

# GREEN INDUSTRIAL POLICY IN NOT SO LARGE EMERGING COUNTRIES: THE CASE OF VIETNAM - AUGUSTO NINNI (PARMA UNIVERSITY)

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Workshop on “Asian emerging economies in the post crisis era: growth trajectories, challenges and perspectives”,

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- Progress Report: part of a larger research about the connections between Industrial Policy and Energy Policy in the large emerging countries

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# What is a “Green Industrial Policy” (GIP)

- GIP is a sequence of Government interventions aiming at modifying the economic (or industrial) system through microeconomic tools, coherently with the principle of environmental sustainability (i.e. to keep the natural capital as possible)
- GIP requires the absence (or the reduction) of trade-offs between the environmental target and the usual targets of industrial policy, IP (as growth, creation and diffusion of innovation, competitiveness)

- Historically, GIP stems basically from the addition of the “stimulus packages” in front of the 2008-2009 crisis (anticycle manoeuvres) and of the fears triggered by the Stern Report (2006) about the weight and the pressure of climate change, because of the huge increase of the world emissions of GHGs (greenhouse gases)

GIP is maybe even more justified than IP,

- because market prices in the environmental and energy field work badly (= they do not include externalities)
- and their utilization as tools to drive the behavior of the users is unsatisfactory (price elasticity is rather low)
- Difficulties to use CARBON TAX and EMISSION TRADING

Technological uncertainty is high, and appropriability is difficult, so that the role of the State is enhanced

Not producing emissions technologies like renewables are usually more expensive than fossil fuels, so that the need for incentives lasts a lot (scale economies work to reduce the price of the renewable equipment, but can hardly reduce the gap with fossil fuels)

So a GIP has to provide both for the demand (for example incentives, like FIT, to the utilization of renewables) and the supply side (for example R&D expenditure in leading technologies)

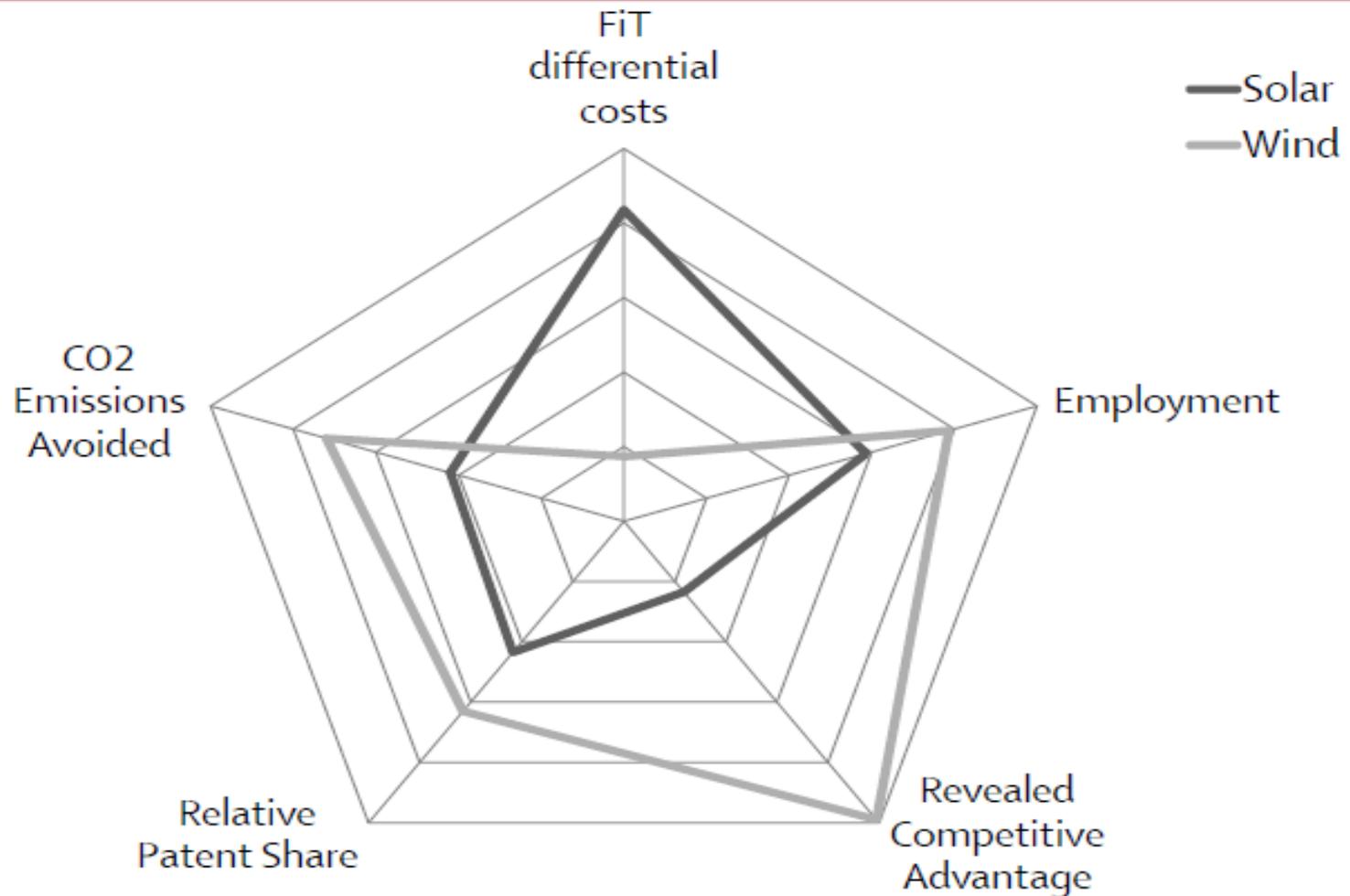
- Among the Western countries, Germany has developed the most important GIP (Energiewende)

