

How can Japan meet the Kyoto Target?

Kyoto Protocol Group

Satoko Ido

Kensuke Ueshima

Shigetaka Udagawa

Masatake Hashidume

Shunsuke Yamamuro



Focus of Study

- ④ Examine increasing the proportion of **Kyoto Mechanisms** to meet the our Kyoto target.



Agenda



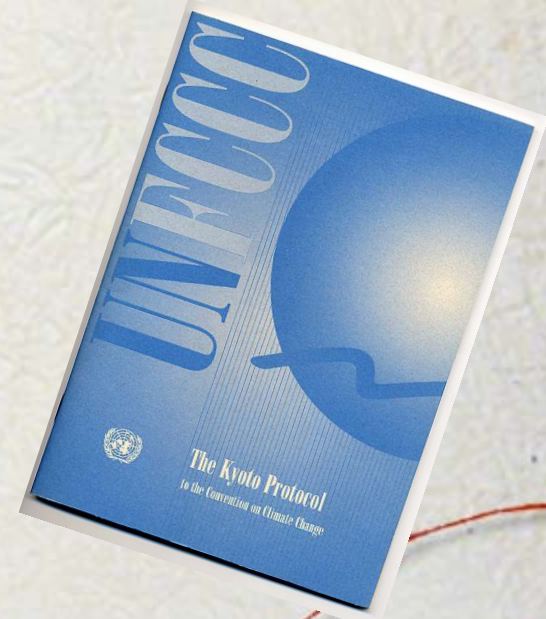
Kyoto Protocol and Japan

Japanese Strategy
until now

Increase the proportion of
Kyoto Mechanisms

Japanese Strategy
from now on

Kyoto Protocol and Japan



targets

GHGs emissions in 2002 and Targets



Kyoto Mechanisms

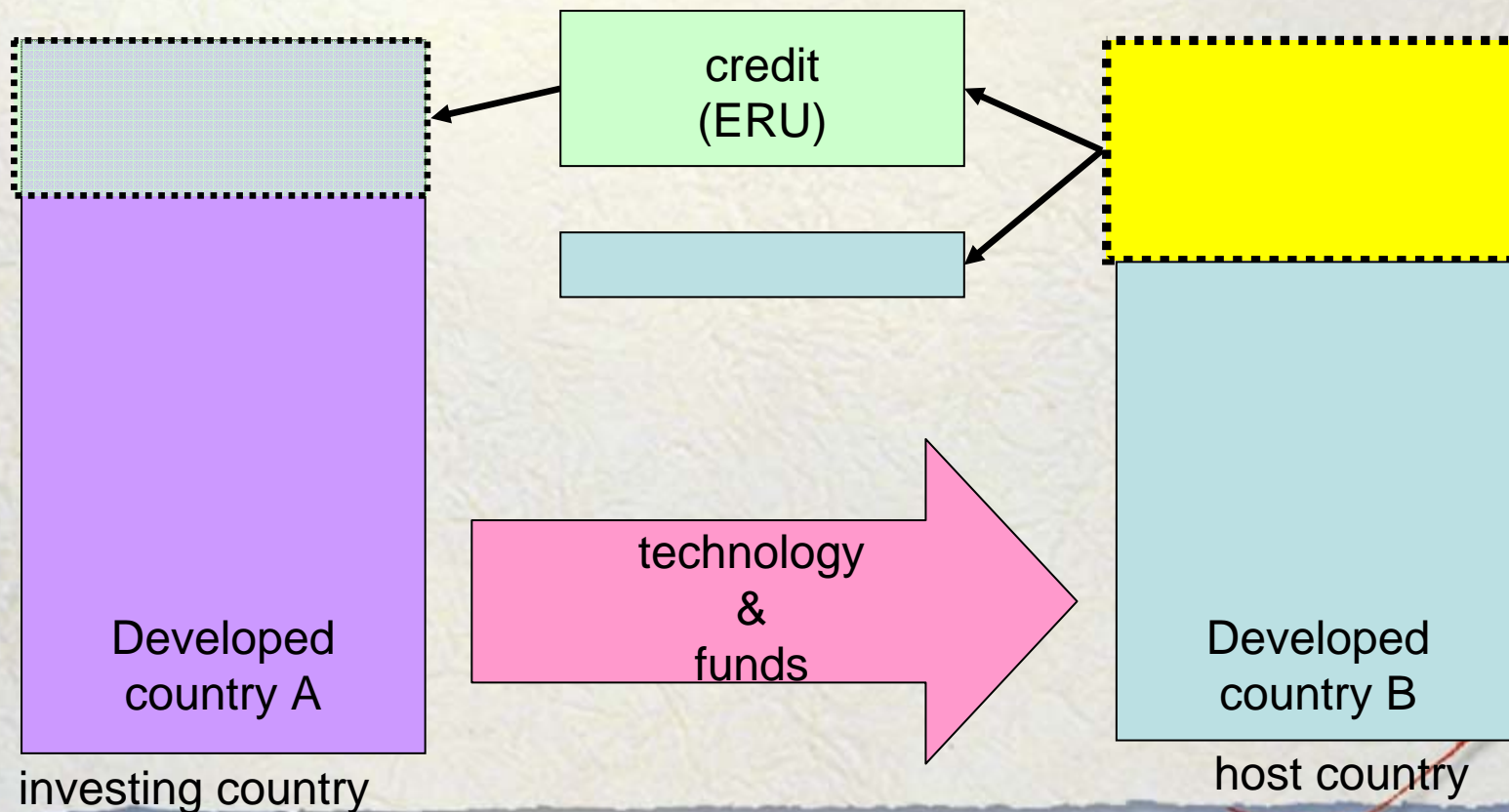
● **Joint Implementation**

● **Clean Development Mechanism**

● **International Emission
Trading**

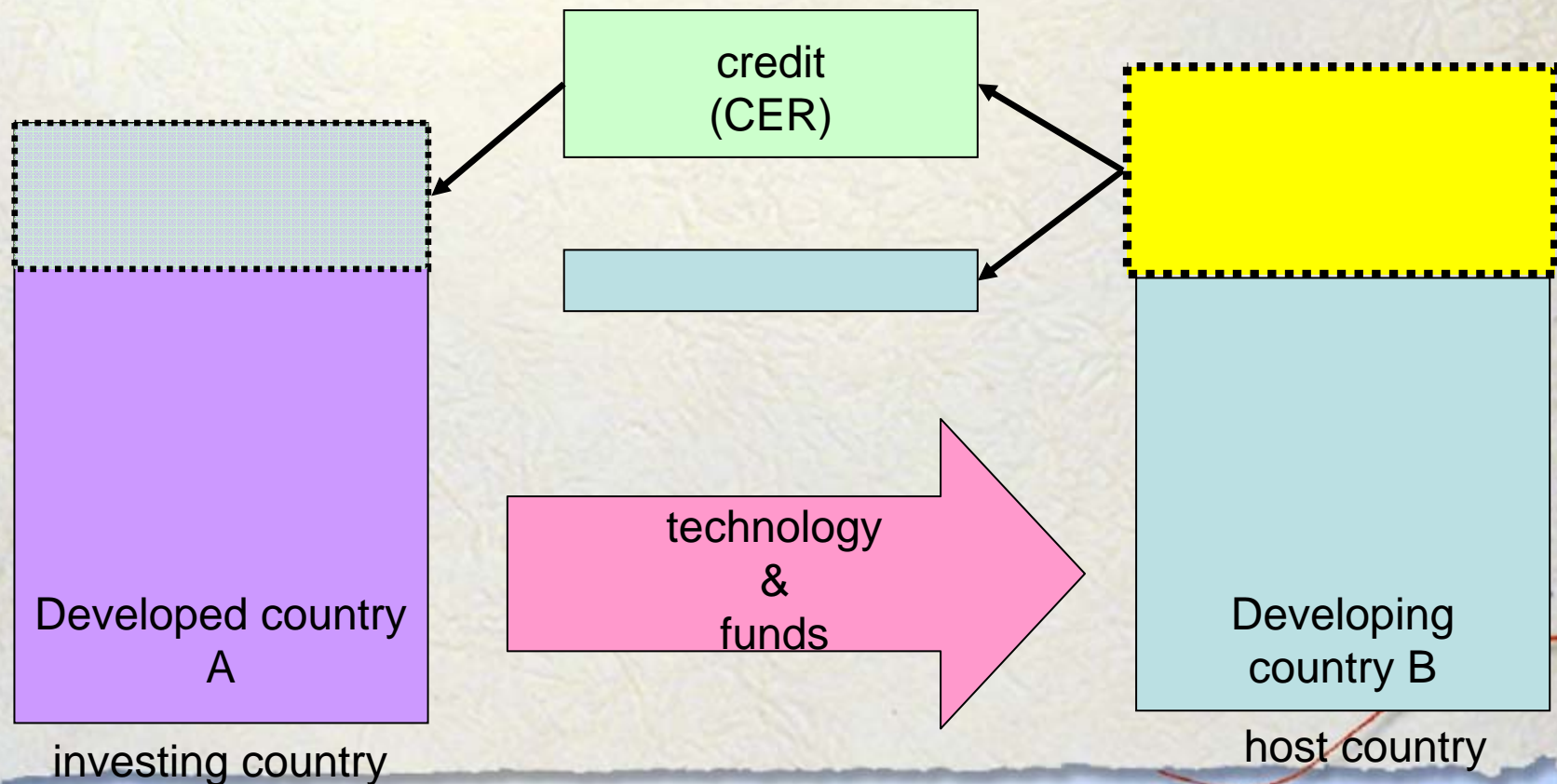
Joint Implementation

the system by which developed countries can reduce GHG emissions in other developed countries instead of doing so domestically.



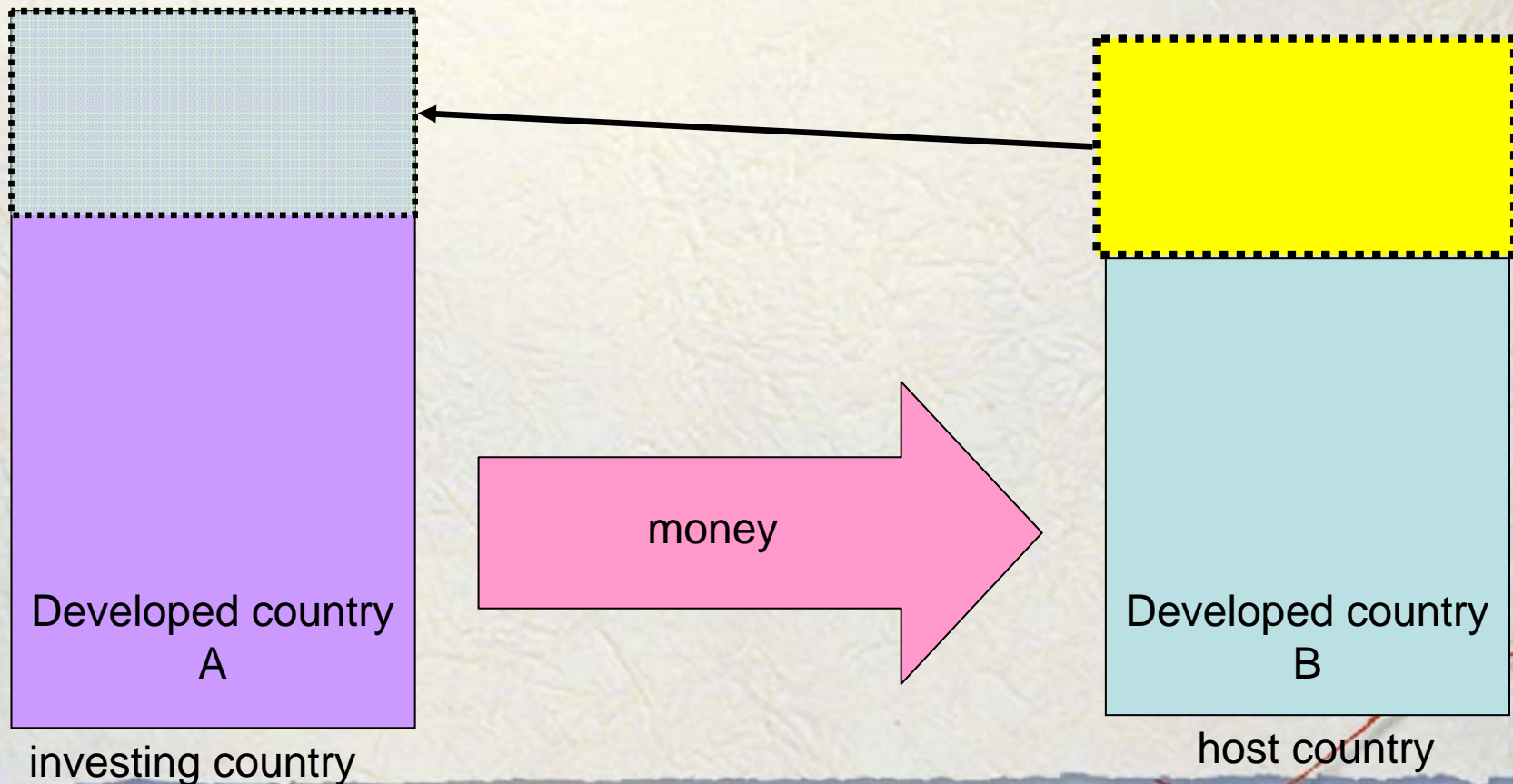
Clean Development mechanism

the system by which developed countries can reduce GHG emissions in developing countries instead of doing so domestically.



