

IEA-IETA-EPRI

15th Annual Workshop on Greenhouse Gas Emission Trading

Industrial competitiveness: still at risk?

30th September 2015

CEO survey – summer 2015

Short-term concerns (tactical)

vs.

Long term concerns (strategic)

Climate change **risks** - What's of **most** concern to CEOs?

Climate change **risks** - What's of **less** concern to CEOs?



Government
regulation



56%
of CEOs



Raw materials
shortage/cost



49%
of CEOs



Energy
price rise



61%
of CEOs



Supply chain
disruption



51%
of CEOs



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Carbon Pricing



Carbon Pricing in Paris

Empowering change with the power of markets

- The Paris 2015 Climate Summit can prompt a sustained wave of business action and investment through carbon markets. In the past year, hundreds of governments and businesses have sounded a call for carbon pricing to stimulate transformative investments in climate action. The Paris Agreement should secure a path forward for carbon pricing, implemented via technical decisions on

PUTTING
THE GENIE BACK

WHY
CARBON
PRICING
MATTERS

BY DAVID HONE



Working for a World Free of Poverty



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FEATURE STORY

73 Countries and Over 1,000 Businesses Speak Out in Support of a Price on Carbon

September 22, 2014



TWEET



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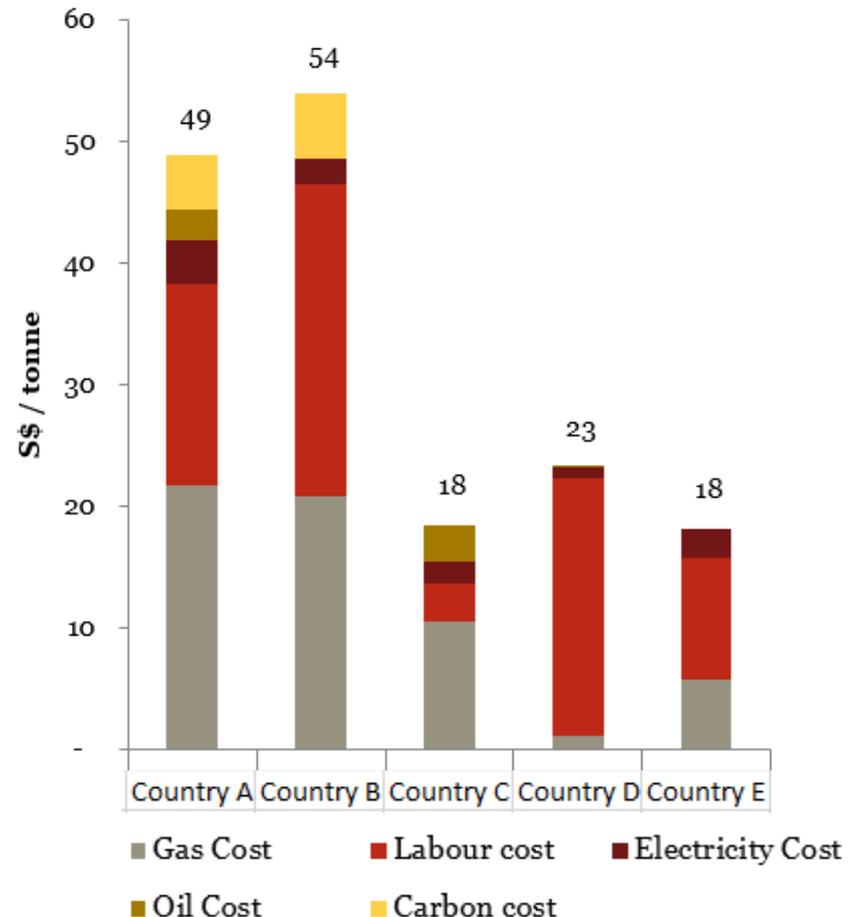
Pricing Carbon: It's About Our Economy & Our Future



Sector & country analysis

- 4 sectors analysed
- Cost structure of a representative firm considered
- Analysed comparable competitor countries to understand different costs
- Company interviews

Comparison of the local cost base in competing countries - Base case scenario - Different wage forecasts by countries, 2030



***Carbon price on its own is unlikely to tip investment decisions.
Other factors are ultimately more important.***

Is carbon price a decision tipping factor?

- In all scenarios considered in our study, carbon price has not been a factor that could influence relative cost attractiveness.