- Switch from fossil fuels and nuclear to renewable energy and energy efficiency
- Linked to Germany's emission reduction targets: 40% by 2020, 80 -95% by 2050 (1990 baseline).

RE target: 40-45% of electricity by 2025, 55-60% by 2035

(Pegels, 2014)

- In terms of GIP, in the German case wind seems better than sun :



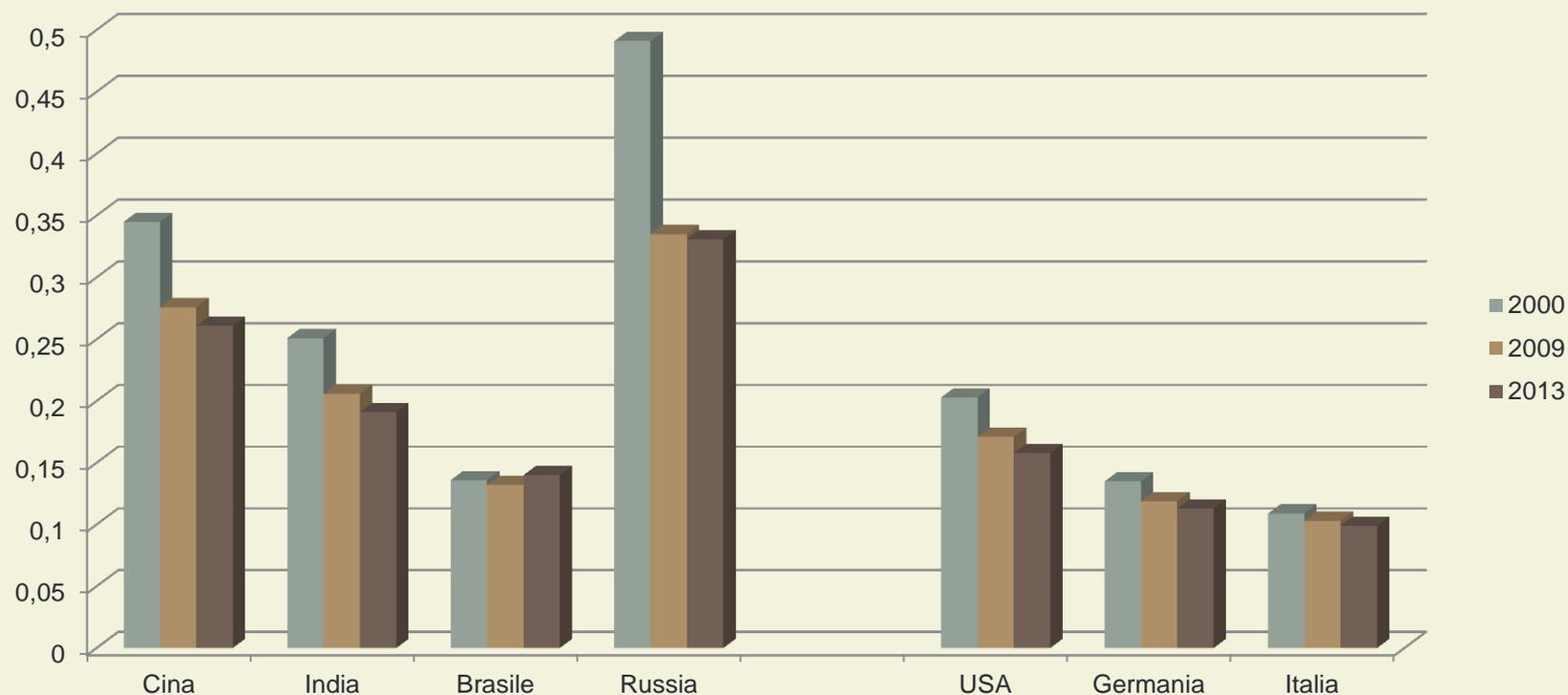
## Green Industrial Policy in Large Emerging Countries

