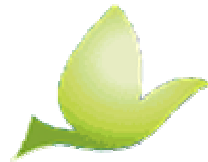


# Eco-Tax Reform: Tool for Ecological Efficiency & Green Growth of AP



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# UN ESCAP

- United Nations
- Economic & Social Commission
- Outpost in Asia and the Pacific

# ETR (Eco-Tax Reform) as a tool for

- **Greening** Economic Growth of Asia
- By improving **Ecological Quality** of Growth
- Focusing on ETR >>>> EFR

# Major Characteristics of Asia/Pacific

- Rapid economic growth
- Most limited ecological carrying capacity
- High population density, 34% GHG emission
- 2/3 world poor in the region
- AP has to pursue economic growth compatible with environmental sustainability
- **How ?**

# By pursuing “Green Growth”

- Adopted at MCED 5 March 2005, Seoul, Korea
- Harmonizing **MDG 1 & 7**
- **TIME:** ASIA'S ENVIRONMENT: Visions of Green October 9, 2006 :  
**Asia's future** has to become one of sustainable **"green growth,"** --- quoted ESCAP SOE report

# Green Growth

- Improving **Ecological Quality & Pattern** of Growth
- By improving **Ecological Efficiency (EE)**

# Paradigm Shift from

➤ **Quantity** of Growth to  
**QUALITY** of Growth

➤ Ecological Quality

➤ Economic Quality

➤ Social Quality

➤ **GG**: Improving **Ecological Quality**

By applying “**Ecological Efficiency**” concept

# What is Ecological Efficiency (EE)?

- **Minimizing Ecological Costs**
- **Ecological Costs = impact of  
Resource Depletion + Pollution Impact**
- **Thus  $EE = RE + PC$   
Resource Efficiency (RE) +  
Pollution Control (PC) Efficiency**

# Current Paradigm: ME

- Market Efficiency: based on Market Price
- Market price < Ecological price
- Market Efficiency (ME) < Ecological Efficiency
- **Thus closing the gap between**

**ME & EE**

**is critical in improving  
Ecological Quality of Growth**

# Different Patterns of Ecological Quality

- Not all Growth has the same **Pattern** of Growth in terms of **Ecological Quality**
- Japan > Europe > US
- Asia & Pacific : Need to adopt ecologically efficient Growth “**Pattern**”  
→ **GREEN GROWTH**
- **Singapore, Korea, China(?)**

# Ecological Patterns of Growth

(global hectares per capita, 2002)

## Ecological Deficit, Bio-capacity, Eco-footprint

- Japan - 3.5 (0.8 / 4.3)
- UK - 4.0 (1.6 / 5.6)
- France - 2.6 (3.0 / 5.6)
- US - 4.8 (4.6 / 9.7)
- Rep. of Korea - 3.8 (0.6 / 4.4)
- China - 0.8 (0.8 / 1.6)
- Cambodia - 0.1 (1.0 / 1.1)

# CO2 Emissions per capita

	GNI per capita 2003	1998	1999	2000	2001	2002	2003
United States	\$ 37,610	19.88	19.81	20.21	19.73	19.65	19.68
Australia	\$ 21,650	16.91	17.00	17.07	17.49	17.54	17.35
Brunei Darussalam	N/A	13.42	12.72	13.11	12.54	12.45	14.75
Chinese Taipei	N/A	8.65	8.97	9.65	9.94	10.28	10.85
Russian Federation	\$ 2,610	9.76	10.07	10.40	10.48	10.43	10.65
Germany	\$ 25,250	10.57	10.22	10.15	10.34	10.20	10.35
Kazakhstan	\$ 1,780	7.70	7.03	7.84	9.19	9.57	10.23
Japan	\$ 34,510	8.70	9.03	9.13	9.03	9.30	9.41
Korea Rep.	\$ 12,030	7.84	8.51	9.10	9.32	9.22	9.36
United Kingdom	\$ 28,350	9.12	9.00	8.96	9.18	8.92	9.10
Singapore	\$ 21,230	10.43	9.65	9.60	9.44	9.20	8.98
New Zealand	\$ 15,870	7.15	7.56	7.69	8.08	7.94	8.09
Hong Kong, China	\$ 25,430	6.08	6.45	5.80	5.65	5.43	5.94
World	\$ 5,500	3.86	3.83	3.87	3.85	3.87	3.99

# Who should be the driver of EE ?

- **Market Efficiency** : Market & Price, key driver
- **Ecological Efficiency (EE)**: No Driver
- **Government**: should be the main driver
- **ETR**: could be the major tool in  
improving Ecological  
**Quality & Pattern of Growth**

