycles around 1 million tonnes of scrap steel each year\*

\* based on typical annual production levels and includes a combination of internally generated and post-consumer scrap.

## Leader in Water Conservation:

### Port Kembla Steelworks:

- Over 26 billion litres of water recycled since Oct 2006 - world class water efficiency for an integrated steelworks

### Western Port:

- A water recycling project will cut fresh water use by 65 per cent and reduce wastewater discharge by 75 per cent

- We support the global objective to reduce CO<sub>2</sub> emissions
- We will continue work to reduce our CO<sub>2</sub> intensity



# Taking responsibility for our carbon footprint

- Around 80 per cent of BlueScope's Australian GHG emissions come from the use of coal. Our ability to abate these emissions is limited given current and foreseeable alternative technology available anywhere today
- However, BlueScope is investing in the future:
  - CO2 Breakthrough Technology
    - The company is supporting two projects at CSIRO looking at reducing CO<sub>2</sub> emissions from the steelmaking process and is a participant in the worldsteel CO<sub>2</sub> breakthrough programme
  - Climate Action
    - The company is a member of worldsteels' 'climate action' programme



## Maintaining our trade competitiveness is essential

- BlueScope Steel's Australian operations are world competitive – exporting 50 per cent of steel production
- Australia manufactures only 0.5 per cent of global steel production (7.3mt v 1,413mt)
- Nine of the world's top 10 steel-producing countries produce 81 per cent of global steel production – but currently have no mandatory carbon constraints<sup>1</sup>
- Blast furnace technology (basic oxygen steelmaking) is the predominant process for manufacturing virgin steel around the world
- Around 80 per cent of BlueScope's Australian GHG emissions are derived from use of coal in blast furnace route. Our ability to abate these emissions is limited given current and foreseeable alternative technology available anywhere today
- Steelmaking has high fixed costs requiring intensive capital investment – we need the right scheme to promote investment certainty

<sup>1</sup> <http://www.worldsteel.org/?action=stats&type=steel&period=latest&month=13&year=2010>

## Conclusion - The CPM and Our Concerns

- This is not a one-off, one-year decision
- Without changes to the CPM, and in the absence of comparable global action, cumulative cost of the scheme could impair our trade competitiveness:
  - At permit prices based on treasury modelling -5% series, net cost to BlueScope in the first eight years of the scheme could be around \$450 million
  - Approx. 2.9mt of Scope 3 emissions (1.9mt coal; 1mt other) – full extent of cost pass through unknown. Coal industry assistance currently uncertain
- These sums are dollars not available to be spent on technology reducing BlueScope's emissions
- Steel will continue to be consumed in Australia – if not made in Australia it will be imported and carbon emissions 'hidden', potentially for a worse global environmental outcome

*\*Assumptions:*

*Emissions constant and based on FY2010 levels (Scope 3 emissions estimated). Figures shown are maximum estimated costs and assume, BlueScope carbon efficiency improves by 0.18% per year (1.8% over ten years) and no ability to offset costs. Cost estimates are expressed as nominal dollars. Permit prices based on -5% series outlined in 'Australia's low pollution future' permit allocation commences at 94.5% in FY2012 and decays 1.3% pa*

## Conclusion

- Company is talking with government , and we continue to highlight our concerns :
  - That Australian Policy should not impose a cost on domestic manufacturers that is not borne by our international competitors in the import or export markets.
  - Policy should not hide emissions and lead to the off-shoring of manufacturing (and emissions)
  - The importance of the link between future permit allocation and the actions of international competitors – “comparable carbon constraints”
  - Reassurance that Scope 3 coal costs will not be passed on to steel industry and mechanisms to address if they are
  - Encouragement of abatement expenditure
  - We support the need to reduce global CO<sub>2</sub> emissions and we will work to reduce our CO<sub>2</sub> emissions intensity
- A CPM addressing BlueScope's concerns would still provide a substantial incentive for us to reduce our emissions



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