The Kyoto Protocol did not request emerging countries to reduce their CO<sub>2</sub> emissions (they were not Annex I countries). So they were not committed to intervene

If we limit ourselves to energy (responsible for around 2/3 of the emissions), then above all China and India were expected to increase their energy utilization even more than what was requested by their economic activity (i.e. they were in the growing side of the Environmental Kuznets Curve)

As a matter of fact, according to the 2007 edition of the IEA World Energy Outlook 45% of the expected increase of world energy consumption in the period 2005-2050 had to come from China and India alone.

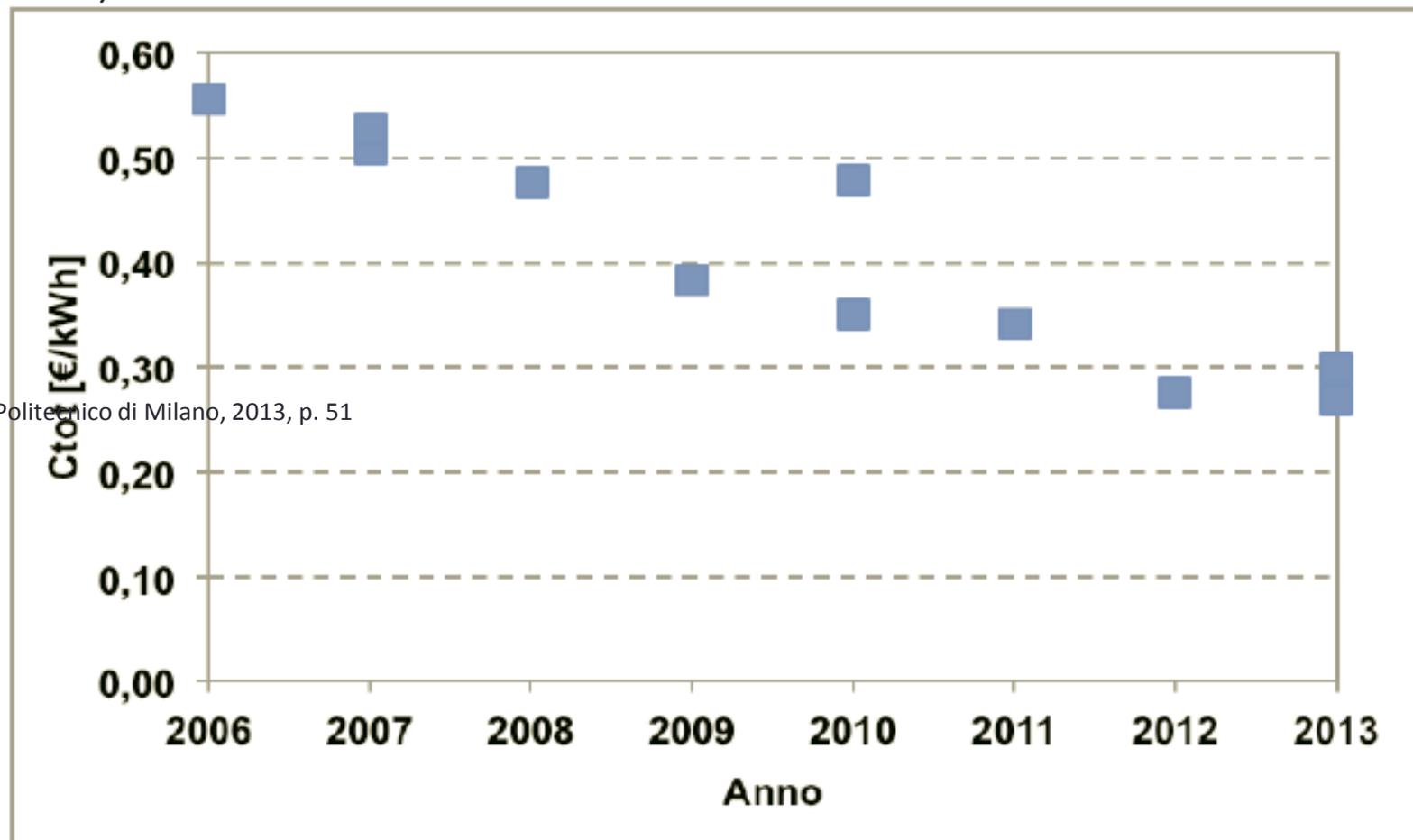
However in China and India energy intensity dropped more extensively than in many Western countries



- As a matter of fact China and India adopted an interventionist policy: they included PV and wind energy as “strategic sectors” to exploit the international market
- They developed inside technologies for renewable looking more at the foreign markets than inside: it was an export led strategy
- However their industrial policy was useful for the green targets of the Western countries, because in those countries the gap between incentivised prices of energy and cost of kWh coming from RE can decrease (their cost to get equipment for renewable energy diminished), so that even incentives can be decreased

An example...

Graph 12 Cost of the kWh produced through PV technology, in Italy (2006-2013)



Source: Politecnico di Milano, 2013, p. 51

Source: Politecnico di Milano (Fabbri-Ninni)

