CURRENT AND FUTURE ISSUES AND CHALLENGES FOR THE OLEOCHEMICAL INDUSTRY

- Presentation to **PIPOC Oleochemicals Conference 2011**
- *by Alan Brunskill, Senior Oleochemical Consultant, LMC International*
- *KL Conference Centre, 15th* November 2011,

Agenda

Capacity

Capacity ownership

Market Growth

Major Issues –

•Biofuels,

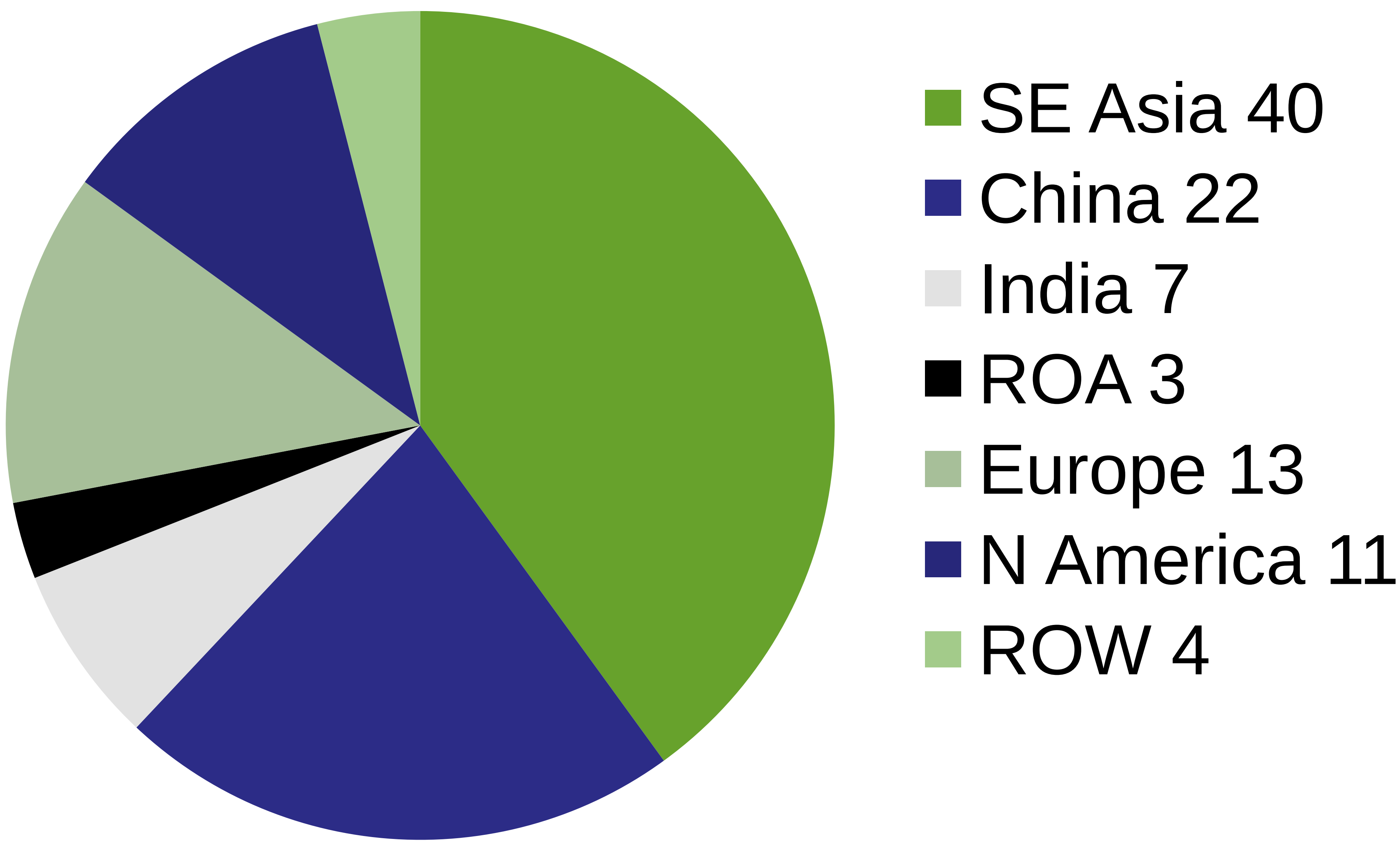
•Taxes/Duties etc, Economy,

•Sustainability

What’s next?