International Emission Trading

The trading of GHG emission allowances among developed countries.



Agenda



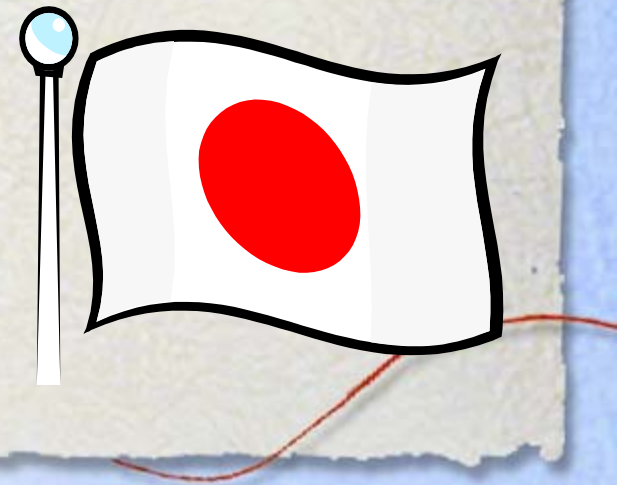
Kyoto Protocol and Japan

Japanese Strategy
until now

Increase the proportion of
Kyoto Mechanisms

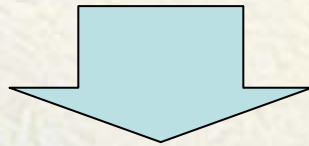
Japanese Strategy
from now on

Japanese Strategy until now



Japanese Strategy

- *Fundamental framework of global warming prevention in Japan*



Government Action Plan

- Introduced in June, 1998
- Reviewed in March, 2002
- Consists of more than 200 measures

 **to support the Action Plan**

Law concerning
the **Rational Use of Energy**
revised in 1998 and 2002

Law concerning Promotion
of the Use of **New Energy**, 2002

Law concerning the **Promotion of the Measures
to cope with Global Warming**, 1998
revised in 1999 and 2002

Industry's
voluntary initiative

Some committees
about **CDM/JI**

The Basic Law on
Energy Policy, 2002

Government Action Plan 2002

4 basic principles of the Action Plan

Compatibility of economy
and environment
*without compromising
economic growth*

Step by Step
proceed gradually
1st step: 2002-2004
2nd step: 2005-2007
3rd step: 2008-2012

Shared responsibility
among all participants

International cooperation
US participation

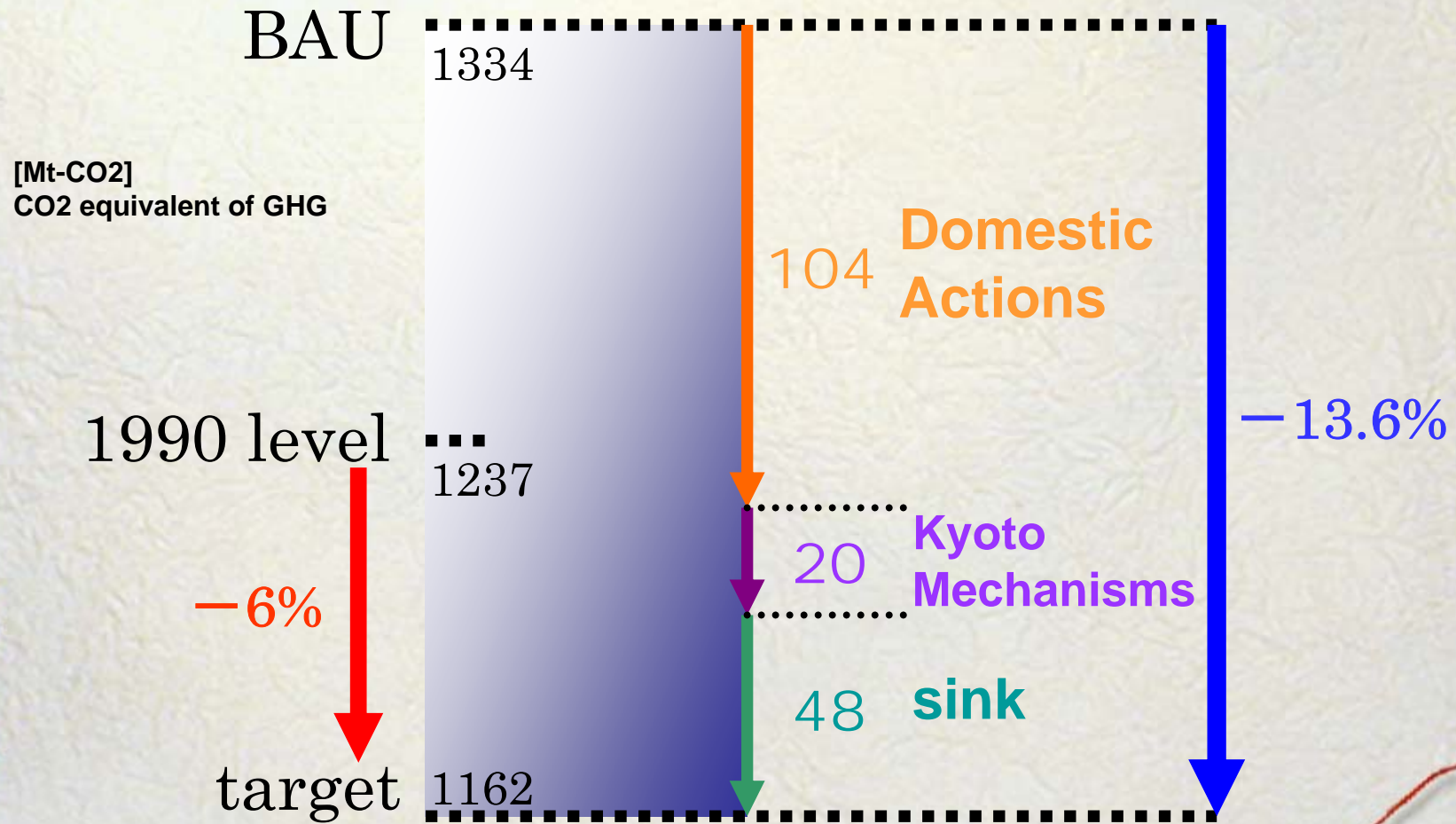
Japanese Strategy

Government Action Plan 2002

@breakdown of 6% reduction

Energy origin CO ₂		±0.0%	} -0.5%
Technological Innovation and Life Style	Domestic Actions	-2.0%	
Non-energy origin CO ₂ · CH ₄ · N ₂ O		-0.5%	
HFC · PFC · SF ₆		+2.0%	
Kyoto Mechanisms		-1.6%	
Sink		-3.9%	
total		-6.0%	

Necessary emission reduction



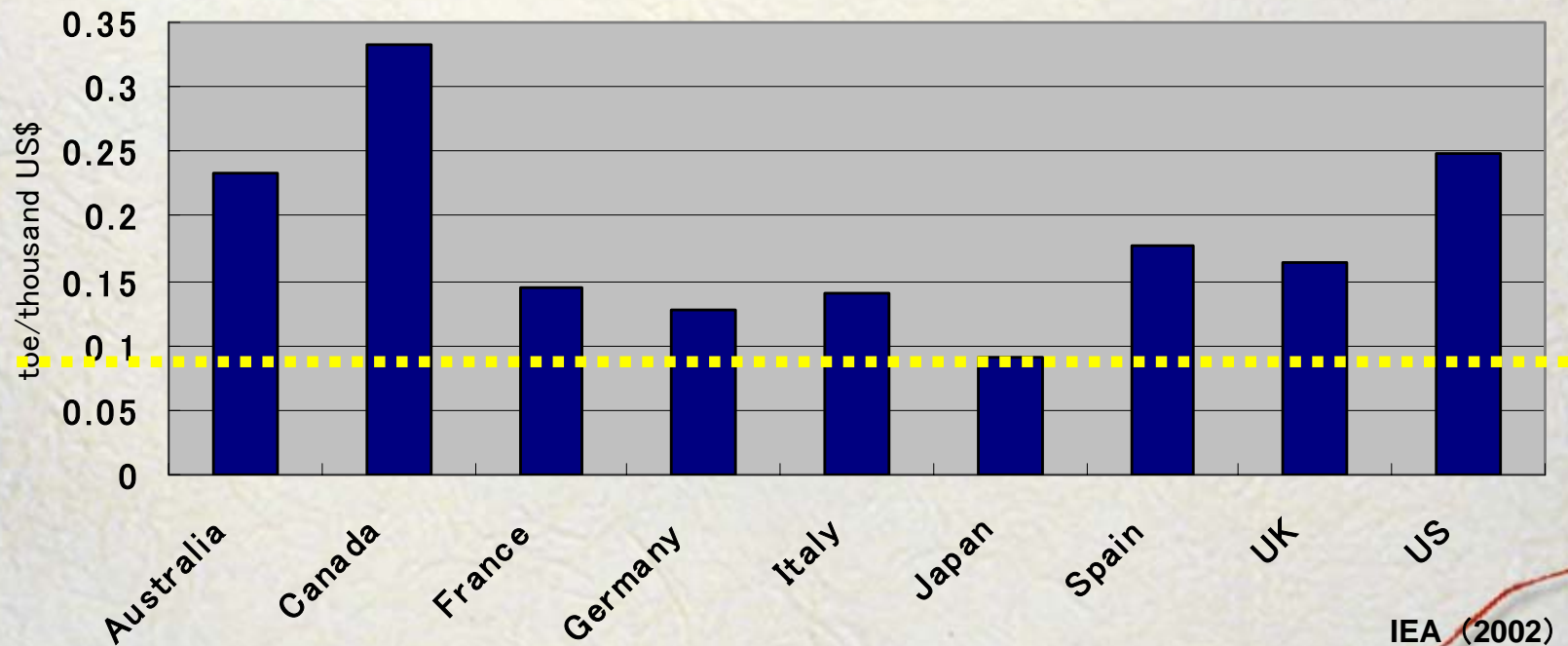
Japanese strategy

	<i>Current situation</i>		
	target	necessary emission reduction	proportion
Domestic Actions	▲0.5%	104Mt-CO ₂	60%
Kyoto Mechanisms	▲1.6%	20Mt-CO ₂	12%
Sink	▲3.9%	48Mt-CO ₂	28%
total	▲6.0%	172Mt-CO ₂	100%

Current Situation in Japan

✘ High energy efficiency

Total primary energy supply/GDP in 2000



IEA (2002)