- The recession of the Western countries in the last years, and above all in 2012-2013, indirectly promoted the growth of the domestic market for PV and wind technologies in China and in India (also aiming at reducing the excess of supply of equipment inside those firms, previously producing mainly for exports), so making easier the energy transition even in those two countries towards RE others than hydro.
- As a matter of fact a GIP directed to the demand side (i.e. FIT Tariffs and Renewable Portfolio Standards) was developed in those countries only **after** the development of the supply side of the GIP.

## Industrial policy in Vietnam: the historical evolution

A premise:

- Up to now we saw the dynamic of GIP in China and India (an healthy dynamic: GIP in China and India can pass the Mill-Bastable test for IP!). Scale economies were important (the size of the PV producing Chinese firms is very high)
- Is it the same for not so large emerging countries ? Are the role of the State and the influence of global value chains able to counterbalance the size of the countries ?  
The Vietnam case

It is usual to divide the history of IP in Vietnam in three different periods (Altenburg)

1) **1986, the change:** Doi Moi, the starting of liberalisation

FDIs arrive in the country (mainly because of the low labour cost)

2) **2000 and 2005: the rules inside** the country

First enterprise law 2000: easy entry for private firms

Second enterprise law in 2005: level playing field for all the firms

3) **2007:** the country must obey to the rules outside (the **WTO accession**)