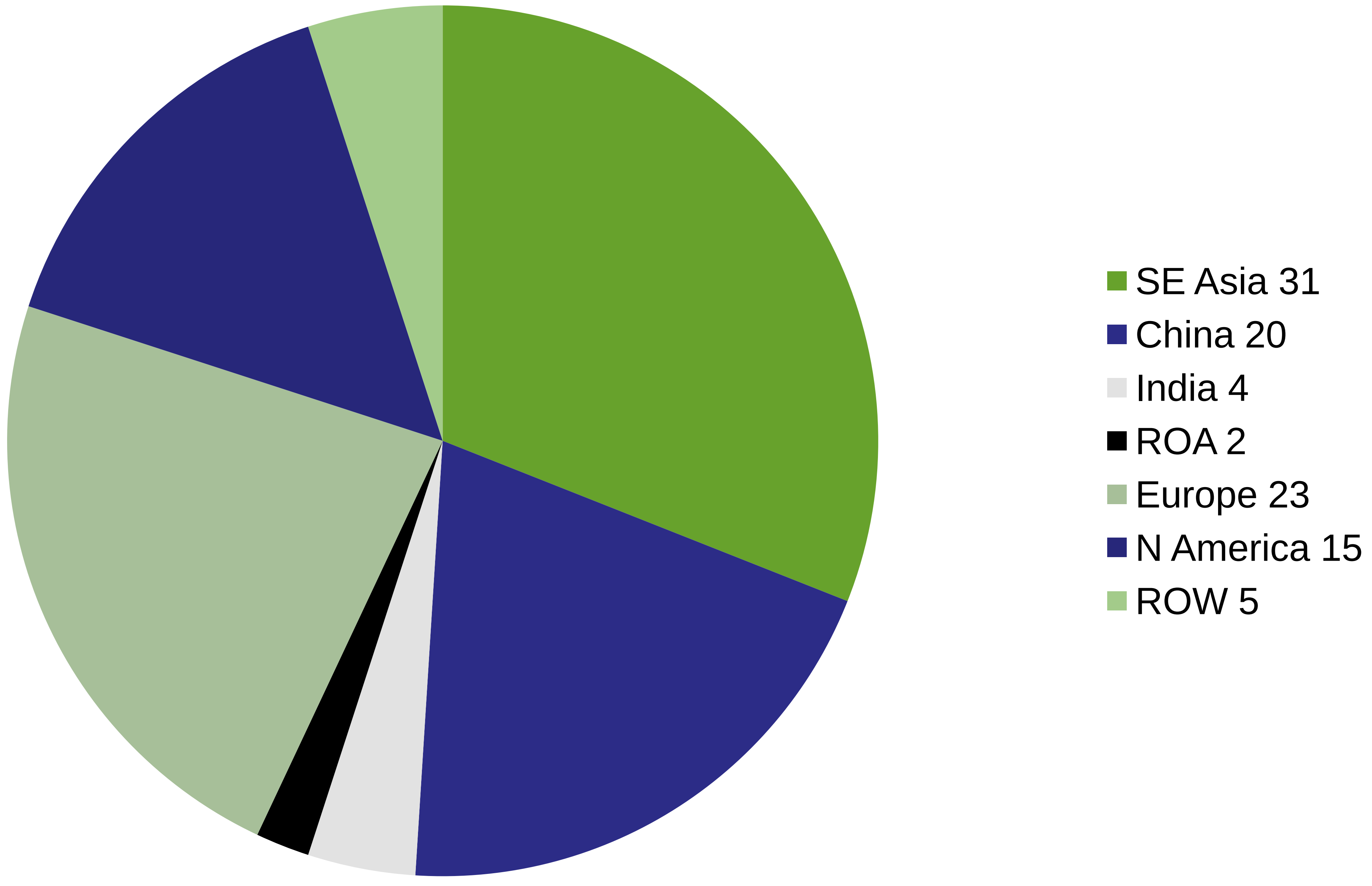
Global Fatty Acid Capacity by Region

2010/11 capacity - ca 9.0 million tons

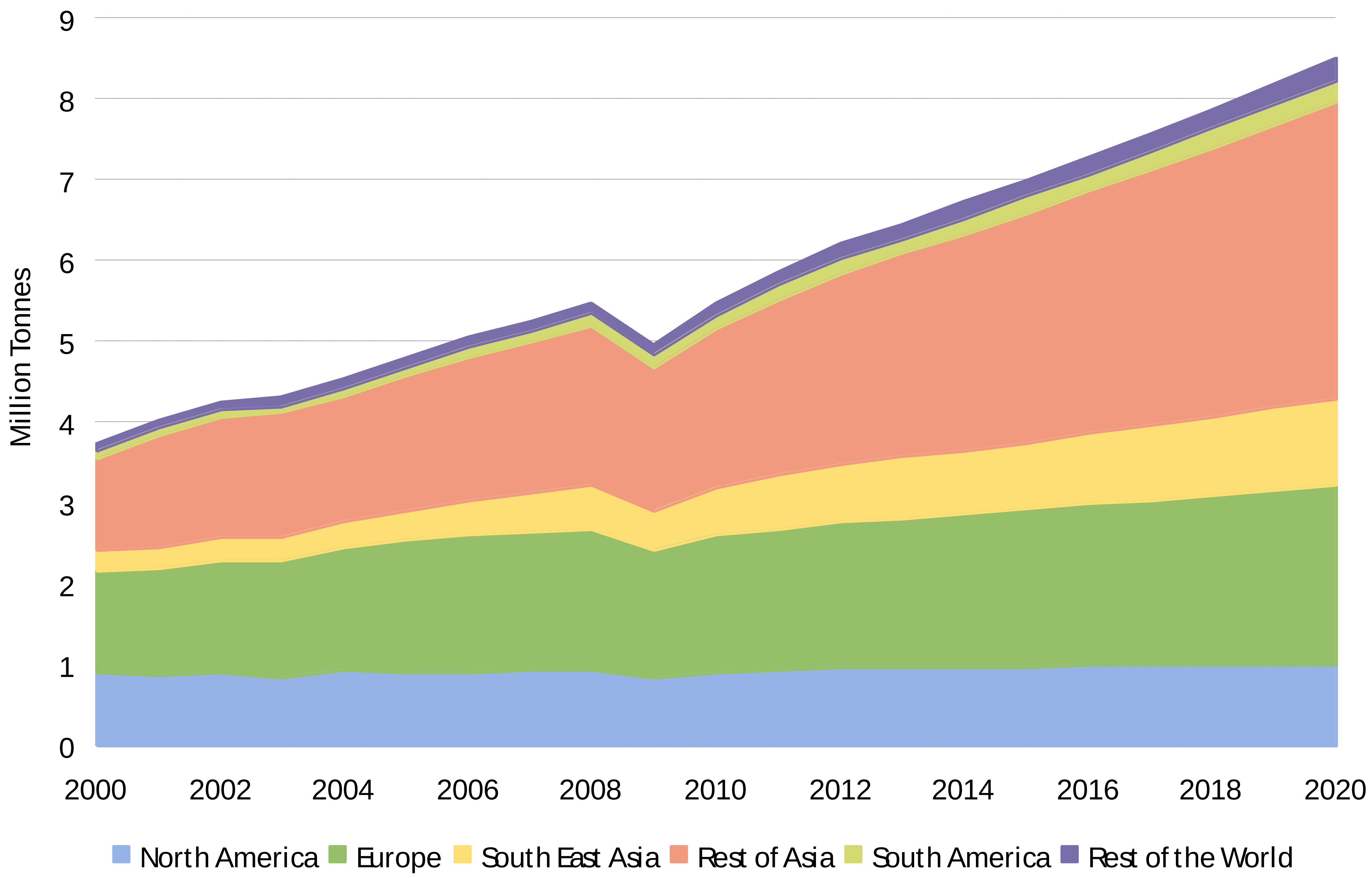


Global Fatty Alcohol Capacity by Region

Total 2010/11 – ca 3.7 million tons



Historic and forecast fatty acid consumption volumes, by region (2000-2020)



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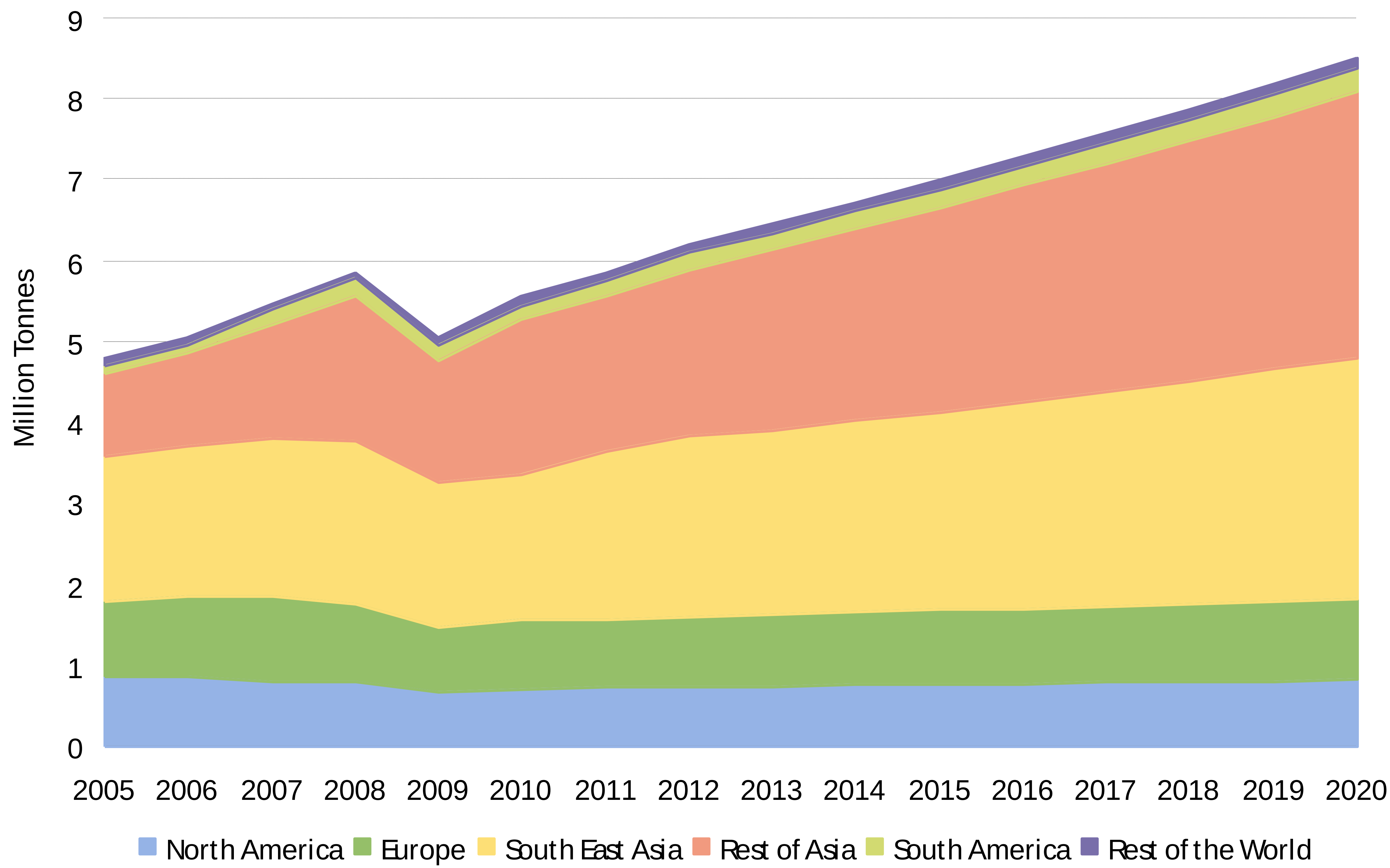