Current Situation in Japan

✘ High Marginal Abatement Cost to achieve Kyoto target

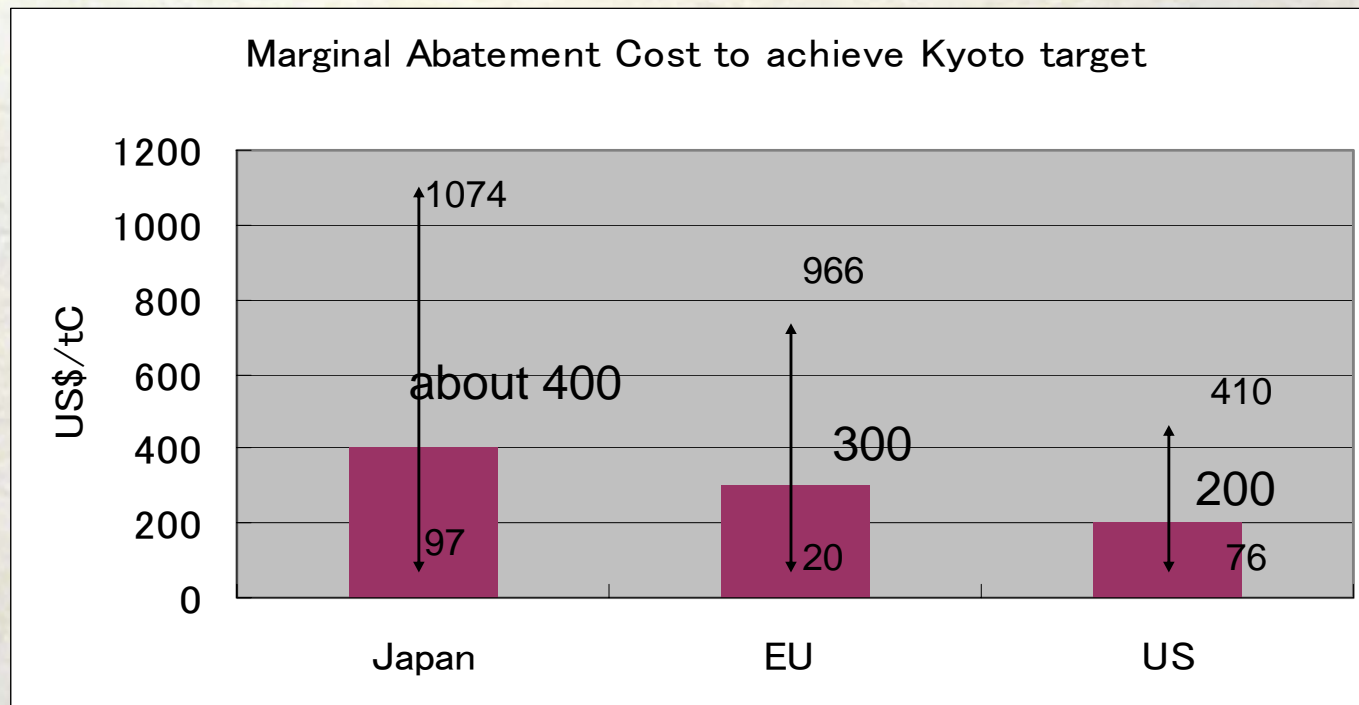
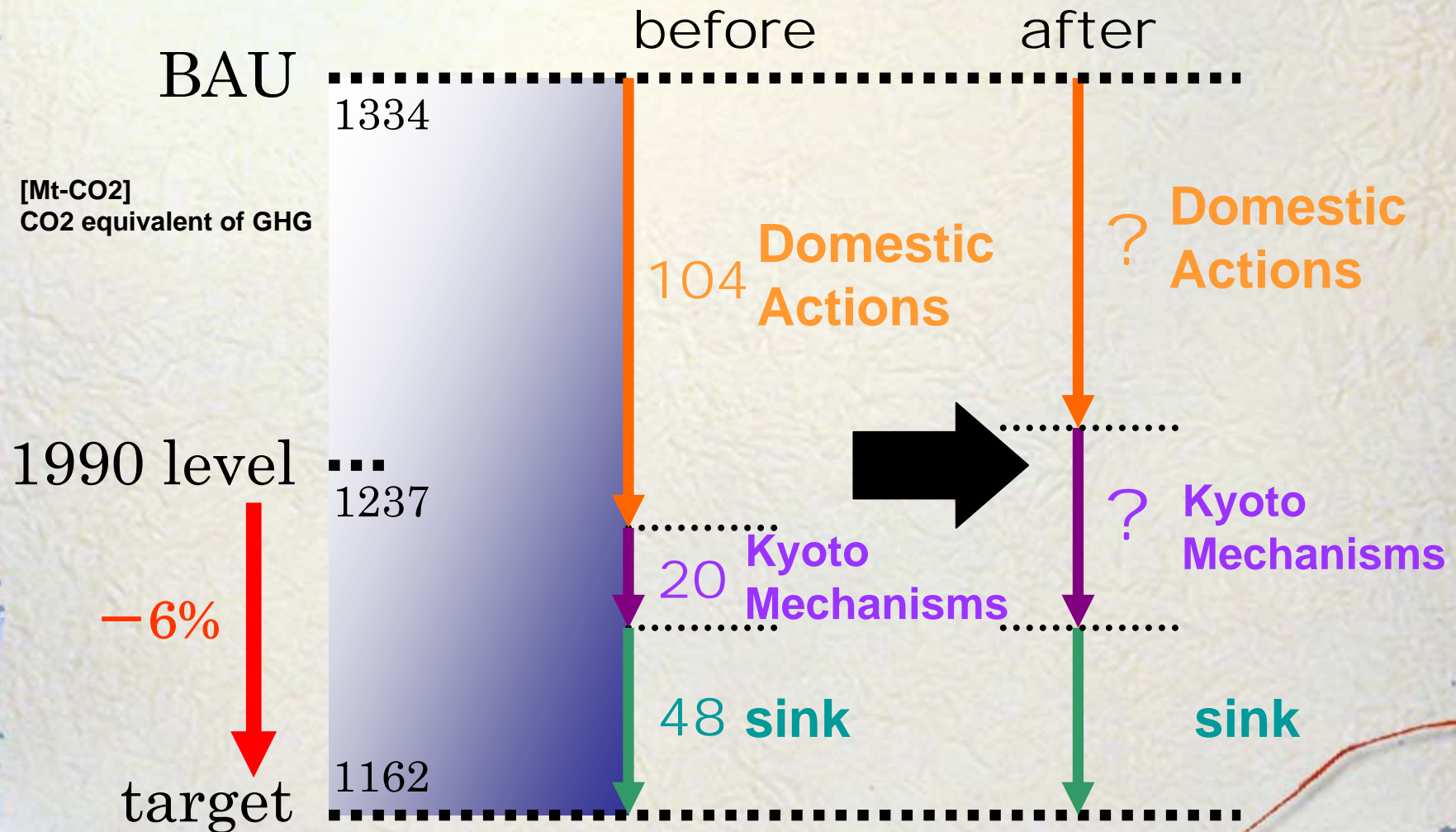


Image (our proposal)



Agenda

Kyoto Protocol and Japan



Japanese Strategy
until now

Increase the proportion of
Kyoto Mechanisms

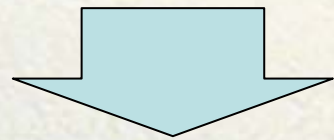
Japanese Strategy
from now on

Increase the proportion of Kyoto Mechanisms



Priority among the Kyoto Mechanisms

 Doing CDM mainly!!



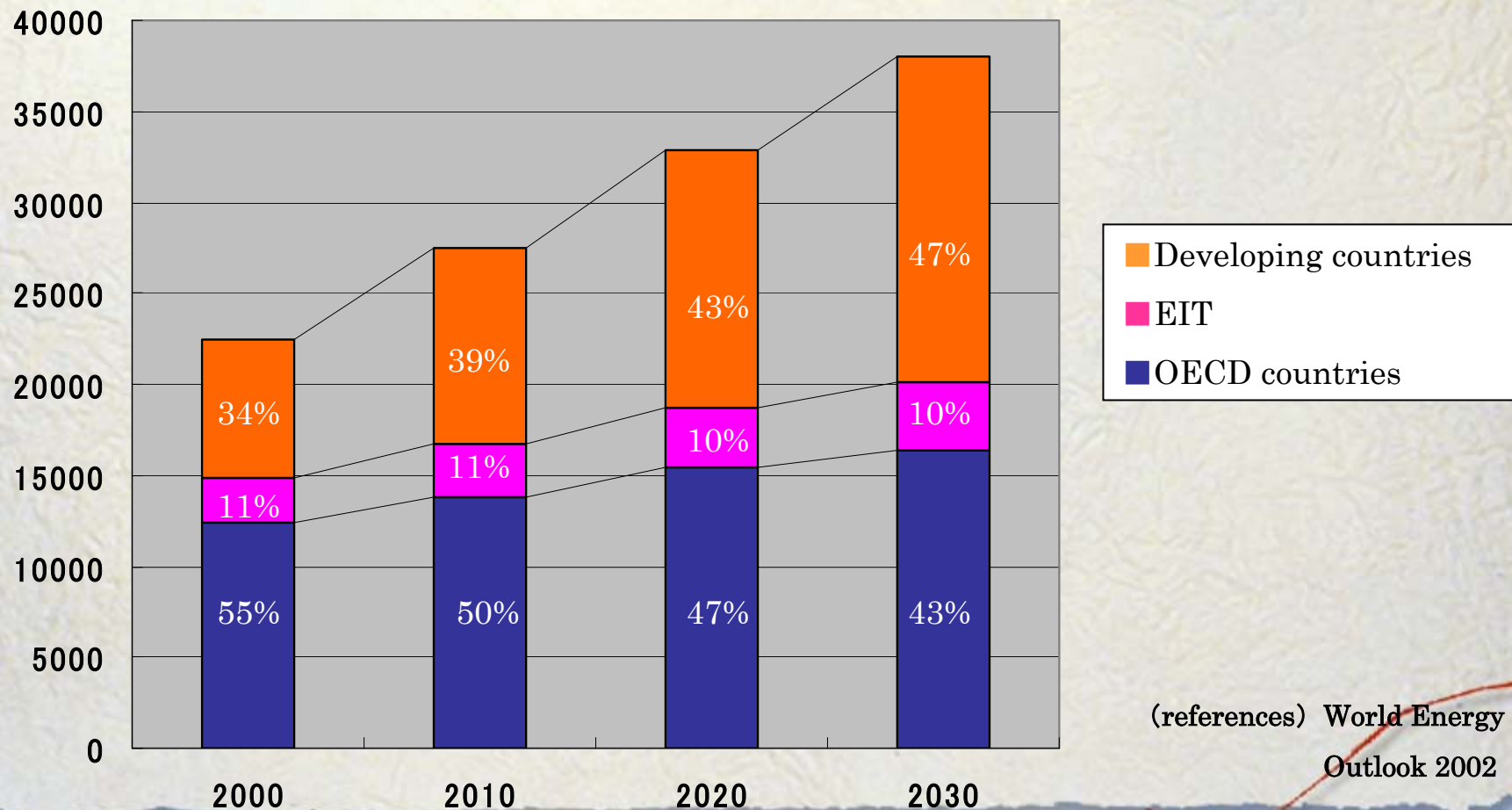
because of



- ★ Technology transfer
- ★ Certainty of getting credit

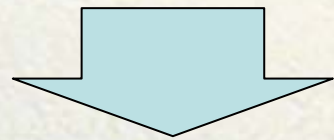
“Technology transfer into developing countries” is important!

Prospect of energy origin CO₂ emission (Mt- CO₂)



Priority among the Kyoto Mechanisms

🌍 Doing CDM mainly!!



because of



- ☆ Technology transfer
- ☆ Certainty of getting credit

CDM/JI vs Emission Trading

Supposing

- ✘ *Rely upon ET as main measure*
- ✘ *In 2012, it is impossible to get credits from ET*

2008

2012

First Commitment Period



I cannot
get credit!!
What can I
do?

Can I get
credit by
NO!
CDM/JI?

CDM vs JI

Candidate Host Countries

CDM



JI



Requirements for Host Countries

Requirements	Sorts of Projects	CDM	JI	
			first track	second track
(a) Party to the protocol		○	○	○
(b) Designate a national authority		○	○	○
(c) Assigned amount calculated and recorded		×	○	○
(d) National Registry				
(e) National system to estimate emission				
(f) Submitted most recent required inventory		×	○	×
(g) Submitted supplementary information on assigned amount				

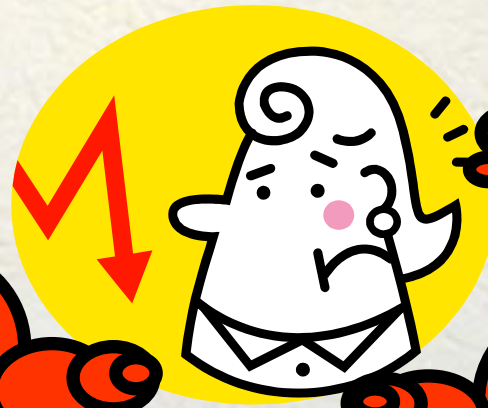
CDM vs JI

To do JI with those countries has a lot of risk !

I don't know exactly what JI's rules are.

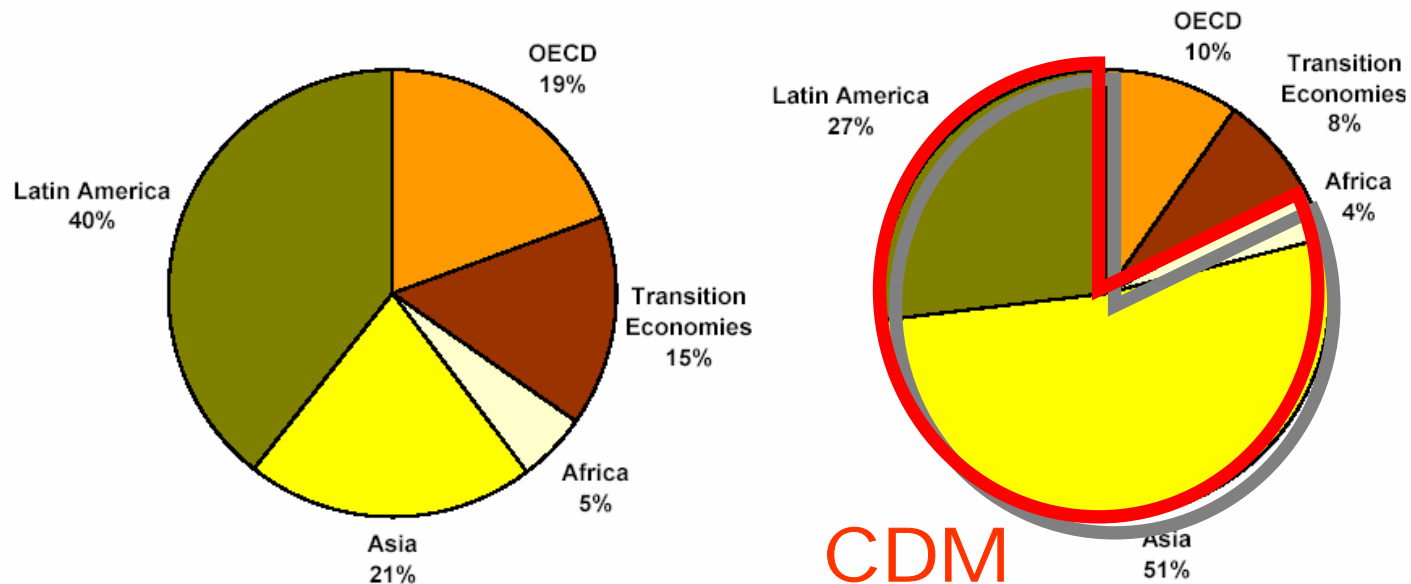
I don't know how to do JI with Russia and Ukraine.