- The result is that Vietnam is characterized by the presence of 3 groups of enterprises:
  - 1) **the State Owned Enterprises**: large firms operating mainly in protected sectors (with natural monopoly) partially opened to investors (equitisation)
  - 2) **FDIs** interested to utilize the low labour cost, a very hard working and active labour force, the richness of natural resources, the size of the market, plus the proximity to China (and the need for the countries of investors to differentiate their involvement with respect to China)
  - 3) **SME and private firms**, operating in different sectors of services and of small industry, even working for the local market, able to utilize the bulk of the urban labour force

Table 2. Firm Size Distribution, 2008 (%)

Firm Size	SOEs	DPFs	FDI	Total
0–50	20.97	87.20	29.46	76.61
50–100	17.29	6.27	18.10	8.12
100–200	21.09	3.59	18.03	6.36
200–300	11.11	1.17	9.66	2.75
300–1,000	22.21	1.44	18.52	4.72
1,000–3,000	6.05	0.30	4.71	1.19
3,000–5,000	0.89	0.02	0.90	0.17
5,000–10,000	0.35	0.02	0.38	0.07
>10,000	0.05	0.00	0.24	0.02
Total	100.00	100.00	100.00	100.00

DPF = domestic private firm, FDI = foreign direct investment, SOE = state-owned enterprise.

Source: Authors' calculations from the enterprise census.

Source:

## Foreign Direct Investment and the Survival of Domestic Private Firms in Viet Nam

ARI KOKKO AND TRAN TOAN THANG\*

Asian  
development

Review 2014

Table 1. Total Output Share by Sector, 2008 (%)

Sectors	FDI Firms	SOEs	DPFs
Food processing	24.34	42.73	32.25
Textile, leather, wood	39.80	26.46	33.56
Gas, chemicals	35.54	44.28	20.03
Construction	7.36	35.08	57.44
Metal, machinery	51.26	24.47	24.13
Electricity, energy	13.83	58.12	27.94
Commerce, repairs	5.85	36.77	57.27
Transportation	22.50	22.29	55.13
Telecommunication	21.78	48.83	28.40
Financial services	19.92	50.38	29.55
Research and development	37.56	47.16	15.26
Real estate	28.85	28.39	42.71
Other services	13.20	55.42	31.34

DPF = domestic private firm, FDI = foreign direct investment, SOE = state-owned enterprise.

Source: Authors' calculations from the enterprise census.

The result is an industrial structure dominated by large groups (similar to Korea)

