

1. Integration of Energy and Environmental Policy – lessons from Europe in mobilising markets, with particular reference to the European Union Emissions Trading Scheme

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2. An Irish –Taiwan Empathy

Greetings from Ireland

Memories of 1994 – Professor Chung-
Huang Huang

Sorting out relationships with big
neighbours

3. Outline

The Idea of Europe

Roles of European Union and Member States

European Union and Environment

Renewed European Union Sustainable
Development Strategy (EU SDS)

Market Instruments in EU SDS

Emissions Trading as centrepiece

Why and How does Europe succeed?

Lessons for Taiwan

4. The Idea of Europe –voluntary pooling sovereignty so never again war.

Donne, John (1573-1631).

No man is an Island, intire of itself; every man is a piece of the Continent, a part of the maine; if Clod be washed away by the sea, Europe is the less, as well as if a Promonorie were there, as well as if a Mannor of thy friends or of thine owne were.

Key Premise: the whole is greater than the sum of the parts.

5. Some Roles of European Union

Competition policy –State aids, mergers etc.

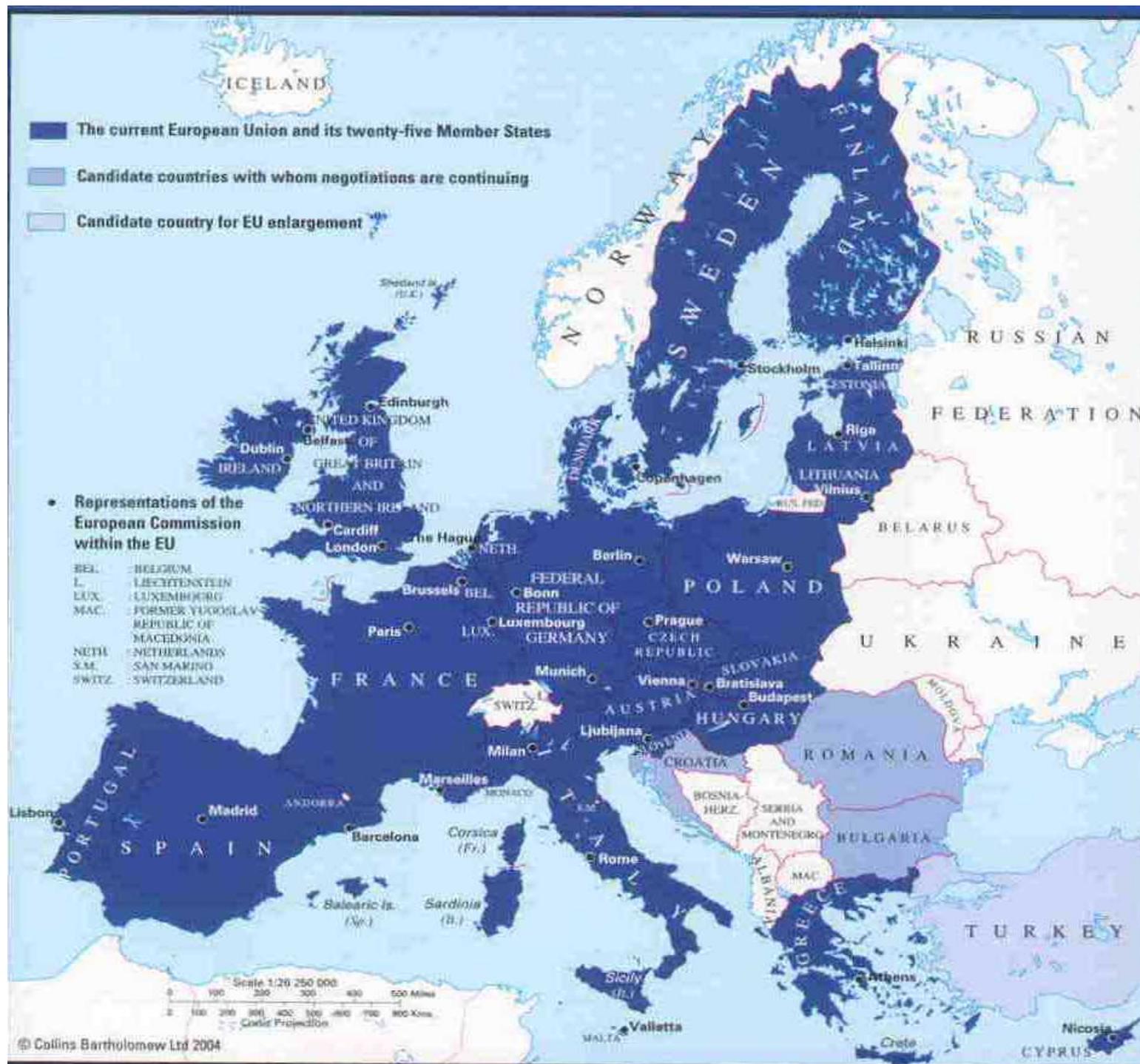
Subsidies - agriculture and infrastructure for poorer countries – EU 10

International Trade (WTO) and Treaties – negotiates as a unit

Common Currency (12 Member States)

[1 Euro = 42.9 Taiwan dollar]

Environmental Policy



7. How it works

- The *European Commission* Proposes – the European Civil Service
- The *Council of Ministers* (25 governments) – ‘qualified majority’
- And the *European Parliament* (directly elected)

Decide.