I don't know what Russia and Ukraine are going to do.



CDM vs JI

FIGURE 3: LOCATION OF EMISSION REDUCTION PROJECTS
(in share of volume supplied)



WB and Carbon Finance
(2004)

2002-2003

2003-2004

How to decide CERs volume

🌍 Taking compatibility of economic and environment into account, total cost for coping with global warming should be minimized.

⇒ Need to compare the cost of domestic actions with CDM

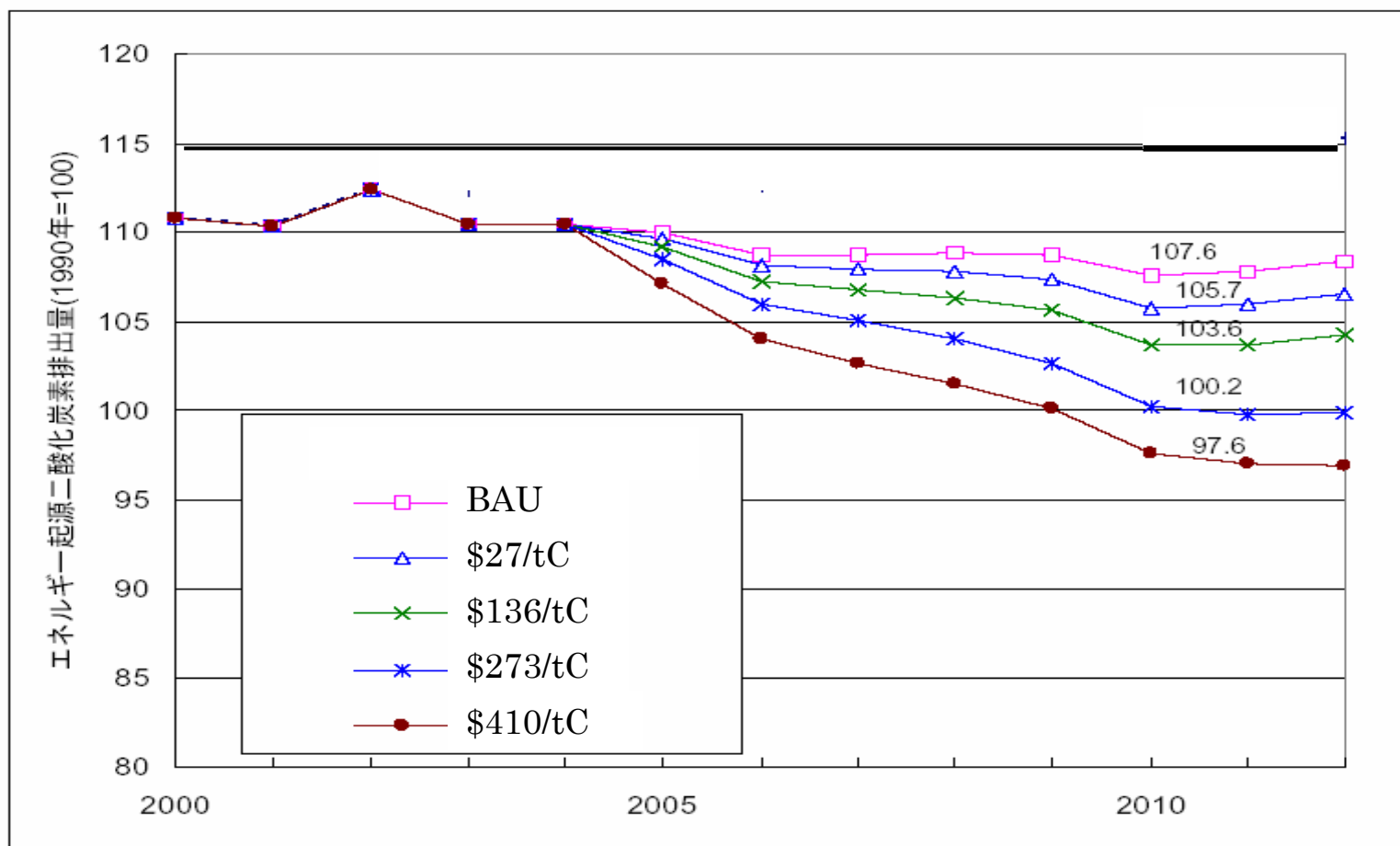
Do NOT forget feasibility!!

① Domestic actions vs CDM

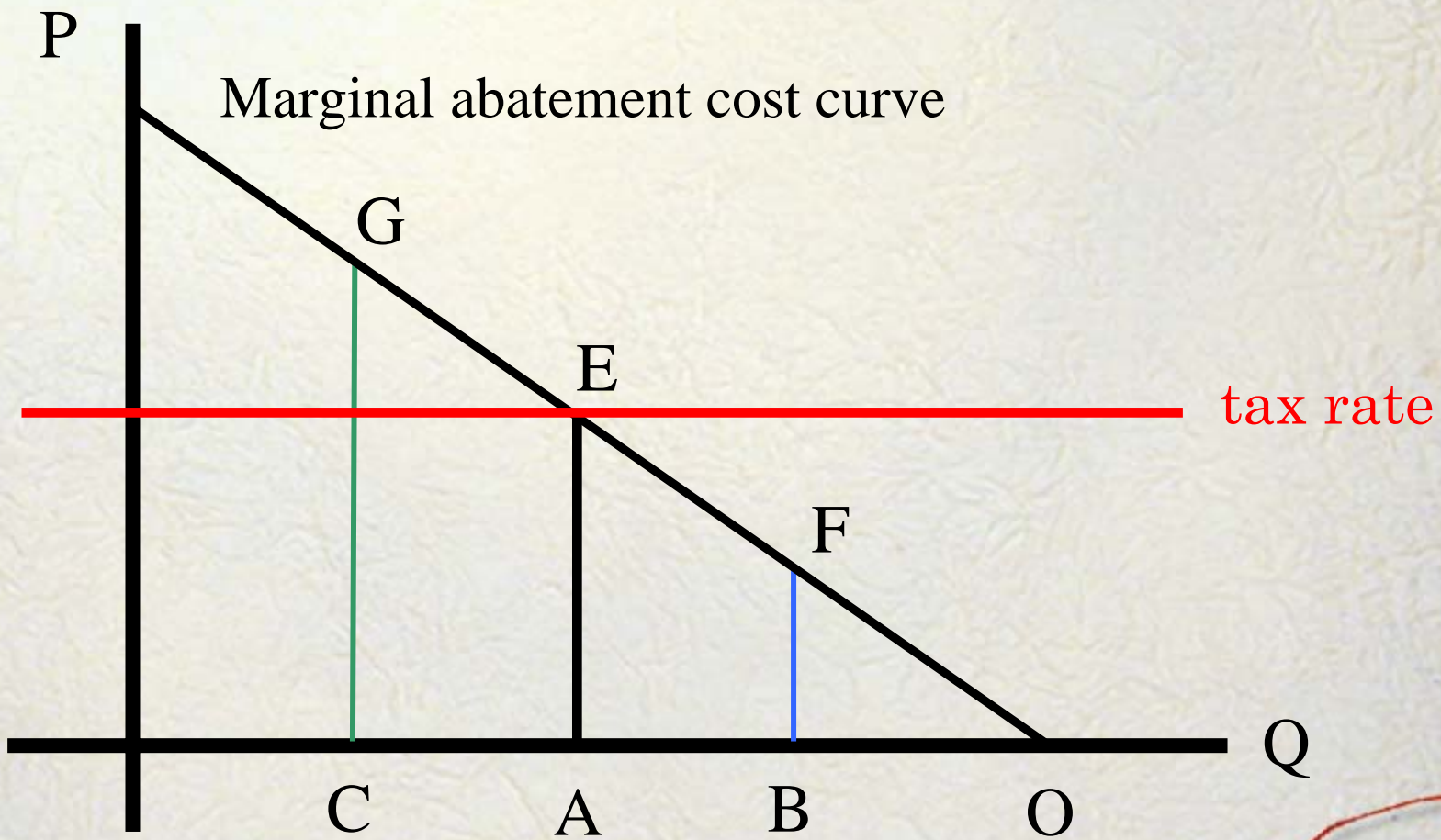
② Estimating Credit Potential
(According to IETA and Point Carbon)

③ How many CERs should Japan get?

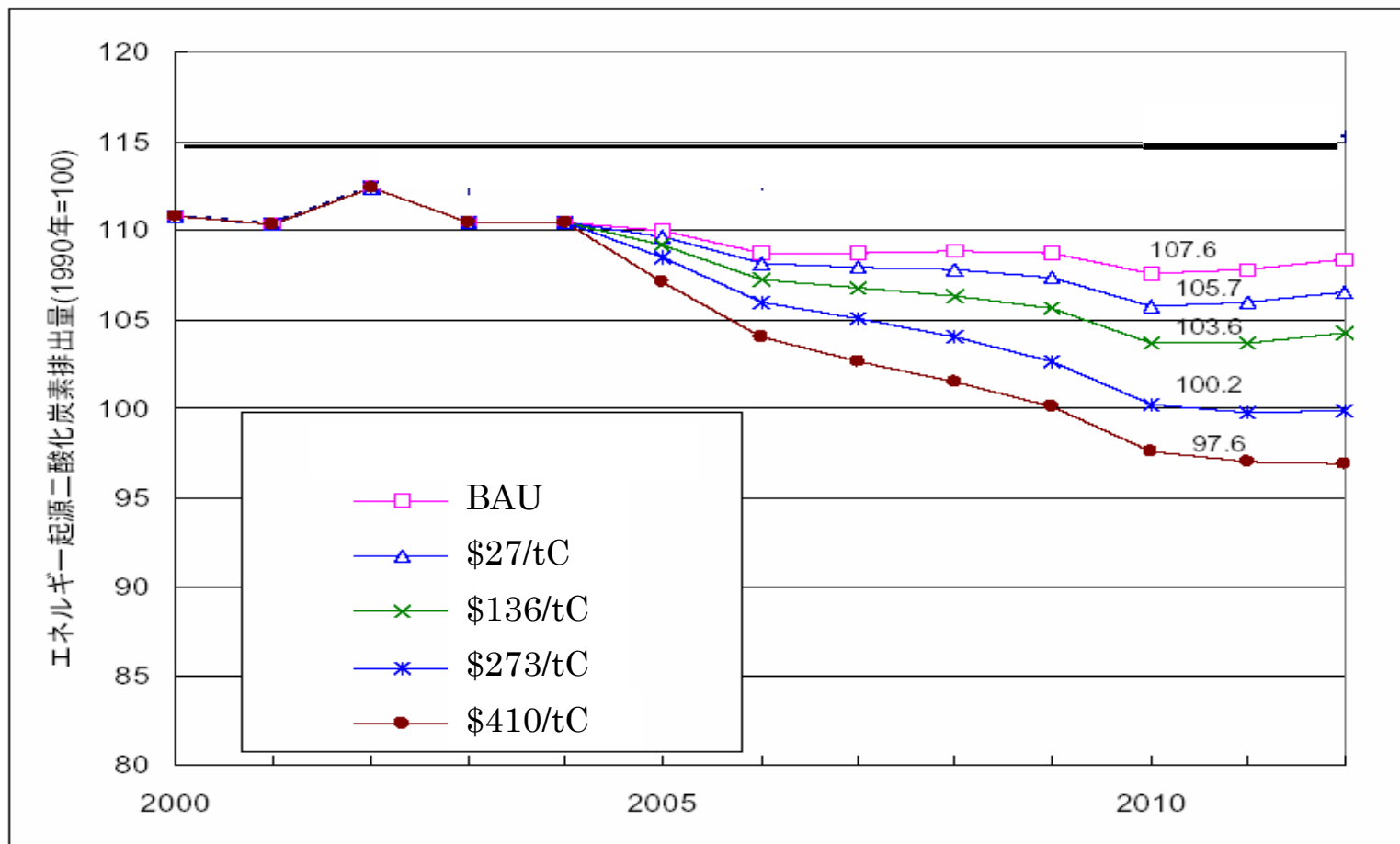
How can we derive the marginal abatement cost curve of Japan?