**Table 3: Sales and Diversification of the 10 Biggest Business Groups**

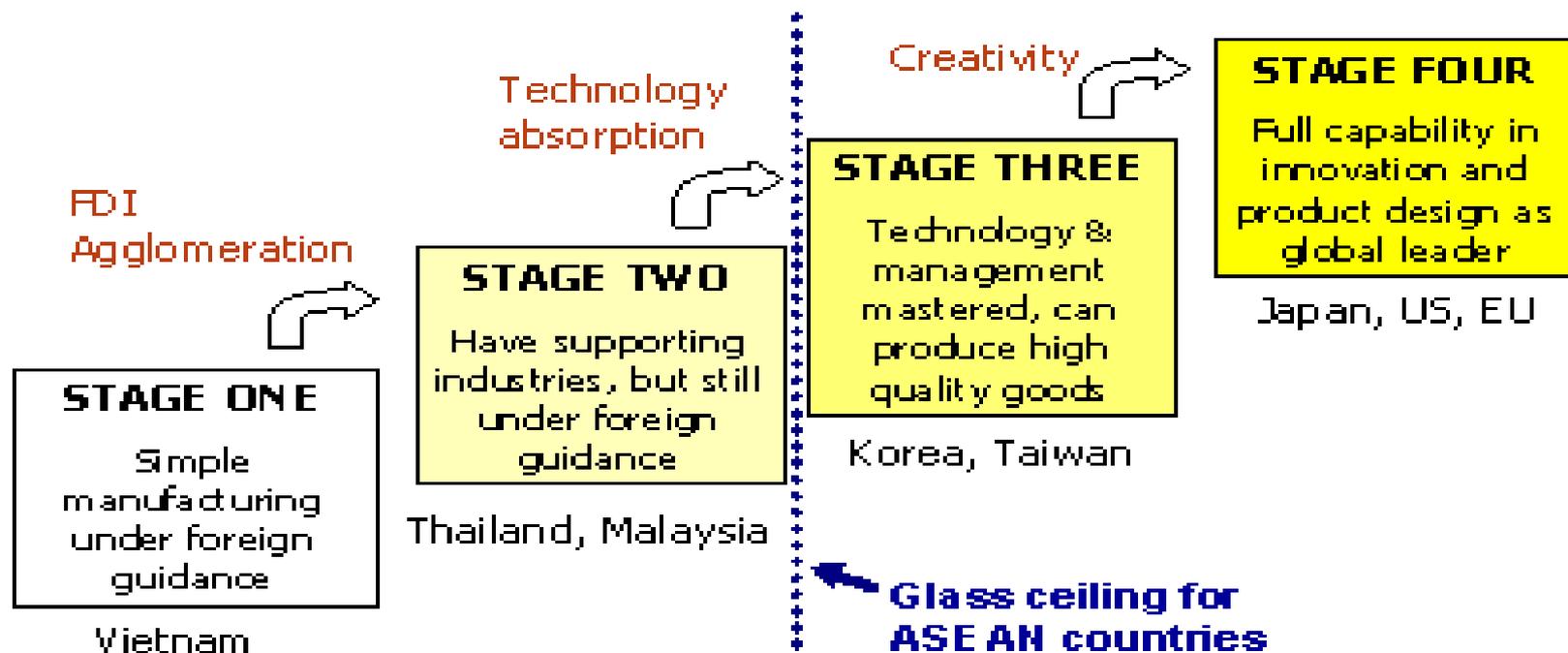
Countries	Sales <sup>(1)</sup> (% GDP)	Diversification <sup>(2)</sup>
<b>East Asia</b>		
China	9.4	2.3
South Korea	49.0	1.7
Taiwan	19.0	1.6
<b>Southeast Asia</b>		
Indonesia	25.0	2.1
Philippines	-	3.1
Thailand	-	3.5
Vietnam	37.3	6.4
<b>Latin America</b>		
Argentina	11.0	-
Brazil	8.0	1.4
Chile	-	5.1
Mexico	10.0	2.7

*Notes on the data:*

- The data on Vietnam is of year 2010 and is collected directly from the website of the SEGs
- <sup>(1)</sup> The sales data is of 10 largest corporations. The data of Vietnam is of 2010, China is of 2005, and that of rest is of 1995.
- <sup>(2)</sup> The degree of diversification of the corporation is calculated by the number of 2-digit industries in which the corporation has activities. The data of China is the average of ten years (1994-2003) collected from Lee ("Business Groups in China, 2010). The statistics of the rest is of the end of 1990s collected from Khana and Yafeh ("Business Groups in Emerging Markets: Paragons or Parasites?", 2007)

The Ohno- Masina model: the trap of the middle income

## Stages of Catch-up Type Industrialization



The pro-active IP according to Ohno must satisfy all these conditions:

- - to respect market rules and market development under globalisation
- - a strong State
- retaining sufficient policy instruments for latecomer industrialisation
- - internalizing skills and technology
- - effective public private partnership
- - deep knowledge of the industry
  
- (Ohno 2010)

## The 2012 change in Vietnam's energy policy: strategic reasons

Vietnam energy condition is characterized by:

- a very strong capacity to face internal demand with indigenous production;
- energy trade is active: Vietnam exports coal and crude oil, and imports derived products
- in final consumption the weight of industry is high, while in the consumption of the households the incidence of biomass is high
- In the generation of electrical energy more than half is produced through hydro, the other is produced through coal and gas
- **R/P** is high for natural gas (63.3) but **is very small for coal (4)**
- **the sources of Mekong are in China...**