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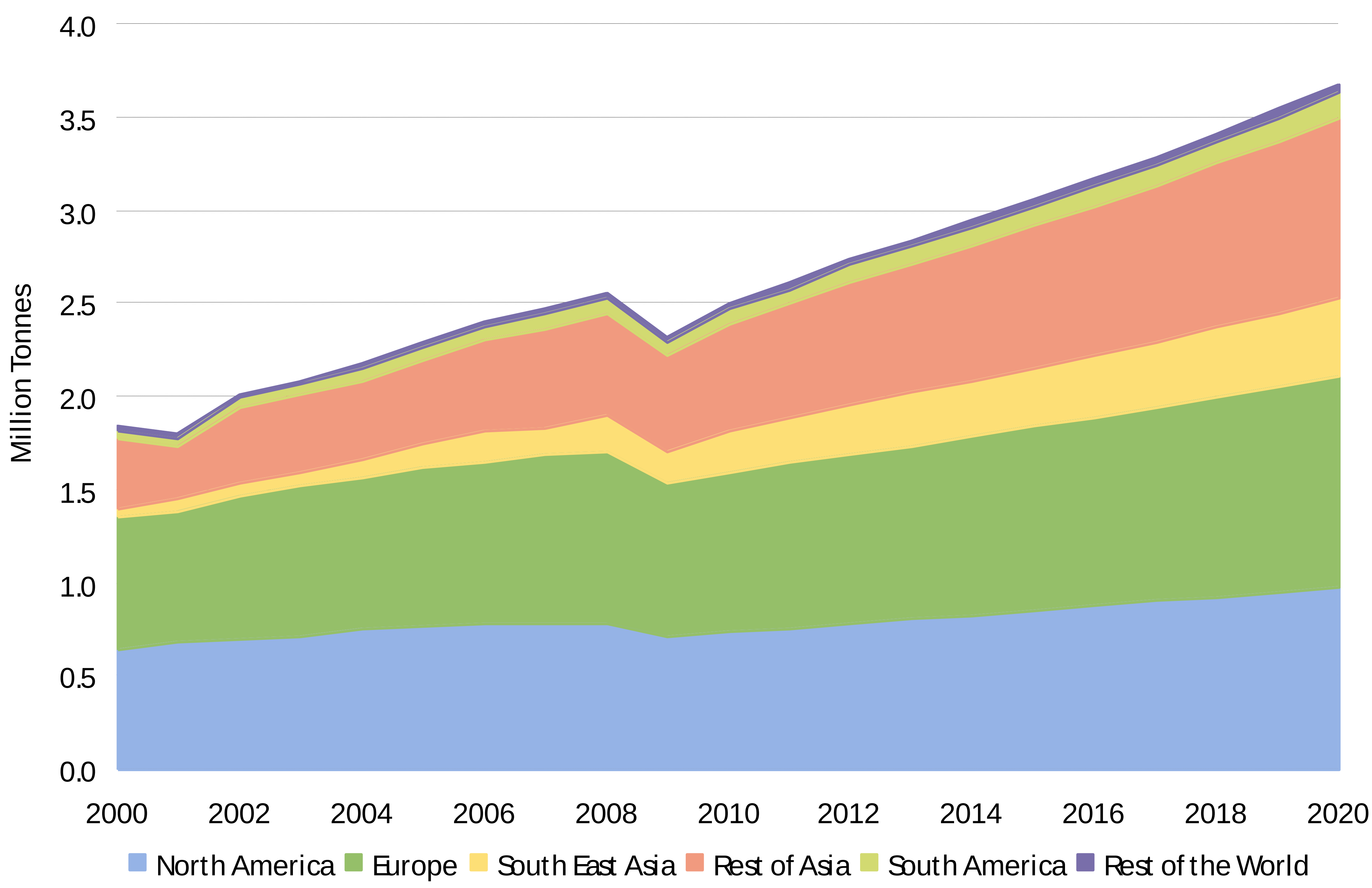

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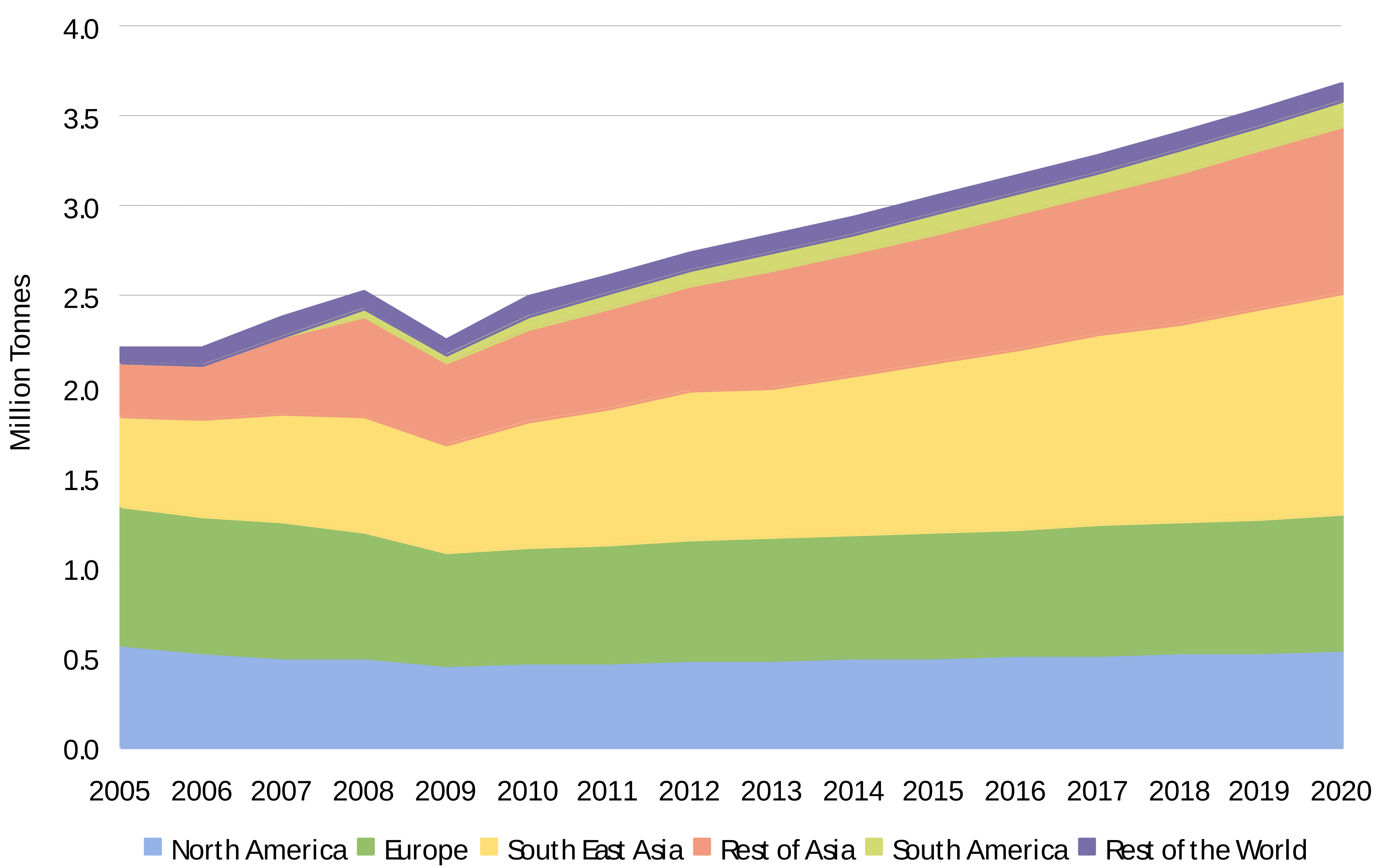