Estimating energy origin CO₂ emissions at each case

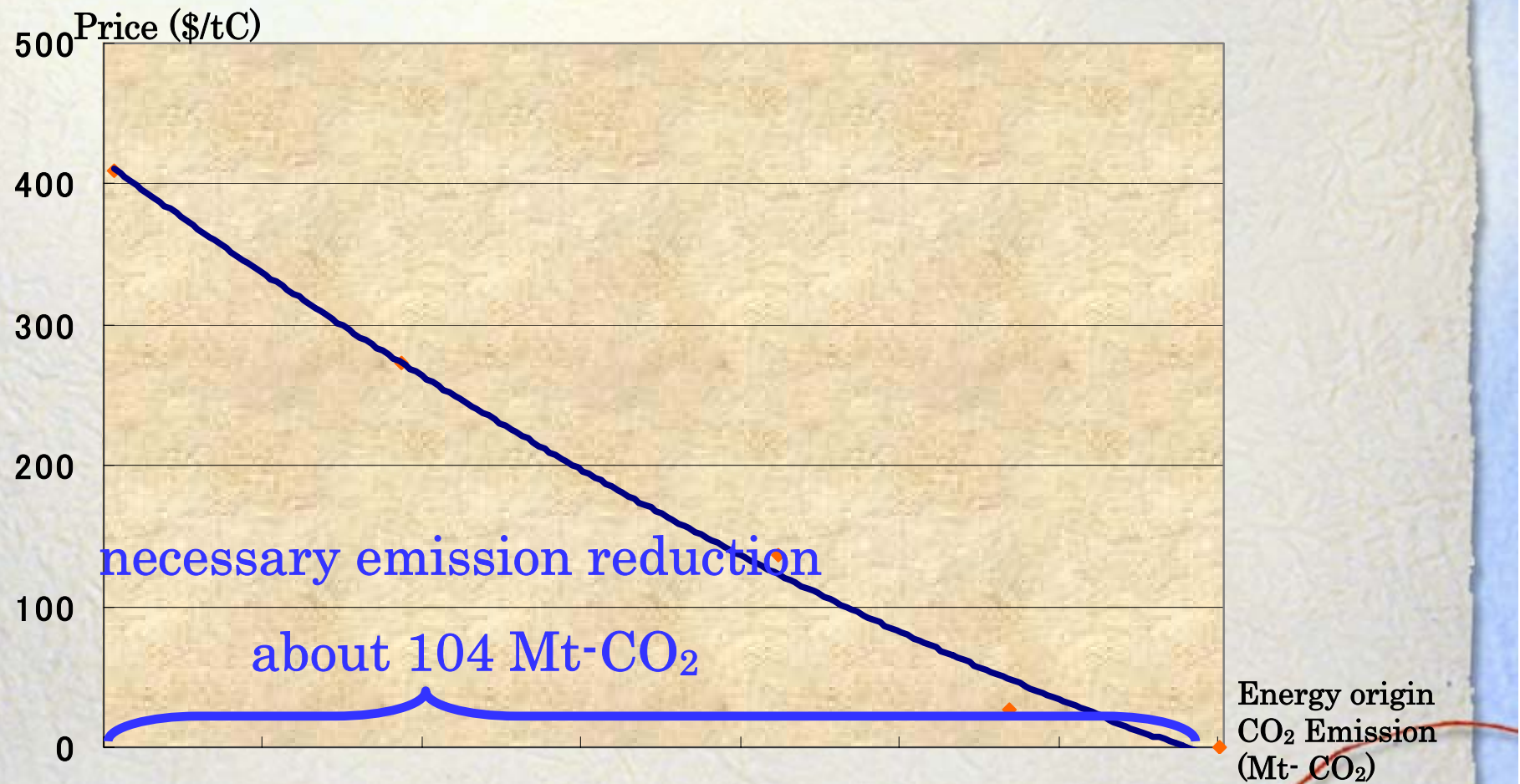


How can we derive the marginal abatement cost curve of Japan?

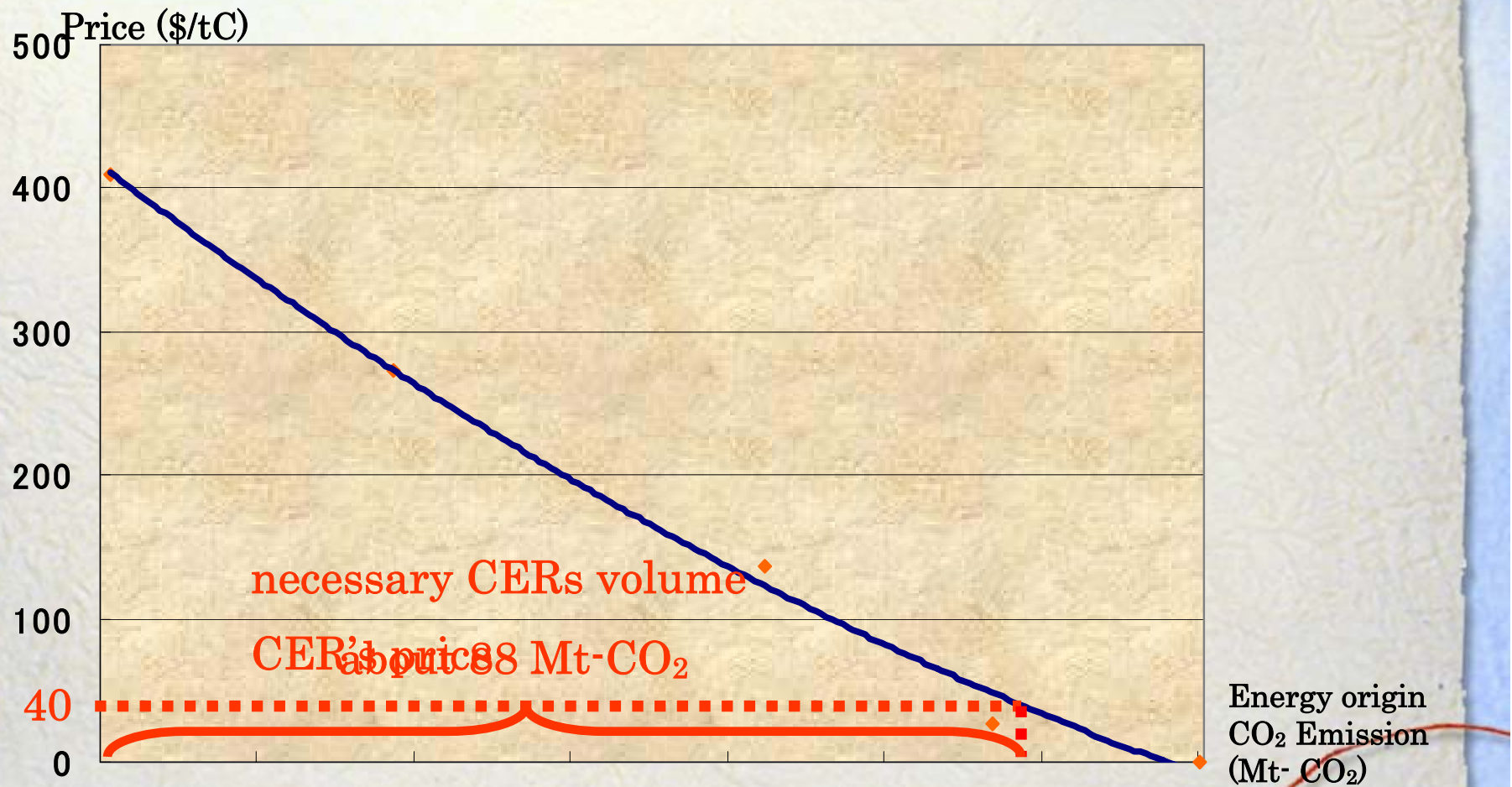


Estimating energy origin CO₂ emissions at each case

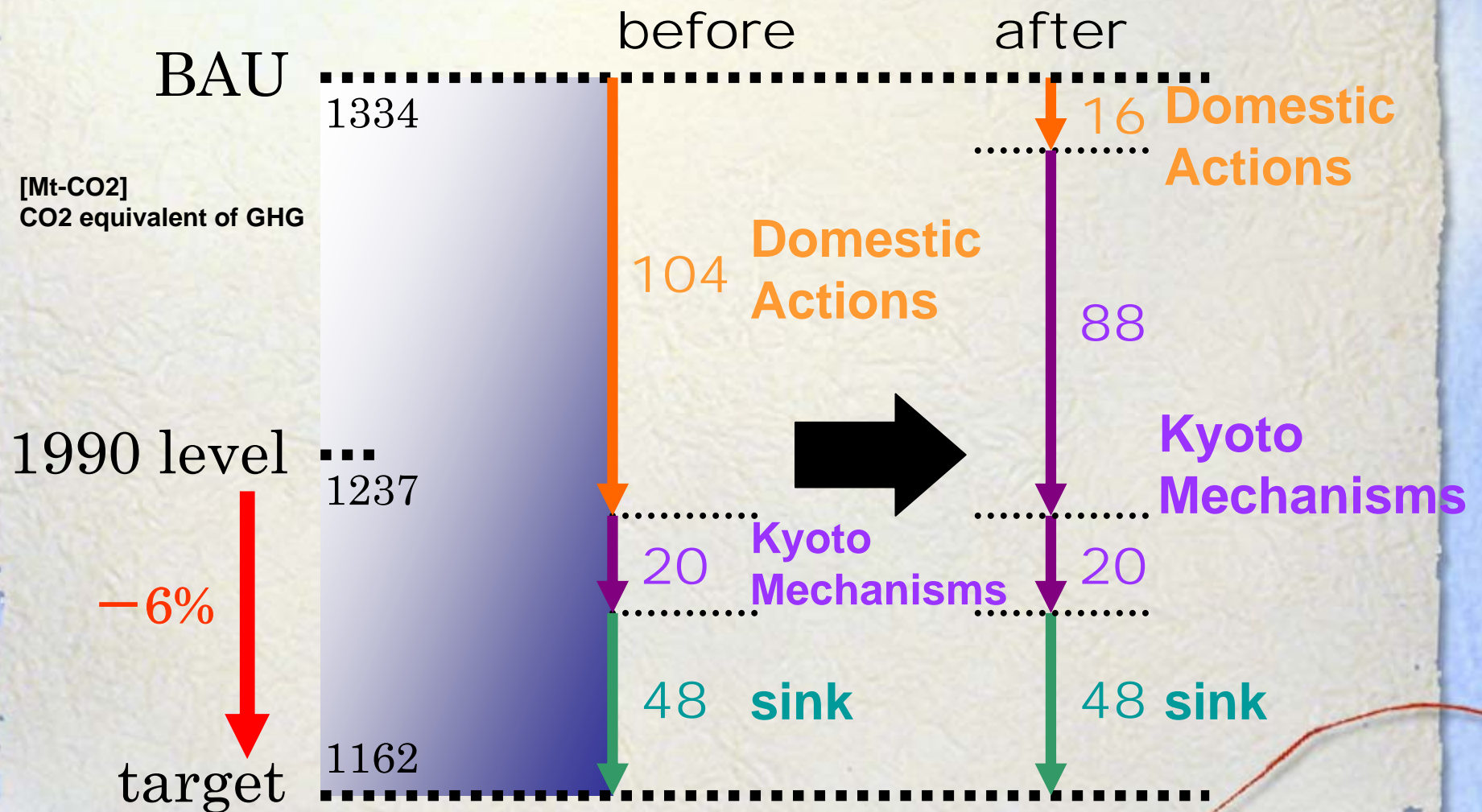
Marginal Abatement Cost Curve of Japan



Domestic Actions vs CDM

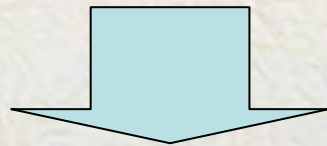


In terms of Cost-effectiveness,



Domestic Actions vs CDM

⊕ In terms of cost-effectiveness approach, Japan needs to get **108(=20+88) Mt-CO₂ CERs.**



Is it possible?

① Domestic actions vs CDM

② Estimating the Credit Potential
(According to IETA and Point Carbon)

③ How many CERs should Japan get?

Credit Potential

Ⓢ “IETA” version

⇒ about 250Mt-CO₂

at a price of \$40.0/tC

Ⓢ “Point Carbon” version

⇒ about 160Mt-CO₂

at a price of \$22.0/tC

Ⓢ “Point Carbon” version

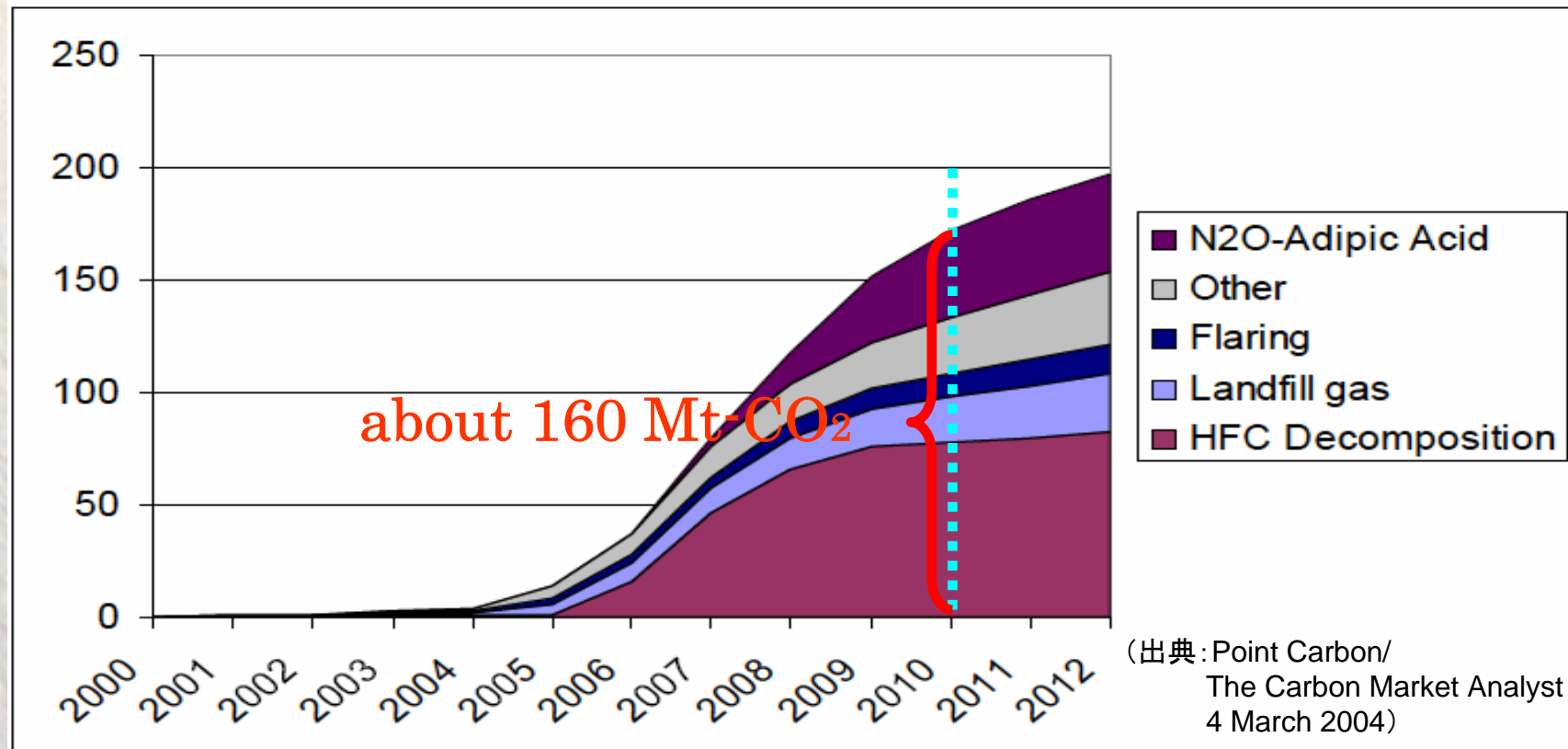
⇒ about 160Mt-CO₂

at a price of \$22.0/tC

*Which “potential”
should Japan follow?*

Credit Potential


Figure 3: CER supplies towards 2012 (million CERs p.a.)