- The *European Court* enforces

8. European Union and Environment 1

Environment protection has constitutional status

Article 6 of the Amsterdam Treaty

"environmental protection requirements must be integrated into the definition and implementation of the Community policies [...] in particular with a view to promoting sustainable development".

9. European Union and Environment 2

Sets targets

Regulates – command and control

Mandates processes, e.g. EIA and IA

Promotes market mechanisms

Aspires to Fiscal harmonisation

Develops Strategies – roles for EU and for Member States

10. Member States

Implementing Agents for European Union policies.

Powers over:

Fiscal (taxing)

Land use planning and regulation

11. THE EU SUSTAINABLE DEVELOPMENT STRATEGY (EU SDS) – revised in 2006

Emphasises target setting and use of market based instruments

Renewables: 2010 - 12% of energy consumption

21% of electricity consumption by 2010

Biofuels: 2010 - 5.75% of transport fuels – to 8% by 2015

Energy efficiency: saving of 9% of final energy consumption by 2017

GHG

Reduction of 15-30 per cent by 2020 compared to Kyoto base

Automobiles:

Light duty vehicles (new car fleet) to achieve average CO₂ emissions of 140 g/km by 2008/09 and 120 g/km by 2012

12. Market based Instruments in 'Policy Guiding Principles' of Sustainable Development Strategy I

Make Polluters Pay – *ensure prices reflect the real costs to society of consumption and production, and that polluters pay for the damage they cause to human health and the environment*

Emissions Trading – provide medium and long-term certainty to investors, extension to aviation proposed.

-

Infrastructure Charging - Examine use of infrastructure charging for all modes of transport drawing on new opportunities arising with new satellite, information and communication technologies₁₂

13. Market based Instruments in 'Policy Guiding Principles' of Sustainable Development Strategy II

Assessing External Costs - Commission present, no later than 2008, a generally applicable, transparent, and comprehensible model for the assessment of all external costs to serve as the basis for future calculations of infrastructure charging'

Member States asked to consider **shifting taxation** from labour to resource and energy consumption.

By 2008, the Commission a "roadmap for reform, sector by sector, of **subsidies** that have considerable negative effects on the environment and are incompatible with sustainable development, with a view to gradually eliminating them".

14. Taxation at EU level requires approval by all 25 Member States

EU-wide tax not possible

Evidence: EU-wide carbon energy tax proposal withdrawn by Commission in 1992

So primary use of taxes and levies is at *Member State level*

e.g.

Irish Plastics bag levy (the most popular tax in Europe)

UK Energy levy (combined with voluntary agreement)

Swedish NOx tax

See economicinstruments.com for descriptions

15. Emissions trading

Adam Smith: Man is the only animal that makes bargains; one dog does not change bones with another dog.