Capacity Ownership

% Capacity owned by raw material producers

Fatty acids – 60

Fatty alcohols - 25 (50)

Problems affecting Oleochemicals

The economy

Biofuels - Oil Price effect

Biofuels - Disappearing feedstock

Biofuels - Glycerine

Export/Import taxes/Anti-dumping tax

Sustainability

The Economy

Bankers – one way risks only: they get the bonuses, tax payers/investors pay the penalty

Politicians – no business experience. Yet we elect them to run our countries

Economists – only have hindsight

Auditors/Ratings Agencies – never spot the big problems

Is it any wonder we are in a mess?

Biodiesel effects

Oils and fats prices

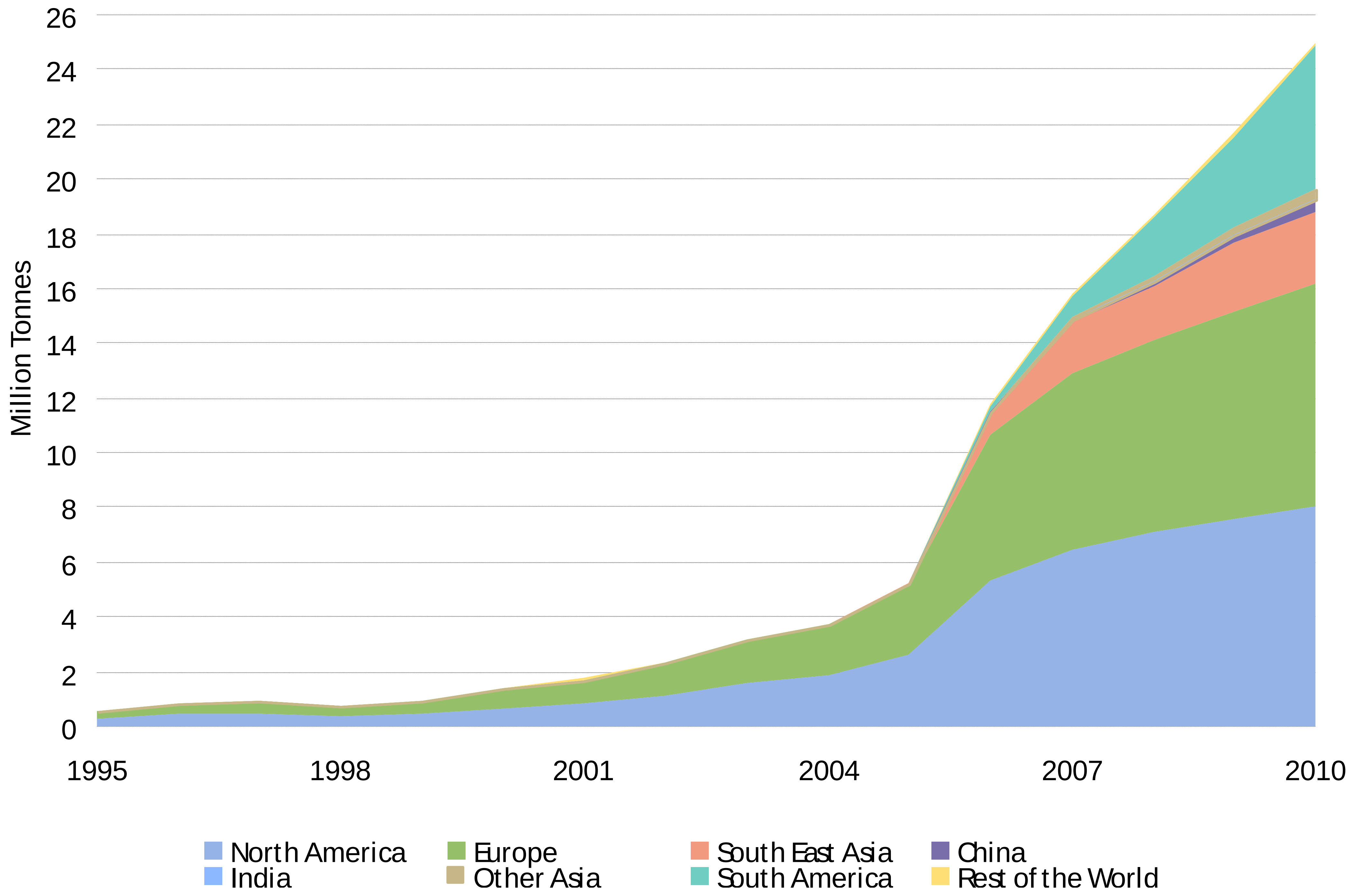
Glycerine price/availablility

Raw material availability

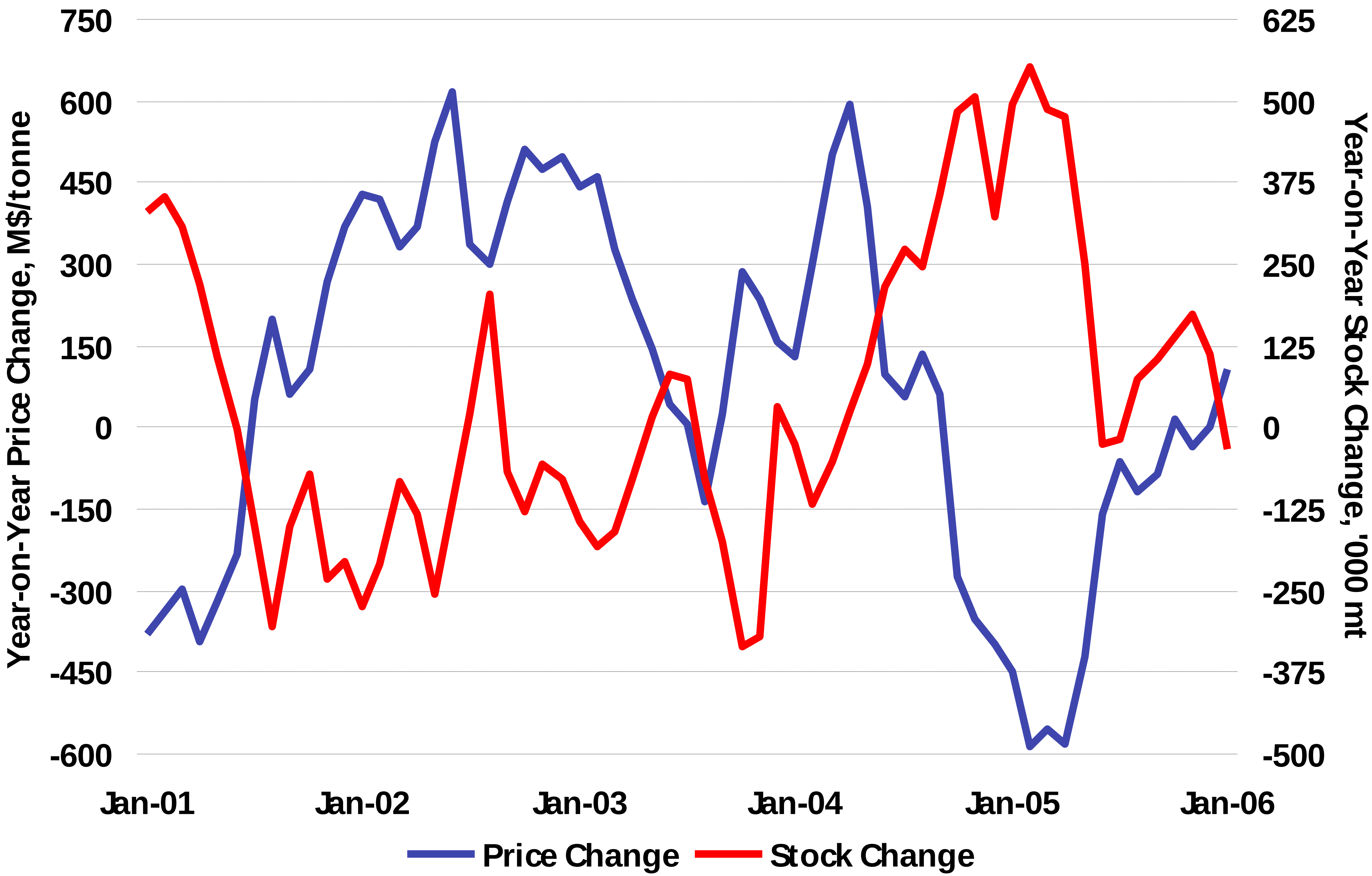
Biodiesel Growth 2000-2020

- By 2020 conventional biodiesel will have grown to 40 -50 Mt
- Glycerine generation will grown to ca 6 Mt glycerine, (2011 ca 3 million)
- Other types of biodiesel will consume additional fats and oils, e.g. Neste process
- Total oils and fats consumption for fuel will be above 50 Mt

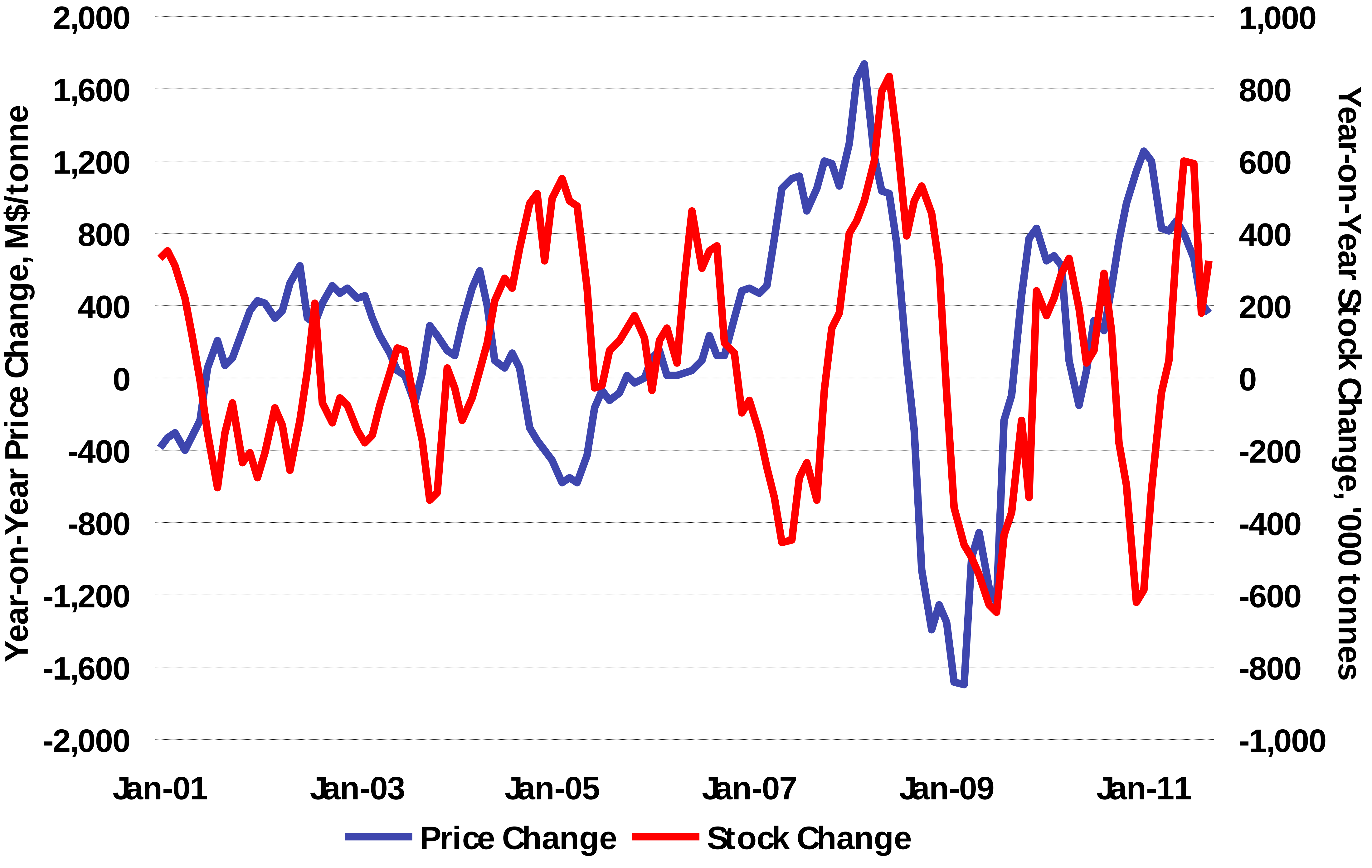
Biodiesel production volumes (1995-2010)