METI (2004b)

Is it OK to do HFC projects ?

The answer is **NO!!**

 because of

- ◆ ethical aspect
- ◆ Chinese government new regulation in June, 2004

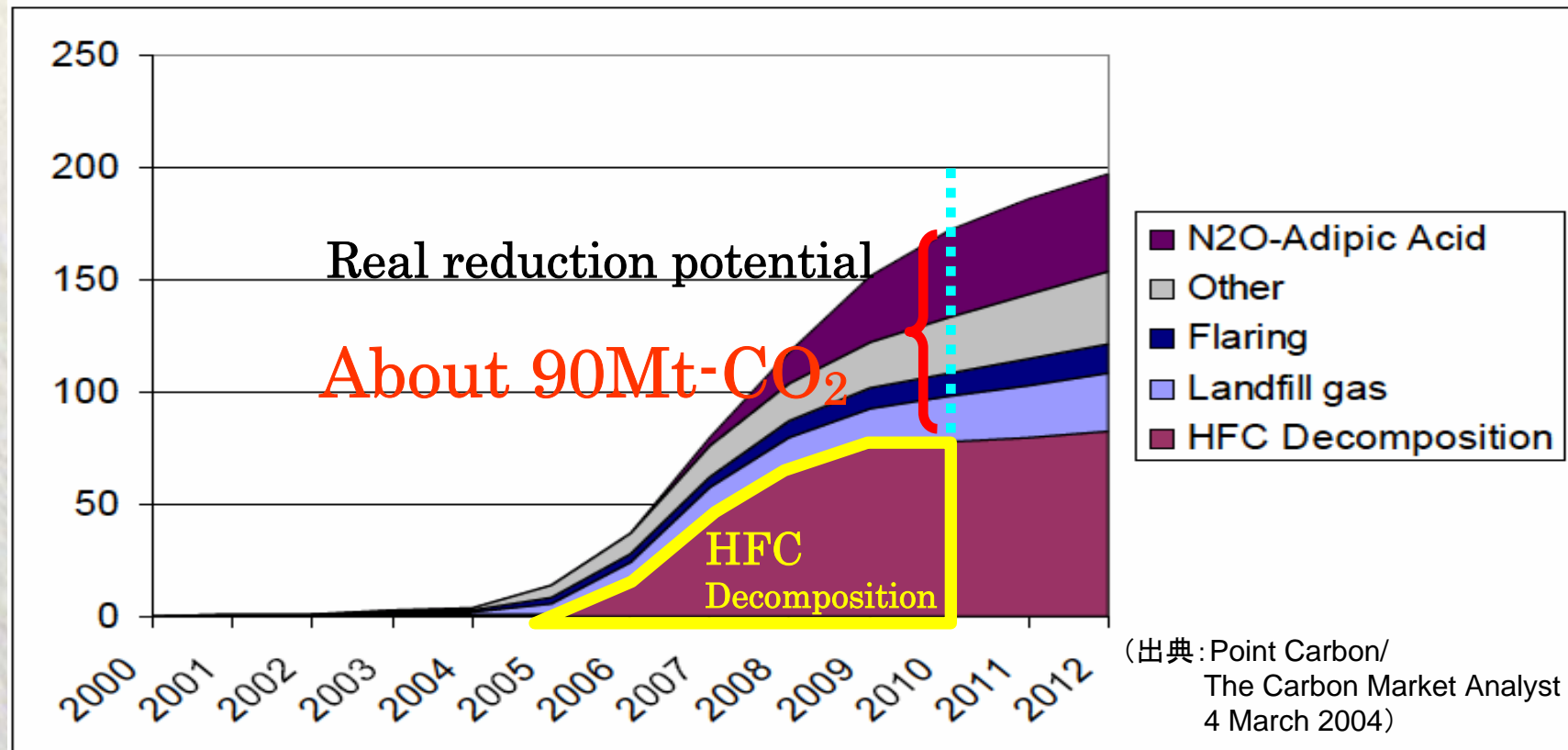
Is it OK to do HFC projects ?

Sorts of projects	Renewable energy	Methane recovery	HFC decomposition	Cement production	Improvement energy efficiency	sink
Gas	Mainly CO ₂	CH ₄	HFC23	Mainly CO ₂	Mainly CO ₂	CO ₂
GWP	1	21	150—11,700	1	1	1
Per project emission reduction	various	various	very large	large	small	various
CER's price	low — high	low — middle	very low	low — high	low — high	low — middle

(出典) みずほ総合研究所 (2004)

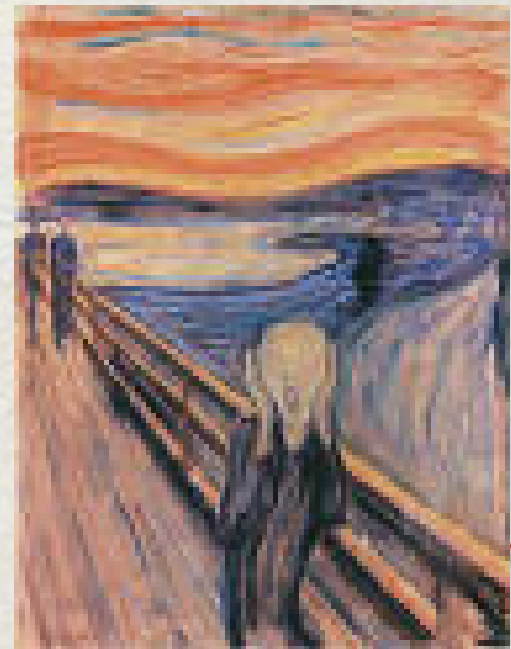
Credit Potential

Figure 3: CER supplies towards 2012 (million CERs p.a.)



METI (2004b)

It is impossible
that Japan can
get 108Mt-CO₂
CERs!!



① Domestic actions vs CDM

② Estimating Credit Potential
(According to IETA and Point Carbon)

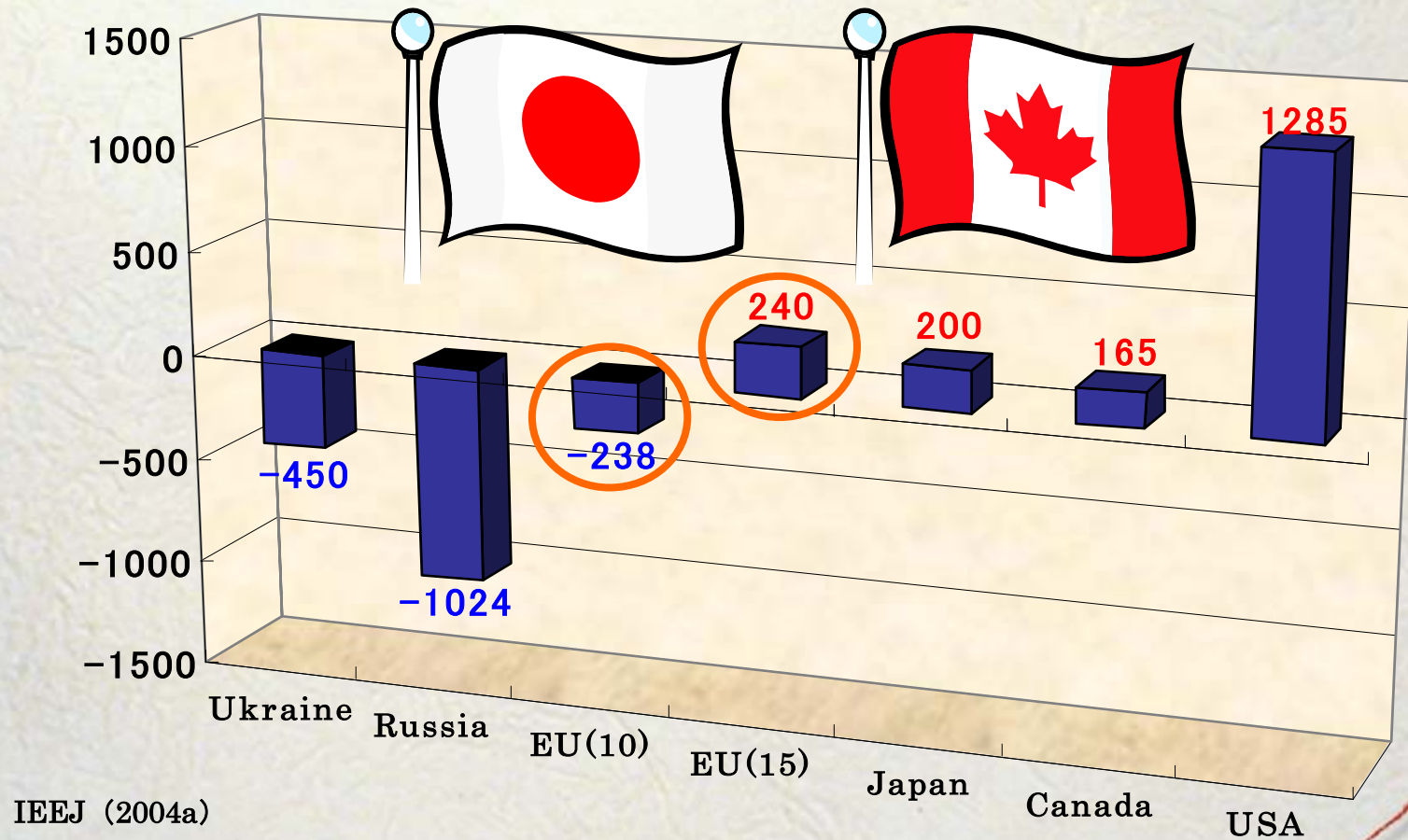
③ How many CERs should Japan get?



Who's buyer?

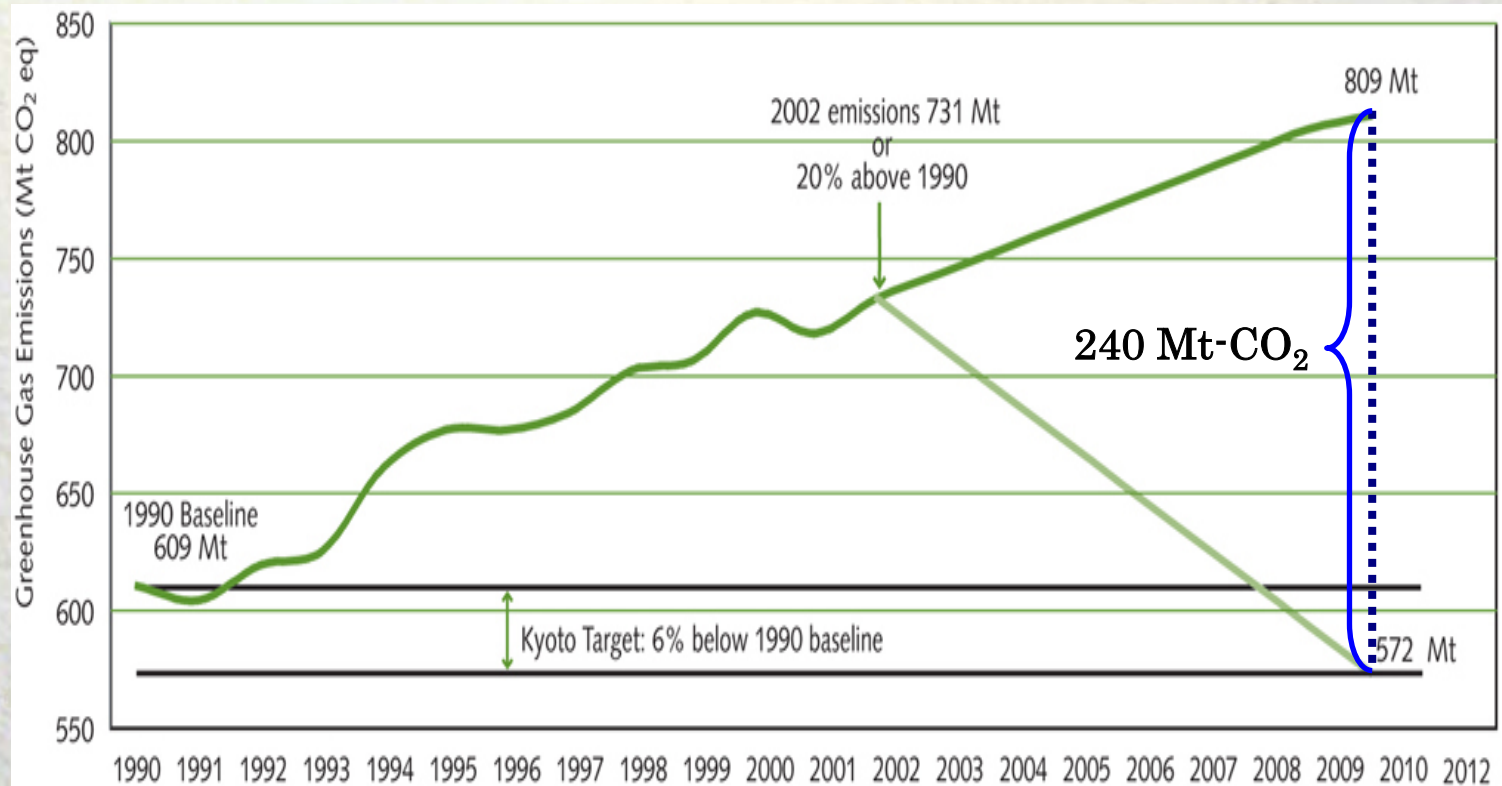
Who's buyer??