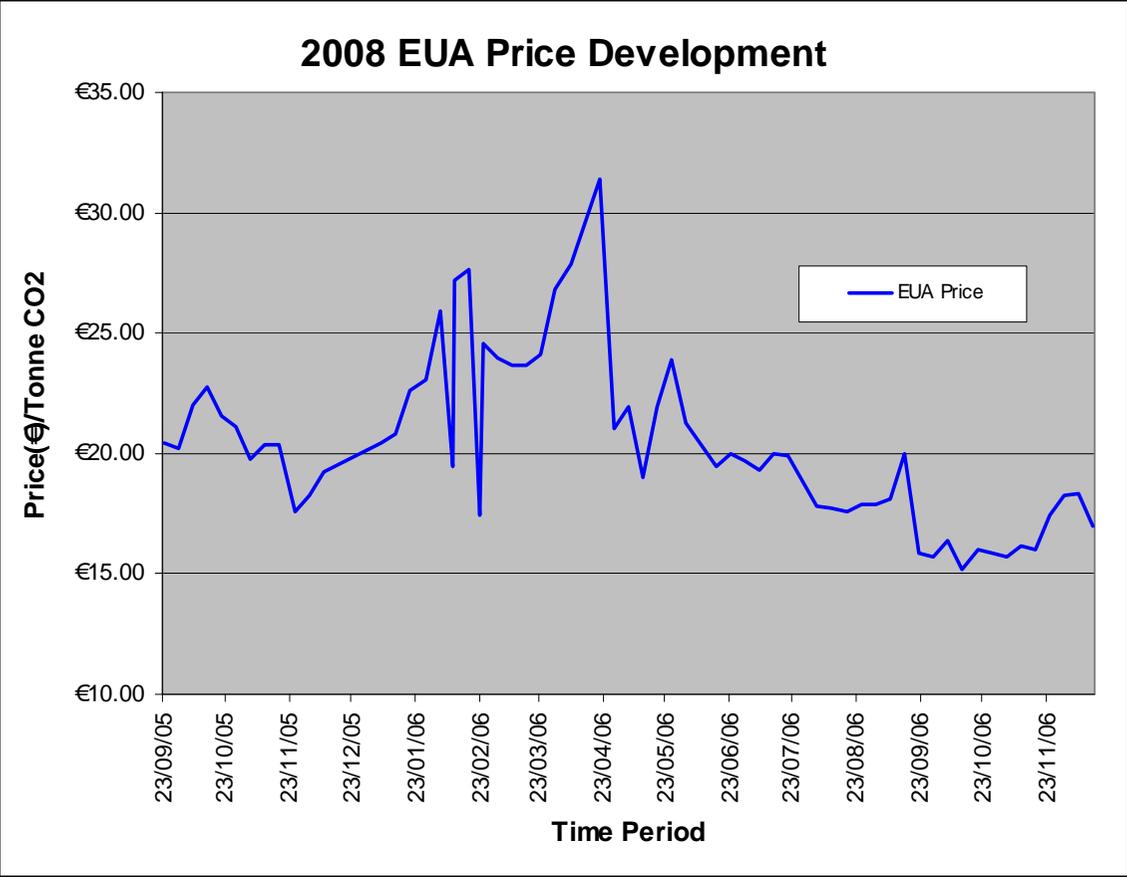
Emissions trading the only 'core' EU-wide market based instrument that is feasible – initial ambitions modest
Major achievement to get 'bottom up' market running

16 Features

- Cap and Trade
- Pilot Phase (2005-07) and Kyoto Phase (2008-12)
- Coverage - CO₂ emissions from Power generation and heavy industry
- 11,000 installations, 6.5 billion tonnes of CO₂ allocated
- Allocation – mostly free (90-95 per cent) at Member State level
- Registry, verification, penalties, enforcement
- Linkage to CDM and JI

16 (a) Performance of Emissions Trading Scheme

- Prices
- Allocations – who was:
long (more allowances than emissions) and:
short (more emissions than allowances)
- Environmental effectiveness – short term achievements compared to counterfactual
- Dynamic efficiency



17. Emissions trading – short and long positions in 2005

Countries: UK, Spain, Ireland and Italy ‘short’ (less allowances than emissions)

All other countries long (more allowances than emissions)

Sectors: Power generation short

All others (iron and steel, cement and lime, refineries, pulp and paper, glass, ceramics bricks and tiles) long

Source: ‘Over-allocation or abatement? A Preliminary Analysis of the EUETS based on the 2005 emissions data,’ by Denny Ellerman and Barbara Buchner, Working Paper, FEEM and MIT, 2006.

18. Emissions trading – short term reductions

Growth in output over the 2002-05 period

Electricity (5.5%), cement (6%), iron and steel (3%)

Growth in emissions under business as usual would have been 3-6 per cent

Emissions in 2005 are 3.4 per cent less than baseline (2002)

19. Dynamic efficiency effects

The Intention in providing a single price for carbon to all emitters in the European Union is to create incentives for companies to engage *the ingenuity of their engineers to identify cost effective ways to reduce their emissions, both by improving current production processes and investing in new technologies.* (**European Commission**).

Wave of interest and investment in Carbon Storage and sequestration (CSS)

Jeffrey Immelt, General Electric's (GE) chief executive, argues that the US government must create policies that foster renewables and address climate change: "America is the leading consumer of energy. However, we are not the technical leader. Europe today is the major force for environmental innovation."

20. WHY AND HOW HAVE MARKET BASED INSTRUMENTS TAKEN ROOT IN EUROPE?

I Religion

Symmetry between Lutheranism and taxes

Karita Mattila, the great Finnish Soprano: *In Finland, I was brought up to think that anything which gave you pleasure must be bad.*

Corollary is that anything which does not give you pleasure – paying taxes – must be good...

21. II Realism

Recognition that second or third best is better than no best

Example: In EU ETS, Free (and generous) allocation of allowances (90-99 per cent) crucial to secure support.