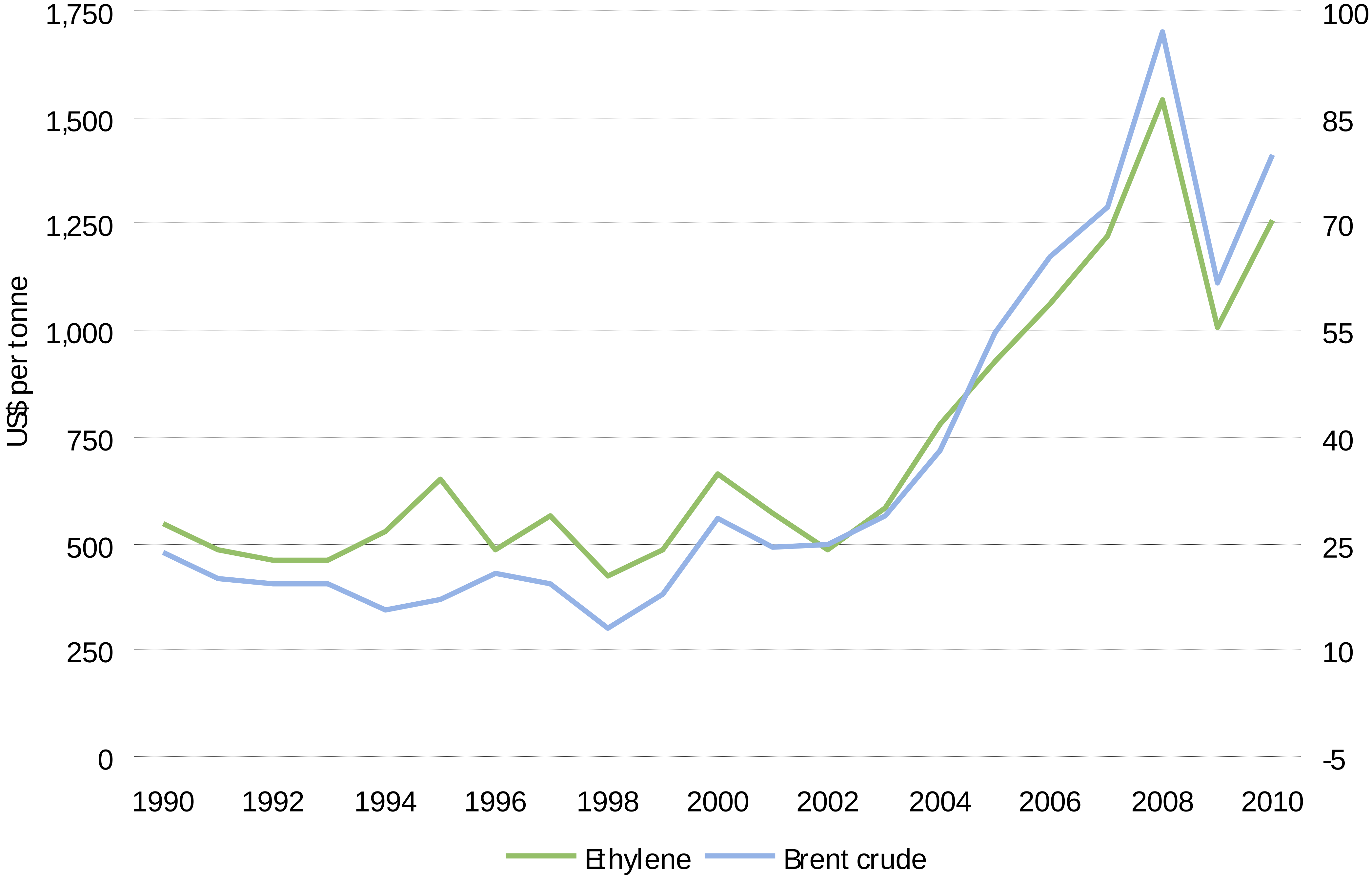
Until 2006, year-on-year changes in CPO prices used to be fairly easily explained in terms of MPOB stock changes.



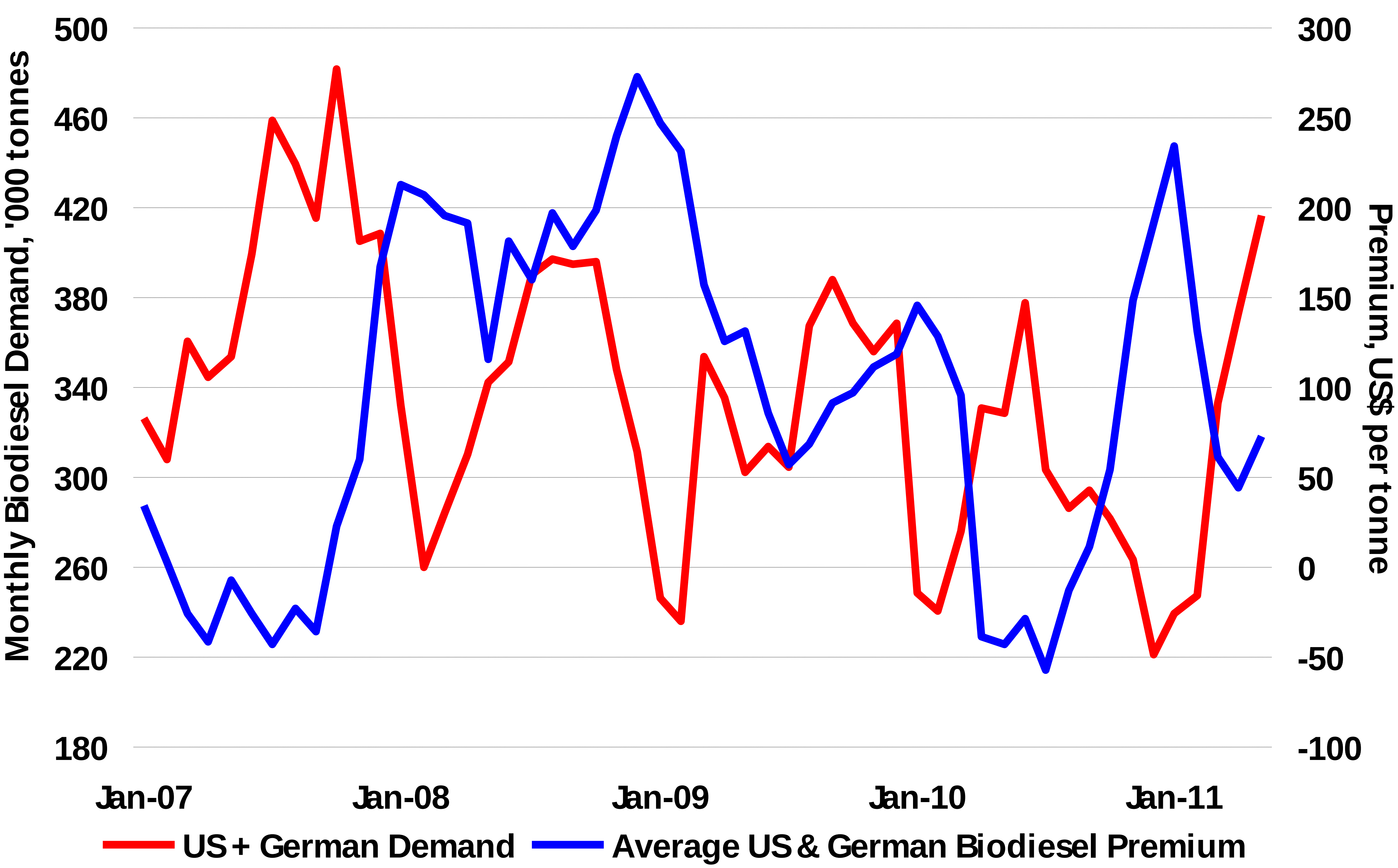
The relationship has broken down since mid-2007