Target-GHG emissions in 2000 (Mt-CO₂)



IEEJ (2004a)

Canadian emission trend and forecast, 1990-2010



Canada is planning to reduce minimum 12 Mt-CO₂ with Kyoto Mechanisms.

Canadian Climate Change Plan (2002)

How many CERs should Japan get?

⊙ Credit Potential

⇒ about 90 Mt-CO₂

⊙ Current Situation

⇒ Japan : Canada=20 : 12

*Japan should aim to get
60 Mt-CO₂ CERs !!*



Agenda

Kyoto Protocol and Japan

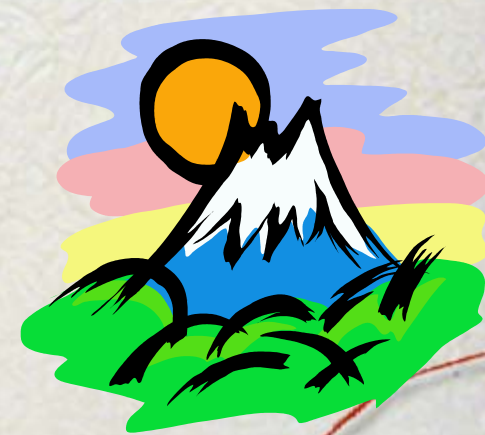
Japanese Strategy
until now

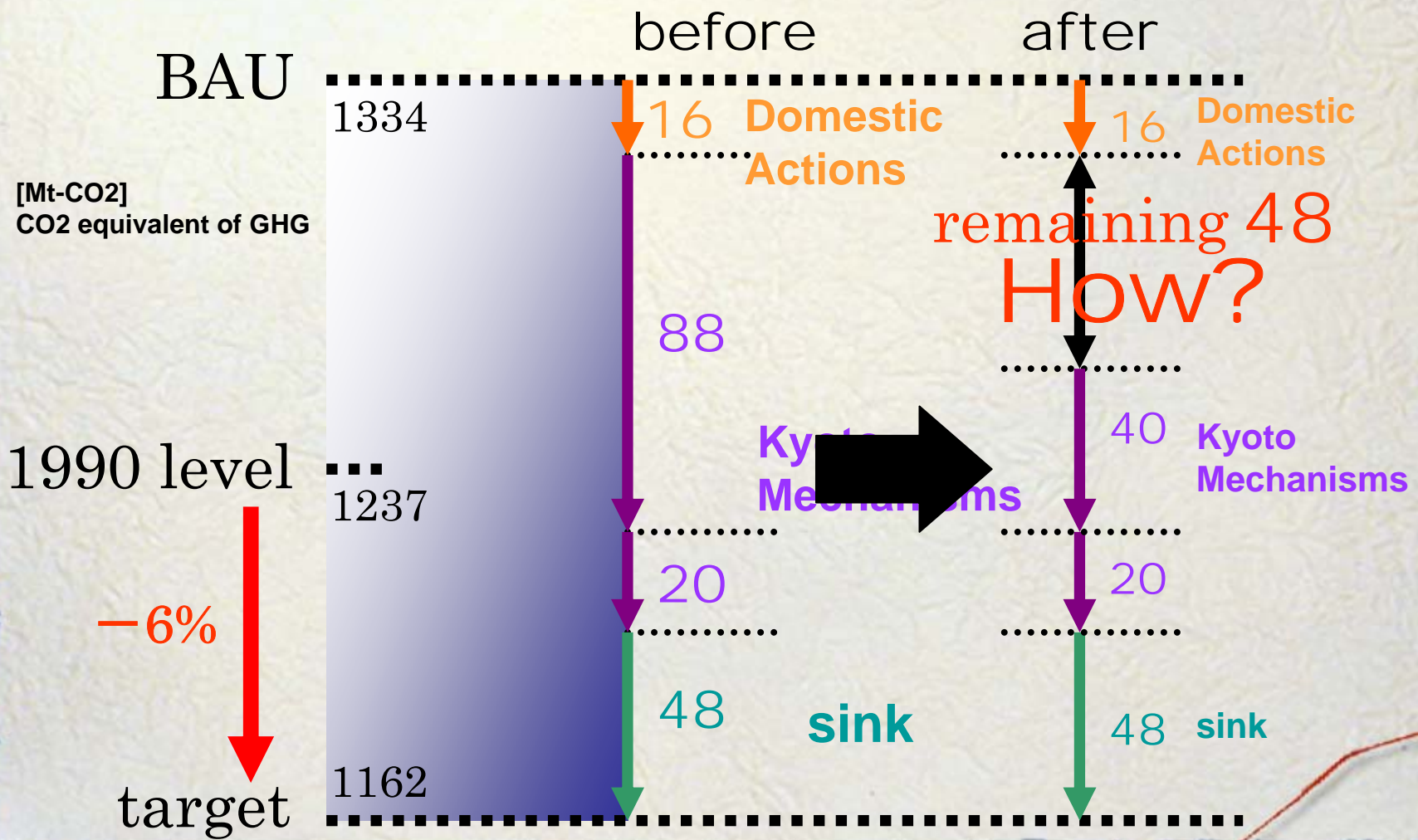
Increase the proportion of
Kyoto Mechanisms

Japanese Strategy
from now on



Japanese Strategy from now on





How?

✘ Domestic Actions vs JI

⇒ uncertainty of getting credits

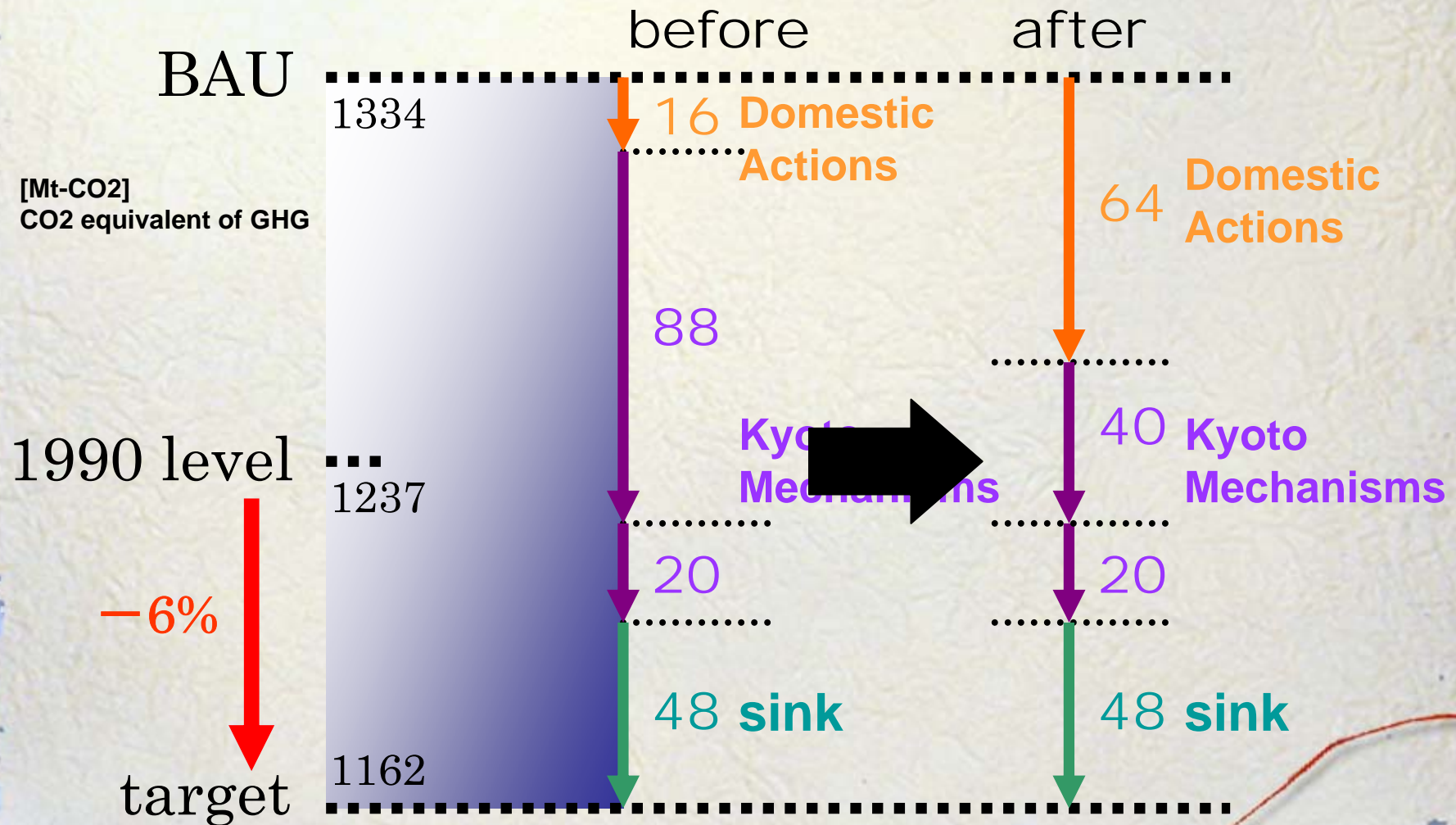
✘ Domestic Actions vs Emission Trading

⇒ timing

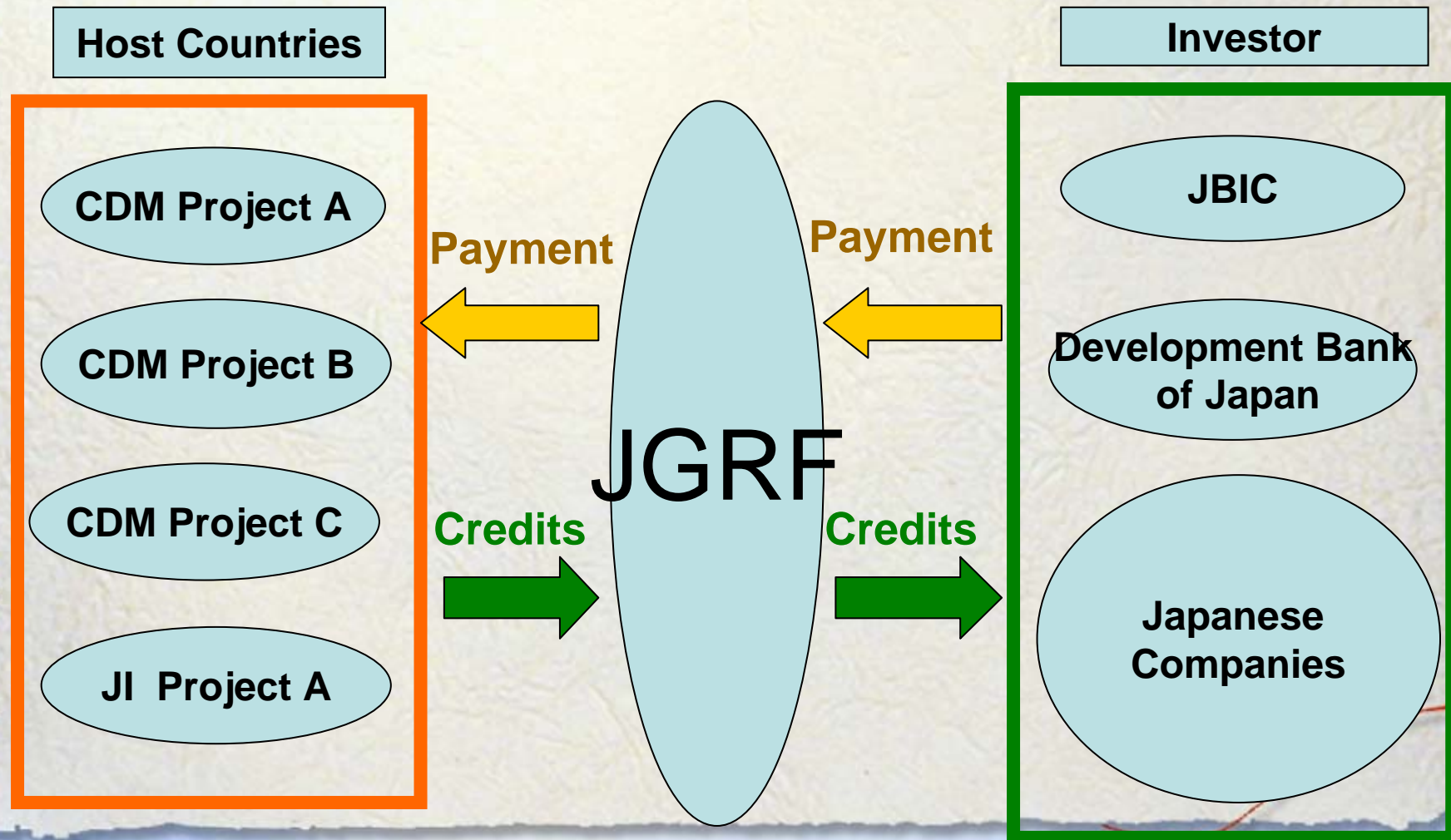


Japan should reduce domestically!!