- In September 2012 Vietnam adopts the Green Growth Strategy (VGGs), with the aim to reduce emission (8-10% with respect to 2010) and energy intensity (1-1.5 % for year) by 2020 through:
  - “green production”: more efficient use of resources and new technologies: supply
  - Stimulate green lifestyle and promote sustainable consumption: demand

- **Wind power:** currently 52 MW, 1000 MW in 2020, 6200 MW in 2030; as a share of electricity generation 0.7% in 2020, 2.4% in 2020
- **Biomass** power
- Multipurpose **Hydro** power

## Barriers on RE development

### Technology/Technical

- Limited knowledge on RE-technology
- No reliable assessment and data
- Grid connection
- Lack of local RE equipment suppliers and services

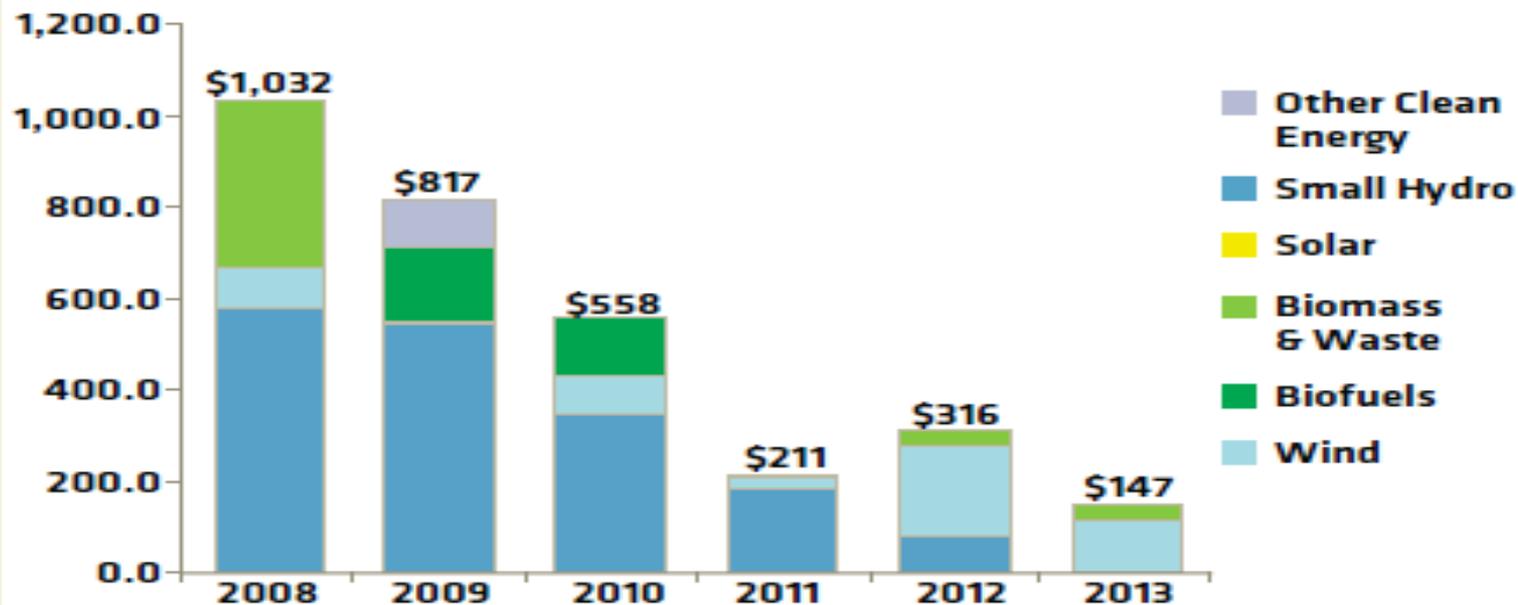
### Economic and financial aspect:

- High investment cost
- High RE generated electricity tariff
- Difficult to access to financial resources

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## ANNUAL INVESTMENT IN CLEAN ENERGY, 2006-2013 (\$m)

\$3.1bn total cumulative investment



Source: Bloomberg New Energy Finance

Investment is reducing...