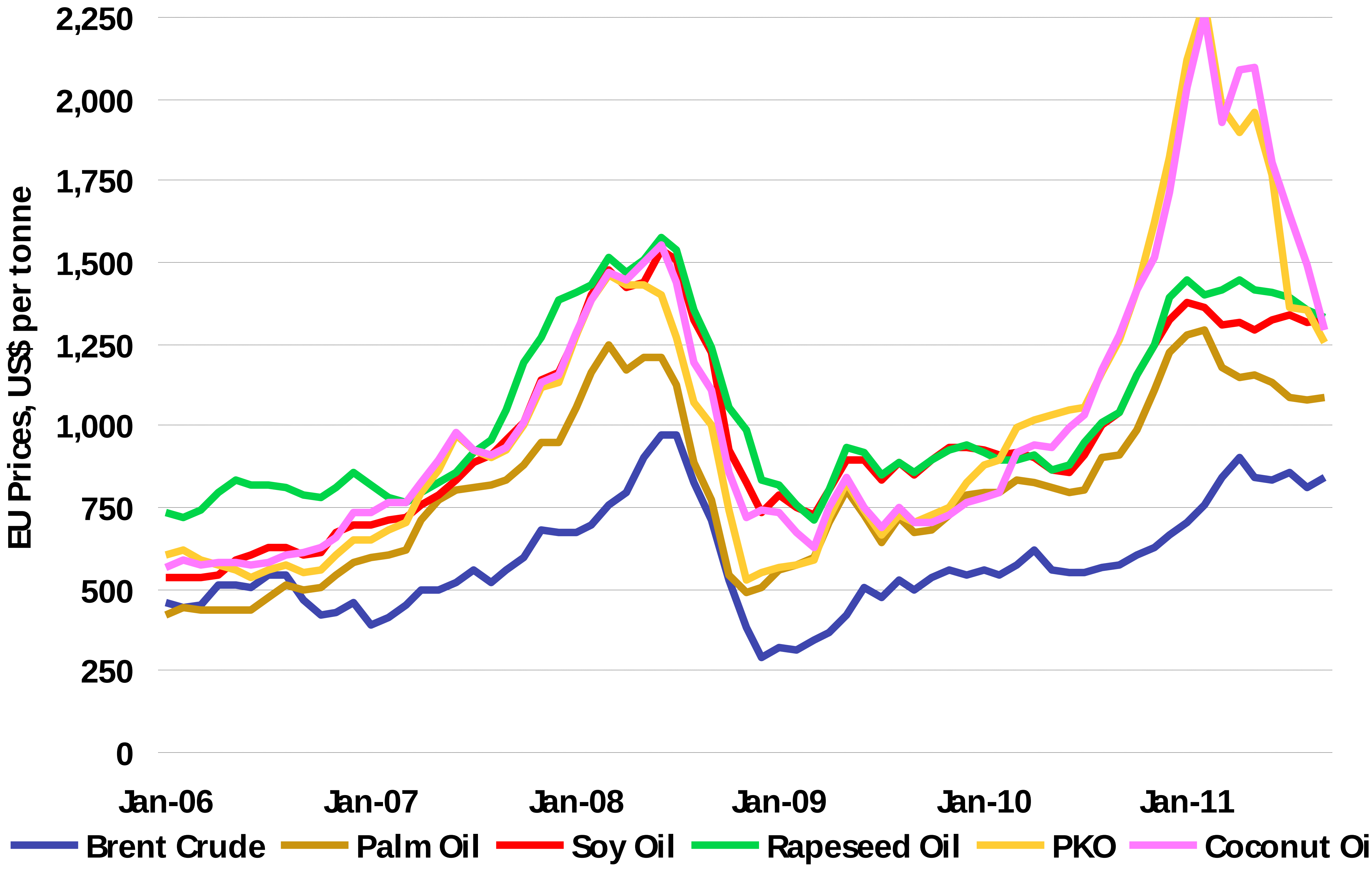
Brent nominal crude prices plotted against ethylene, US$ per tonne



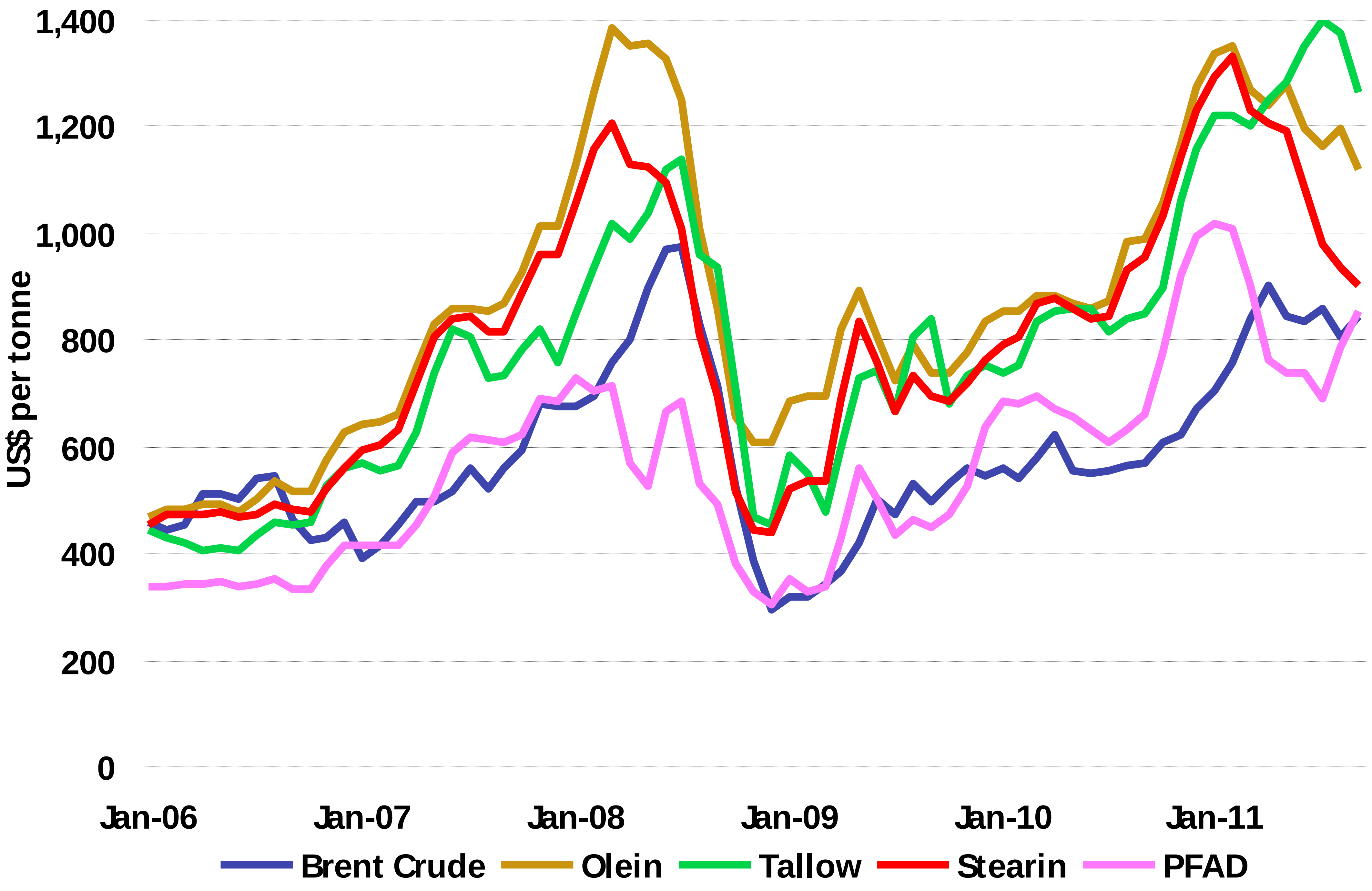
Biodiesel use in Germany and the US, reacts quickly to swings in the biodiesel premium over diesel. This links biodiesel to diesel prices.