Weight on each factor, e.g. are there regulations?

- Interviewees agree that currently other factors driving them to stay.

Materiality of each factor e.g. how burdensome is the regulation?

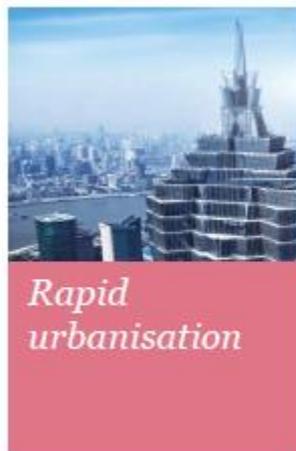
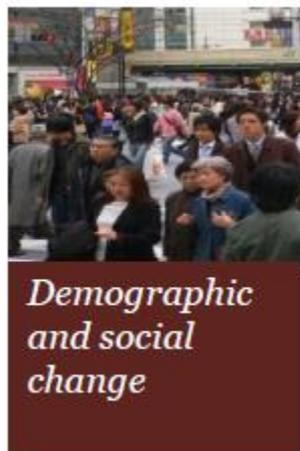
- Carbon costs are relatively immaterial. But if other costs moves in favour of a country's competitors, e.g. labour, then collectively it is more likely to influence investment decisions at the margins.
- Easy to comply carbon pricing scheme may help.

Presence of alternatives e.g. would it be better elsewhere?

- Many of the country's competitors also have carbon policies

PwC's ESCAPE index

- How might countries think about how they can 'escape' from their current position and move into a higher economic gear.
 - Escape stagnation
 - Escape the middle income trap
 - Escape the poverty trap



What's measured in the ESCAPE index

20 variables
5% weight each
Normalised

- Economic** 40%
1. GDP per capita, PPP
 2. GDP per capita (previous 10 year CAGR %)
 3. Annual inflation
 4. General government gross debt
 5. Adjusted trade openness
 6. Total investment
 7. Unemployment rate
 8. Current account balance (% of GDP)

42 countries

- Environmental** 10%
1. Access to an improved water source
 2. CO2 emissions

**ESCAPE
Index**

- Social** 20%
1. Life expectancy at birth
 2. Average years of total schooling
 3. GINI Index
 4. Most people can be trusted (%)

- Political** 20%
1. Political stability
 2. Control of corruption
 3. Rule of law
 4. Ease of doing business index

- Communication** 10%
1. Internet users
 2. Mobile cellular suscriptions

Findings from ESCAPE index

- Almost all major emerging markets have shown marked improvements in the Index since 2000.
- Countries in the CEE region show particularly strong rises from a low base.
- Saudi Arabia, Malaysia, China and Chile lead the way for the emerging markets and score higher than the US in 2012,
- The emerging economies average has continued to rise since 2007, while the advanced economies' average has fallen back since the global financial crisis hit.
- Sweden tops the 2012 index followed by Switzerland and Singapore.

Competitiveness concerns & carbon pricing

- What proportion of your cost base is the carbon price (at \$20), how trade exposed is the sector, how substitutable is the product?
- How will the competitiveness debate change with more widespread carbon pricing regulation?
- Given implicit and explicit pricing, can you address carbon price impacts in isolation of wider competitiveness issues?
- How do other social, technological, economic and governance factors affect competitiveness / attractiveness?

To find out more...

#Paris2015: <http://www.pwc.co.uk/services/sustainability-climate-change/paris-2015.html>

Low Carbon Economy Index: 12th October 2015

CEO Survey: <http://download.pwc.com/gx/ceo-pulse/climatechange/index.html>

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Some questions for businesses that the ESCAPE index data could help to answer (or identify)

Economic performance and stability

- What are the main macroeconomic risks a business may face e.g. high inflation, low growth, a high current account deficit leading to currency volatility?
- How open is a country to trade and investment?

Social progress and cohesion

- How skilled is the workforce and what implications will that have for productivity and training costs?
- Will the level of trust in a society affect how organisational structure should be designed?
- What approach will need to be taken when developing business contracts?

Communications technology

- How far are the internet and mobile phones the key channel to market?
- How easily can a country's operations be integrated into a global supply chain?

Political, legal and regulatory institutions

- How stable is the political, legal and regulatory environment ?
- How easy is it to establish and run a business?
- How favourable is the tax regime?

Environmental sustainability

- How could operating in a country affect a company's reputation with environmental pressure groups?