- Up to 2025, “New energy and renewable energy” is considered one of the groups of industries to be prioritized
- Solutions for priority industry development: in the case of “New energy and renewable energy”, to focus high tech applications on generator of power of solar, wind, biogas, biomass, geothermal ...,

# Tools and instruments for VGGS

- **Enterprises in the domains of high technology, scientific research and technological development and enterprises operating in environmental domains are entitled to the tax rate of 10% (general tax rate is 25%) for 15 years since enterprise has turnover.**
- **Machines, equipment, means, tools and materials for exclusive use in environmental observation and analysis; generation of clean or renewable energy are entitled to import tax exemption**
- **Source: *Ms. Nguyen Thi Dieu Trinh - Ms. Ngo Thi Nhung, Progress on the Viet Nam Green Growth Strategy, G20 Development Working Group, July 2013***
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# Towards a Green Industrial Policy also in Vietnam ?

Global Rank	Country	Parameters: →	Global score (0.0-5.0)	Enabling framework 40 %	Financing investments 30 %	Value chain 15 %	GHG Management 15 %
1	China		2.23	1.57	1.29	5	3.12
2	Brazil		2.17	2.14	0.57	4.41	3.24
3	South Africa		1.92	0.99	1.53	4.34	2.78
4	India		1.85	1.46	0.85	4.1	2.68
	Average BICS		2.04	1.54	1.06	4.46	2.96
13	Vietnam		1.41	1.33 (15 <sup>th</sup> )	0.45 (33 <sup>th</sup> )	2.99 (13 <sup>th</sup> )	2 (13 <sup>th</sup> )
	Vietnam/average		69%	86%	42%	67%	68%

Source: our processing of the Bloomberg New Energy Finance – Climatescope data

The country's best performance came on Low-Carbon Business and Clean Energy Value Chain Parameter III due to the substantial local presence of equipment makers in the solar, biomass and waste, and wind value chains. It also has various clean energy service providers and financial institutions involved with clean energy. Vietnam does not, however, have meaningful presences in other services value chains.

Source: our processing of the Bloomberg New Energy Finance – Climatescope comment

## The trouble are WTO rules ...

**Table 2. Renewable Energy Related International Trade Disputes**

Date Launched	Dispute Type	Forum	Complainant	Respondent	Third Parties	Industry or Program Targeted	Status
November 2011	AD/CVD Investigation	US Department of Commerce/ ITC	United States	China	NA	Solar panels	Tariffs in place, appeal filed to expand scope
November 2011	LCRs	MOFCOM	China	United States	NA	State-level RE support programs	Pending
July 2012	AD/CVD investigation	MOFCOM	China	United States, South Korea, European Union	NA	Polysilicon	Pending
July 2012	AD/CVD investigation	European Commission	European Union	China	NA	Solar panels	Price undertaking arranged, including an import quota and minimum price
January 2012	AD/CVD investigation	US Department of Commerce/ ITC	United States	China, Vietnam	NA	Wind components	Tariffs in place
November 2012	AD/CVD investigation	Indian Ministry of Commerce	India	China, Taiwan, Malaysia, United States	NA	Solar panels	Pending
September 2010	LCRs, Subsidies	WTO	Japan, European Union	Canada	United States	Ontario Province's FIT Policy	Canada asked to come into compliance
December 2010	LCRs, Subsidies	WTO	United States	China	European Union, Japan	Chinese wind subsidy	Resolved in bilateral negotiations
November 2011	LCRs, Subsidies	MOFCOM	China	United States	NA	US State-level RE support programs	Pending
November 2012	LCRs, Subsidies	WTO	China	European Union, Greece, Italy	Japan, Australia, Argentina	Feed-in tariffs of certain EU member states'	Pending
February 2013	LCRs, Subsidies	WTO	United States	India	Japan, Australia	India's National Solar Mission	Pending
TBD	LCRs, Subsidies	WTO?	India	United States		US State-level support programs	No filing yet but information being gathered through WTO channels

Note: Last updated November 2013.

Thanks for the attention .....

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