# By improving

1. **Price-structure**: to close Gap between  
Market and Ecological prices  
\* Invisible Infra of Society
2. **Infra-structure**: to provide eco-efficient  
physical foundation for economic performance  
\* Visible Infra of Society

# EE as new paradigm: Is it feasible?

## Skeptic View:

- Internalizing ecological costs → negative impact on **competitiveness** and **growth**
- EE: applied to individual firm level by WBCSD, not yet applied to economy wide
- just environmental idea: can not be used as a new paradigm

# Ecological Efficiency

- Can we operationalize EE without damaging Economy?
- Any Examples ?
- Classical Failure of EE:  
Climate Change

# Areas to improve EE by ETR

- Transport
- Infrastructure
- Demand Side Management
  - \* sustainable prod/cons pattern
- Climate Change

# Transport Sector: failure of EE

- Poor Public Transport: Rail, Bus, Subway
- Private Car centered: high congestion Costs
- Why ? No Rail to Airport, Congestion Charge, Clean Comfortable Public Buses
- EU/Japan: modernize Rail,
- Congestion Cost: Korea 4.4%, Japan: 0.79%, US: 0.65%, UK: 1.25%, Bangkok: 6%, **need more public transport, not road for private car**

# Reducing traffic congestion costs

- Traffic Congestion : Serious economic, ecological & social (health etc) loss
- Solution: **Building more road ???**
- Need Ecologically efficient **Public Transport, Rail Network** / Control Private Cars like Japan, Singapore, Europe

# Investing in EE of Infra

- **EE concept → to any infra dev & investment**
- **Ecological Costs of long term use of Infra:**  
higher weight in EIA or SEA: Rail vs Highway, new airports & amusement parks with maximum public transport accessibility
- **Transport, Energy (Building Insulation),  
Water Recycling**

## EE Infra: opportunity for EE growth

- Investment for Infra of environment (waste water etc), public transport, energy, water, renovating existing infra
- **New opportunities for ecologically efficient Growth**
- **EE : can be a criteria for budget allocation for public infra investment**

# Demand Side Management:

## Sustainable Consumption Pattern

- Exploding Demand as income increases:  
Major challenge for Developing Countries
- How to manage increasing private cars in cities ?
  - \* More **large cars** in many **Asian** cities  
than in **Japan** and **Europe**

## As income goes up, EE of

- **Production Pattern:** expected to improve (EKC)
- **Consumption Pattern:** expected to deteriorate. - no empirical evidence of EKC for **EE** of **Consumption**.
- **ETR:** powerful tool in managing demand by changing price of consumption

# Climate Change (CC)

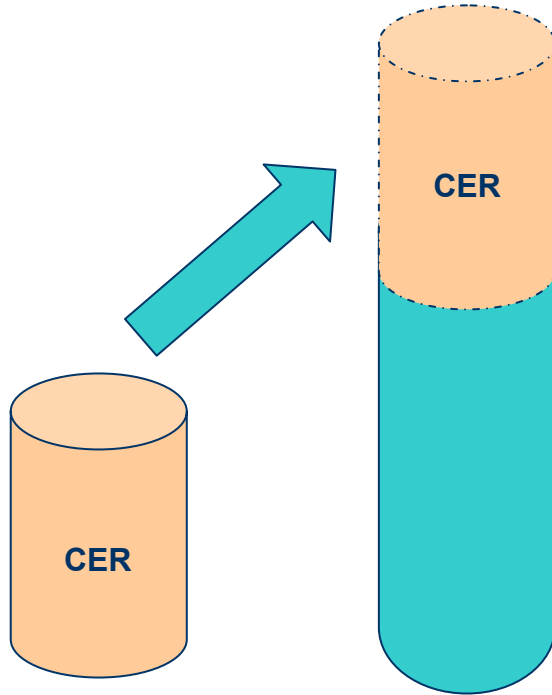
- greatest and widest-ranging market failure ever seen (Stern Report)
- Result of Gap between Market Price and Ecological Price,  $ME < EE$
- Ecological Cost of CC has to be internalized into the Market Price of Energy
- ETR: tool for closing the gap  $ME = EE$

# Ultimate Response to CC is

- improving **Ecological Quality** of Growth (Production and Consumption)
- **EE & GG** is, in fact, direct response to **CC**
- **ESCAP** promoting **Market Mechanism** to provide incentives for **climate action**
  - \* **Reforming CDM** (removing Project additionality)
  - \* **Discounting CER** (not imposing target)