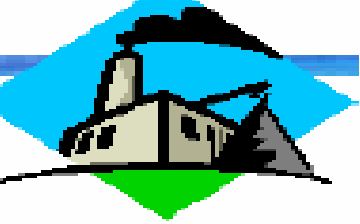
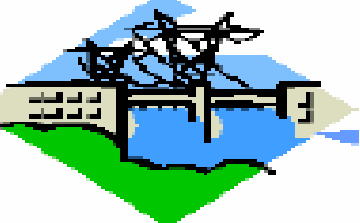
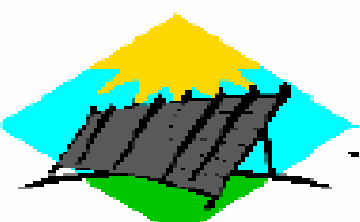
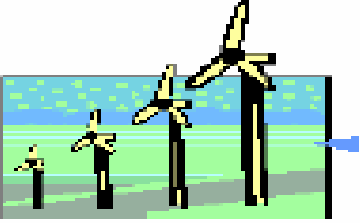
Conclusion



Japan Greenhouse gas Reduction Fund (JGRF)



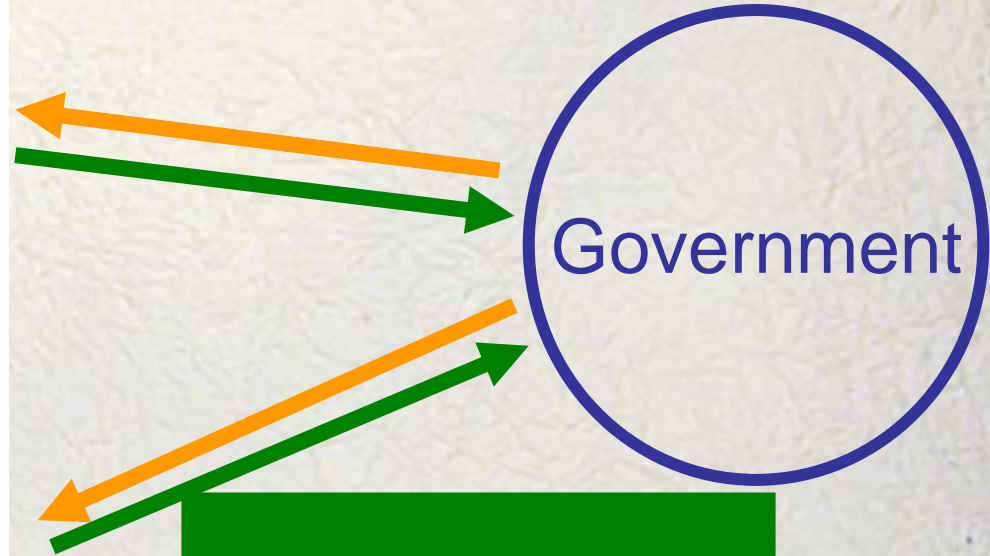
CERUPT

Projects	Offered Price
	20EUR/t -CO ₂
	10EUR/t -CO ₂
	30EUR/t -CO ₂
	5EUR/t -CO ₂

Purchasing Credits

Government

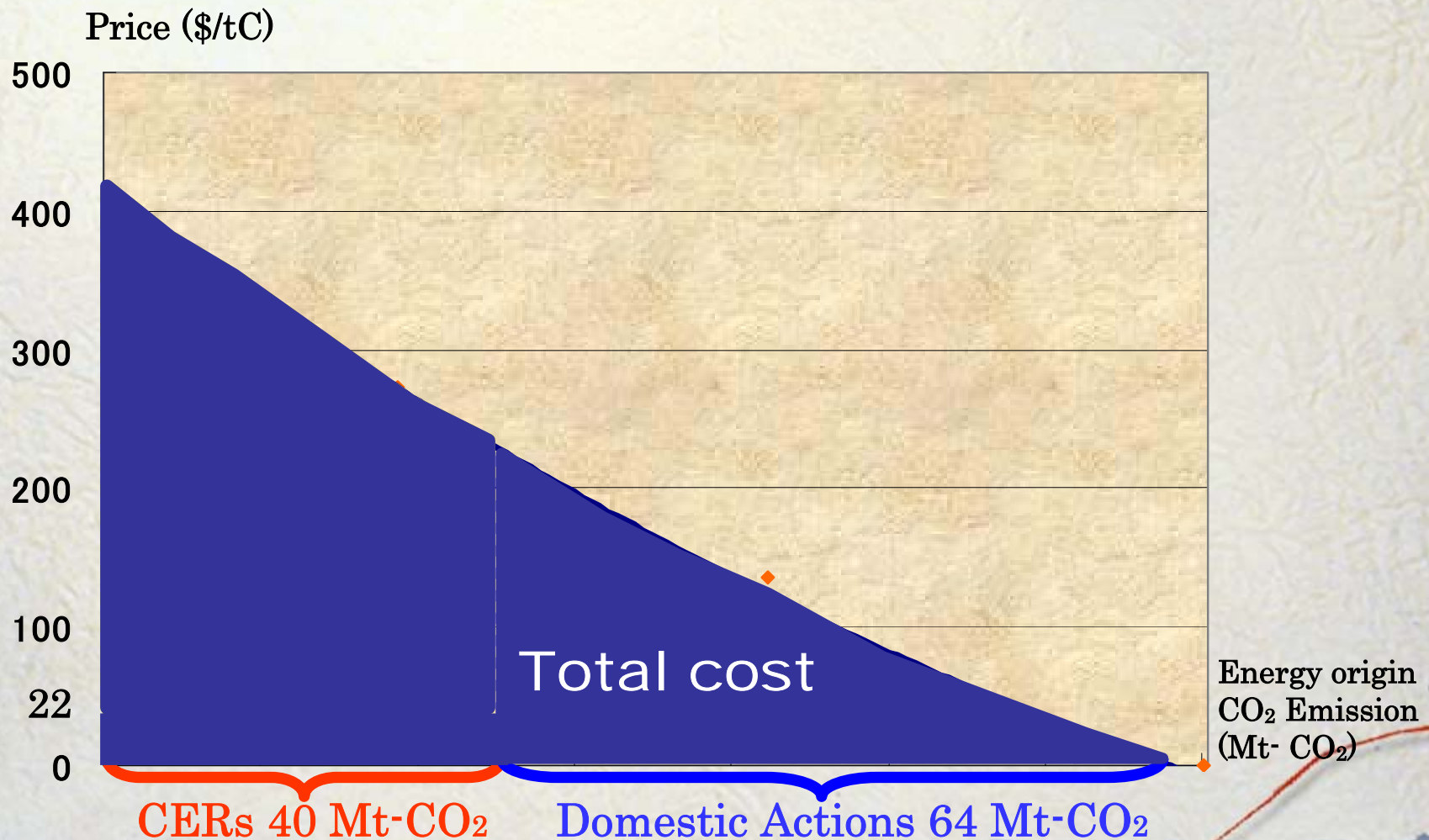
Transfer of Credits



What is the meaning of our proposal?



What is the meaning of our proposal?



Conclusion


	<i>Proposal</i>		
	target	necessary emission reduction	proportion
Domestic Actions	+2.7%	64Mt-CO ₂	37%
Kyoto Mechanisms	▲4.8%	60Mt-CO ₂	35%
Sink	▲3.9%	48Mt-CO ₂	28%
total	▲6.0%	172Mt-CO ₂	100%

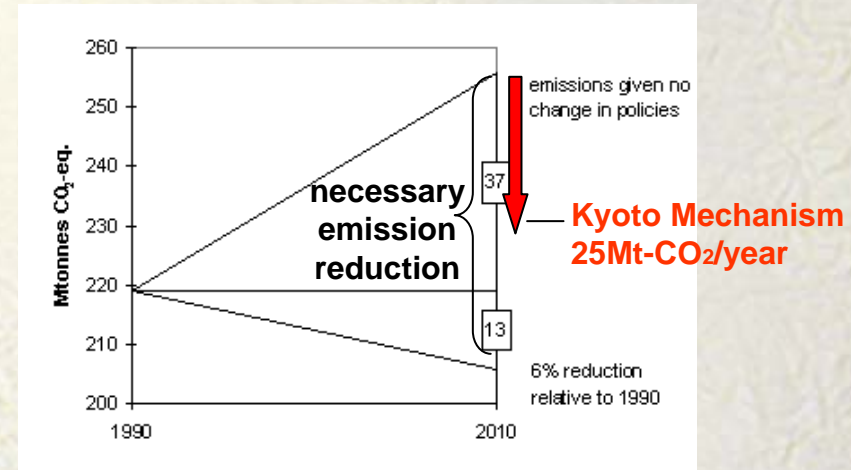
supplementarity

 **The proportion of Kyoto Mechanism in Netherlands**

 **50%**

 **The proportion of Kyoto Mechanism in Japan**

 **35%**



supplementarity

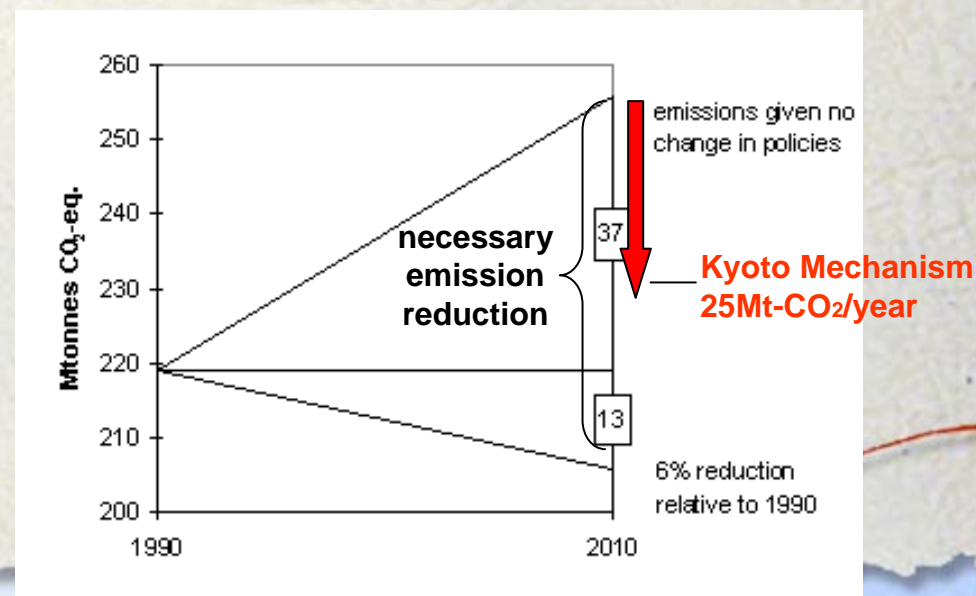
Draft decision -/CMP.1 (Mechanisms)

Principles, nature and scope of the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

1. Decides that the use of the mechanisms shall be **supplemental** to domestic action and that domestic action shall thus constitute a significant element of the effort made by each Party included in Annex I to meet its quantified emission limitation and reduction commitments under Article 3, paragraph 1;

The proportion of Kyoto Mechanism in Netherlands

METI (2004b)



Japanese strategy in the future

	<i>Current situation</i>		<i>Proposal</i>	
	target	necessary emission reduction	target	necessary emission reduction
Domestic Actions	▲0.5%	104Mt-CO ₂	+2.7%	64Mt-CO ₂
Kyoto Mechanisms (CDM)	▲1.6%	20Mt-CO ₂	▲4.8%	60Mt-CO ₂
Sink	▲3.9%	48Mt-CO ₂	▲3.9%	48Mt-CO ₂
total	▲6.0%	172Mt-CO ₂	▲6.0%	172Mt-CO ₂

Thank you so much for your kind attention!



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