Antithesis of **Lionel de Rothschild**, (one of the world's greatest growers of rhododendrons). *Gentlemen, no garden, however small, should be without its two acres of rough woodland.* (to a city gardening club) quoted in *The International Book of Trees*, by Hugh Johnson, Bonanza books, New York, 1973, p. 9.

22. III Economists as popularisers

US – Resources for the Future

European Union

Research networks of economists

David Pearce (UK), Kai Schlegelmilch
(Germany)

Caligula. *A man ought either to be a good economist or an emperor.*

23. IV. Adjusting to evidence and popular sentiment

Feynman, Richard (Nobel Prize winning physicist)

It doesn't matter how beautiful your guess is or how smart you are or what your name is. If your idea disagrees with experience it's wrong. That's all there is to it.

- Plastic bag levy in Ireland
- NOx tax in Sweden
- Excise duty on petrol – reaching public tolerance limit?

Petrol in Germany Excise duty per tonne of CO₂ of
€275.201

24. V Political Systems – coalition governments and Green representation - gives occasional significant power to economic instruments

Edmund Burke. *To tax and to please, no more than to love and be wise, is not given to men. On American Taxation.*

But environmental taxes can be accepted if you recycle...

25. VI 'Friendly' Rivalry and benchmarking between countries

Major adoption of economic instruments across the 25 Member States

See <http://www.economicinstruments.com>

Confucius. *How pleasant it is to see an old friend fall from a rooftop.*

26. VII Climate Change and Energy Policy now 'driving' European Environmental Policies

And European public believes climate change is happening....

- Europe not used to extreme weather events
- Difference with North America?
- Heat wave in France
- Flooding in Germany
- Skiing season shortening
- Evidence of ecosystem shift – new species
- Sharks off the Irish coast..

Evidence in Taiwan?

27. VIII Europe has not much faith in 'Faith based initiatives'

E.g. The 'Vision Statement of Australia, China, India, Japan the Republic of Korea and the US for a New Asia Specific Partnership on Clean Development and Climate Change'

It is the European Union Emissions trading price signal that has driven the CDM market not 'vision statements'

In regard to climate change:

Europe chisels in stone, while the US knits in wool

28. Lessons for Taiwan I

1. Market based approaches do work

2. Have conviction in the 'product'.

David Gilmore (Fiji Water baron). *The secret of success in business is absolute conviction in your product.* (Observer Food Monthly, August 2003, p. 22)

3. Economists and media have a key role in informing the policy system and the public.

Abraham Lincoln: *With public sentiment, nothing can fail; without it, nothing can succeed.*

29. Lessons for Taiwan II

4. Continue to do research that provides evidence and options

Mature societies do (eventually) respond to evidence

Graduate Schools of Environmental Economics and Policy

Analysis can be crucial in this.

5. Language is important

Not 'taxes' but 'levies' (e.g. UK climate change 'levy')

Not tax increases, but tax neutrality and tax reform.

Recycling to improve competitiveness and economic and social performance

6. Persistence pays – it can take a decade from concept to achievement

30. Lessons for Taiwan III

7. Keep things as simple as possible – but not simpler...

Albert Einstein: *Everything should be made as simple as possible, but not simpler.*

8. Keep adapting to realities

e.g. emissions trading is fall back to realistic taxation

9. Promote integration and flexibility as key qualities

Examples: Stern Report on Climate Change was commissioned by Gordon Brown, UK Chancellor for the Exchequer and likely future Prime Minister

European Union:

Energy, air quality and climate change policies being integrated.

31. Final reflection on Trading Scheme

seen as means of integrating: energy and climate in EU, and climate change policy globally.

Possible links..

The US:

on August 31, 2006, Governor Arnold Schwarzenegger signed into law AB32, which requires that California's state-wide greenhouse gas emissions be reduced to the 1990 level by 2020. Compared to the current expectation of business as usual, this is a reduction of about 25 per cent.

Australia: On November 13 2006 the Australian Prime Minister John Howard announced that the Government would establish a joint government-business taskforce to examine the best options for establishing emissions trading in Australia. It is also his intention to propose the idea of an international emissions trading scheme across the Asia-Pacific climate pact.

32. Prospects for Change in Taiwan – cultural attributes?

- ‘ We want people to really acknowledge our accomplishments. But by nature, the Chinese are conspiratorial. They don’t like to show their cards. They want to keep something hidden.’
- ‘Change is not in the DNA of the country, or perhaps more accurately, of the civilisation. A lot of the restrictions are cultural. Chinese are not adventurous. It is very difficult to change the way people think. [Interview with **Hung Huang** ‘China’s Oprah’ by Richard Mcgregor, *FT Magazine*, 26/27 August 2006]

33. The Future

- If markets are not mobilised to protect environmental assets, they will destroy them.
- Market signals are the ideal way to integrate economy, energy policy and environment
- This conference is an important symbol and practical step in recognising these realities.