# CER Discounting Scheme

**Selling all CER**



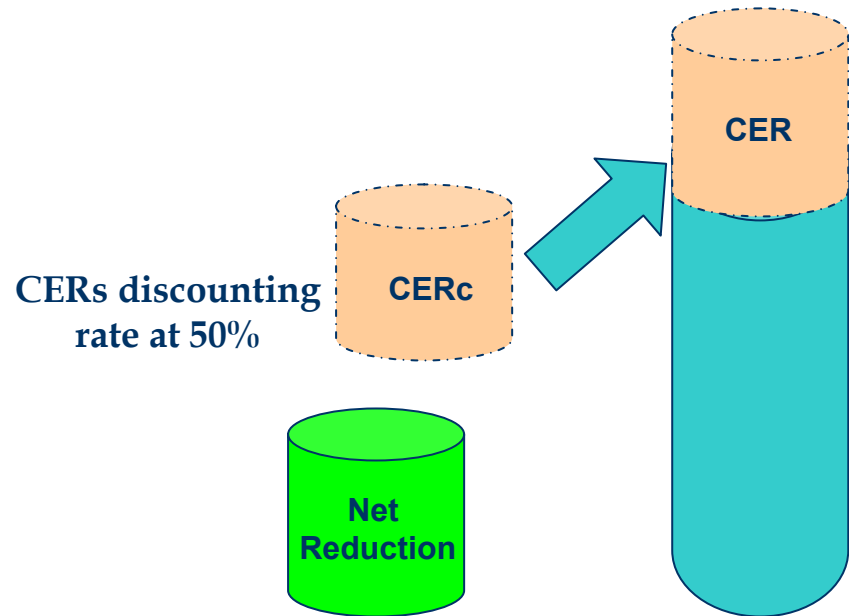
Non-Annex I

Annex I

**No CER Discount**

**No Global Reduction**

**Selling only Half**



CERs discounting  
rate at 50%

Non-Annex I

Annex I

**50% CER Discounting**

**Net Global  
Reduction**

# ESCAP is focusing on

- **Eco-Tax Reform (ETR)**
- **Improving EE of Infrastructure: Urban Infra**
- **Demand Side Management**
  - \* **Sustainable Consumption Pattern**
- **Climate Change:** turning **climate crisis** into **economic opportunities**
- **Supporting Green Business:** turning **EE** into **business opportunities**

# ETR can be

- Strong tool for improving **Ecological Quality of Growth**
- Promoter of **Climate Action**
- Driver of **Green Growth**,
- By improving **EE** of Prod/Consumption Pattern
- By Closing the **Gap** between **ME & EE**

# ESCAP introducing ETR in Asia

- Organized Policy Forum and Seminars
- Strong concern for
  - Small share of Income Tax
  - Low Level of Consumption
  - Competitiveness, Burden on Economy
  - Income Regressiveness
  - Lack of Managerial Capacity

# Issues in promoting ETR in Asia

- **Confusion** with Environmental Tax
- **Lack of Understanding** on Changing **Tax Base** from **Income** to **Pollution**, Revenue Neutrality, Double Dividend
- Lack of Inter-Ministerial Coordination:
- Negative Bias against **EFR** blocks **ETR**
- Even in Japan, **ETR** not much progress

## Inter-ministerial Coordination Dilemma

- Finance Ministry: against additional tax burden for economy, against Environment Ministry getting more revenue
- Environment Ministry: not interested in Revenue Neutrality/ETR as no additional revenue for them

## Negative Bias for EFR

- EFR can generate additional revenue
- DC (Developing Country): Serious Concern on internalizing ecological costs  
→ additional tax → burden on economy
- Thus, limited progress of market instruments in Asia

# Key Selling-Point of EFR idea to DC

- **“Revenue Neutrality”** (No Net Increase of Tax Revenue) has to be linked with **“Internalizing Ecological Costs”** idea: thus  $ETR \ggg EFR$
- While **raising revenue** from tax on environment, **same amount of revenue has to be reduced from Income, Asset, Profit**

# Prospect for ETR in Asia

- Quite strong interests on Revenue Neutrality: Korea, China, Kazakhstan, Cambodia,
- Plan to organize ETR conference in China early 2008, in Viet Nam Mid-November 2007
- But **Need Good Examples** from **Europe**, ESCAP has been introducing the case of German ETR 1999-2003

## Results of German ETR from 1999 to 2003

- Energy consumption is decreasing, CO2 emissions could be reduced by 2-3% by 2005;
- Creation of up to 250,000 new jobs by 2003 (by reduction of non-wage costs of employment);
- Fuel consumption fell the first time in four consecutive years (2000-2003), in combination with oil price i and U.S. \$ Exchange rate;
- CO2 emissions in the transport sector will decrease by 3.84% by 2010 (compared with 1998).

# ESCAP need further details on

- How to design ETR for developing countries with **low income and consumption** ?
- How to apply **Revenue Neutrality** ?
- How to prove **Double Dividend** ?
- How to convince ETR can **promote Growth** while improving **ecological quality** ?

# ESCAP expects

- Good Models/Experiences from Europe
- Collaboration in designing ETR for Developing Countries (DC)
- Support for Capacity Building exercise for DC in Asia and the Pacific
- Any Comments → [Chung1@UN.ORG](mailto:Chung1@UN.ORG)

## SPOTLIGHT

# A green foundation of cold, hard cash

## UN environment official works through Asian governments' wallets

Thomas Fuller

### BANGKOK

People in Asia are so obsessed with economic growth — money, money, money,” said Rae Kwon Chung, a top United Nations official here. “But not the environment. They don't give a damn.”

This is hyperbole of course: Dirty air and contaminated water are rising concerns across the region. But Chung, who runs a UN environment program in Asia, is not averse to being provocative if it makes people listen.

It is not news to anyone who lives in one of Asia's megacities that years of rapid economic expansion have come at great cost to the environment. In New Delhi and Beijing, two of the world's largest cities, both have levels of air pollution about three times as high as maximum levels suggested by the World Health Organization and United States.

But rather than preach the virtues of cleaner air, says Chung, a former South Korean diplomat, it is more effective to appeal to the wallet when trying to convince Asian governments of the urgency of the problem. Continued economic growth will not be possible if the environment is neglected, he tells officials.

“Our approach is not only to focus on environment ministers but the finance ministers as well,” Chung said in an interview at his office in Bangkok. “His mantra is green growth: If Asia is to flourish with oil, coal, timber and

out of control and the economic miracle of recent years will flop, he said.

“What he's saying is not that radical,” said Chee Yoke Ling, a lawyer based in Beijing and who specializes in environmental issues. Referring to the concept of green growth, she added, “This was discussed more than 15 years ago.”

“But it was never translated into action,” she said.

Chee said that Chung was right to spread his message among officials from finance and development ministries because that is where the money is and it is those officials who have the power and funds to change government policies.

“Environment ministries in any country are very weak,” Chee said. “They don't have much sway.”

With the steady rise of commodity prices in recent years, energy-saving policies are being built into the government's overall strategies. The Chinese government in April increased to 20 percent from 8 percent a tax on cars with large engines, like sport utility vehicles. Taxes on small cars were slashed.

China's current Five-Year Plan, its outline of economic strategy through 2010, stresses energy conservation and sustainable development.

Chung's central message is that the citizens and leaders of the region should discard any illusion that they can adopt an American lifestyle.

There are not enough resources in



Thomas Fuller/The International Herald Tribune

Rae Kwon Chung, a UN official in Bangkok, says Asia's economies will not be able to grow further if the environment is neglected.

population density is 1.5 times the global average yet the Asia-Pacific region has one-tenth as much available fresh water as, say, South America, according to UN statistics.

“The region is already living beyond its means,” Chung said. “We need to move away from the ‘grow first and clean up later’ approach.”

Yet Chung is more optimistic than many of his colleagues who work on environmental issues. The world should be thankful, he said, that China is not a democracy, because a centrally planned economy can react more quickly to the challenges of the environment. “If it were a completely democratic country, it would be very difficult to control it,” he said. “I think China will be faster than any other country in improving the environment at the local level because they are cen-

For all his diplomatic background, Chung shuns the tiptoe approach of some of his colleagues. He exudes zeal.

Chung spent 27 years in South Korea's foreign service, with postings in New York, Paris and Jakarta.

He joined the United Nations two years ago because, he said, he wanted to do something “substantive and meaningful.”

His official title is director of the environment and sustainable development division of the United Nations Economic and Social Commission for Asia and the Pacific. It barely fits on his name card.

Chung said that part of his job is trying to change mentalities. Asians tend to think of railways as transport for the poor, so they favor building massive highways. Yet too many roads in densely

bad for the environment, he said.

Chung said that his native South Korea was an example of the problem associated with big cars and wide highways: “Over the weekend, the entire country becomes a parking lot.”

Governments should change tax systems, he said, increasing levies on gasoline and cars. Rechargeable batteries should be tax-free and disposable ones heavily taxed, he said, because batteries leak damaging chemicals into the environment when they are discarded.

So, what is Chung's ultimate vision involves Angelina Jolie, he said cheekily. Asia needs a star or stars who can champion the environment as passionately as Jolie has tackled the issue of refugees and displaced people. Governments and UN officials only do so much, he said.