Edible oil prices vs crude oil 2006 - 2011



Other oils vs crude oil



Biodiesel Effect on Oils and Fats Availability

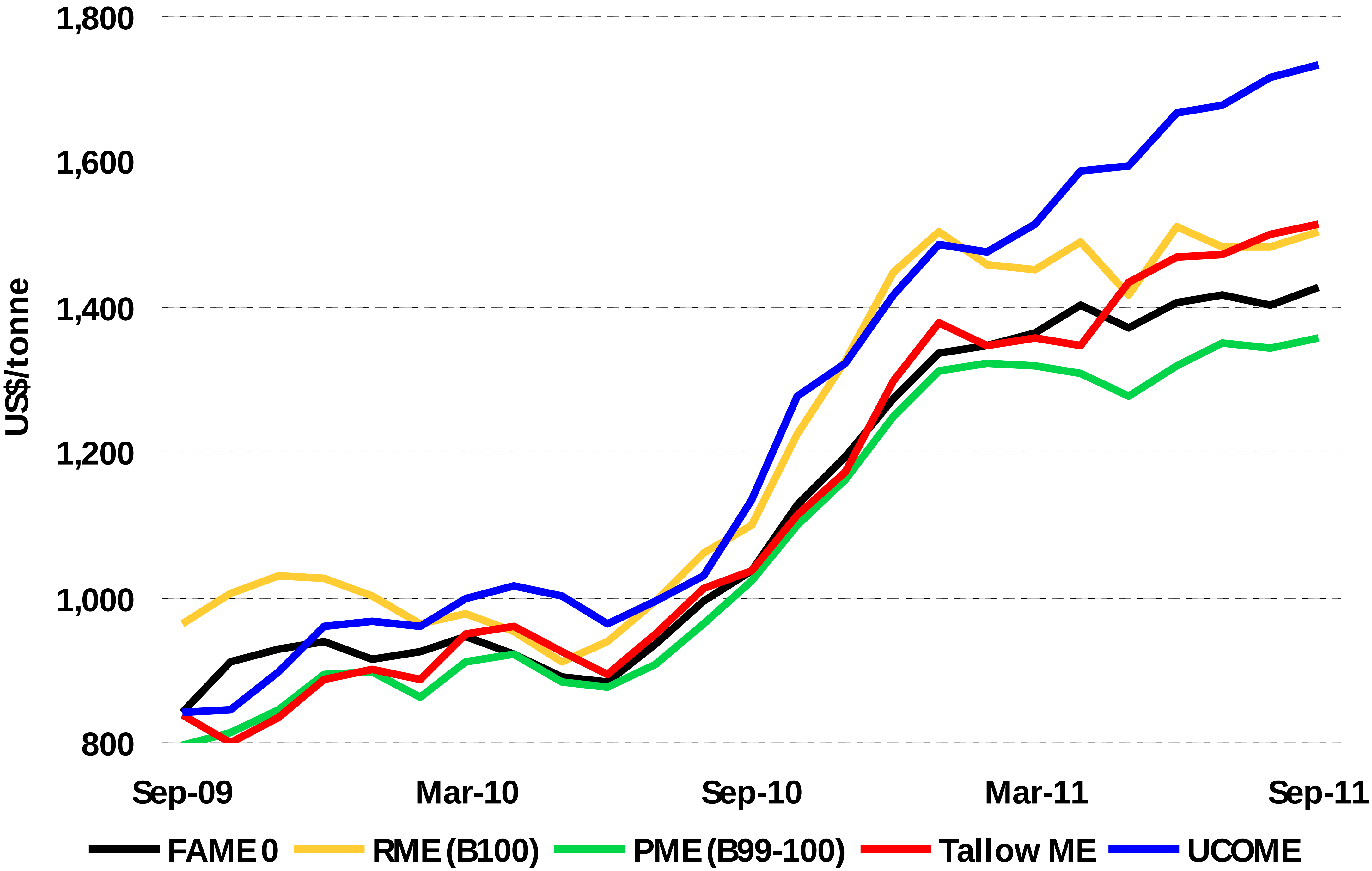
•**US position** – tallow rated better than vegetable oils on greenhouse gas emissions.

•**European position** – tallow gets a double tax benefit for biofuels in some countries

•**Neste type technology** – can use any oil as feedstock (TO, PFAD, PS, Tallow, Soya, Rape)

Net effect -
In addition to the vast quantities of fats and oils taken from traditional uses , the price advantage of the cheaper feedstocks favoured by oleochemicals will be prejudiced and some may just disappear

In the EU biodiesel market, used cooking oil methyl ester is now by far the most expensive, with tallow ME just ahead of rapeseed ME.



Glycerine Price - Biodiesel effect

- Long term low prices due to massive volumes from biodiesel
- New uses only stop this being an absolute disaster
- Too high prices turn off new uses
- Rapid price cycling as non-traditional uses come on and off due to price fluctuation

Historic glycerine production volumes, by sector, 1980-2010

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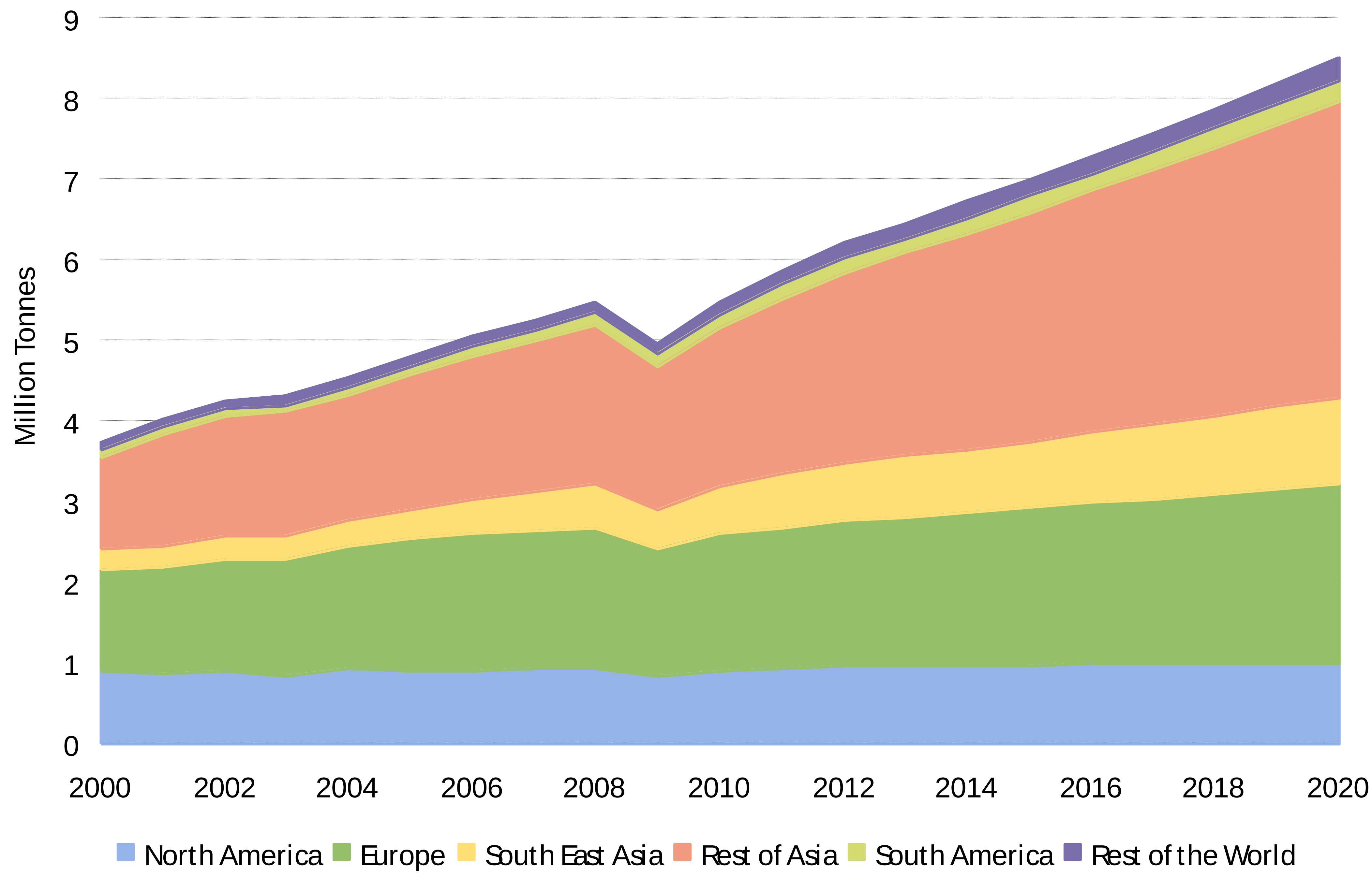
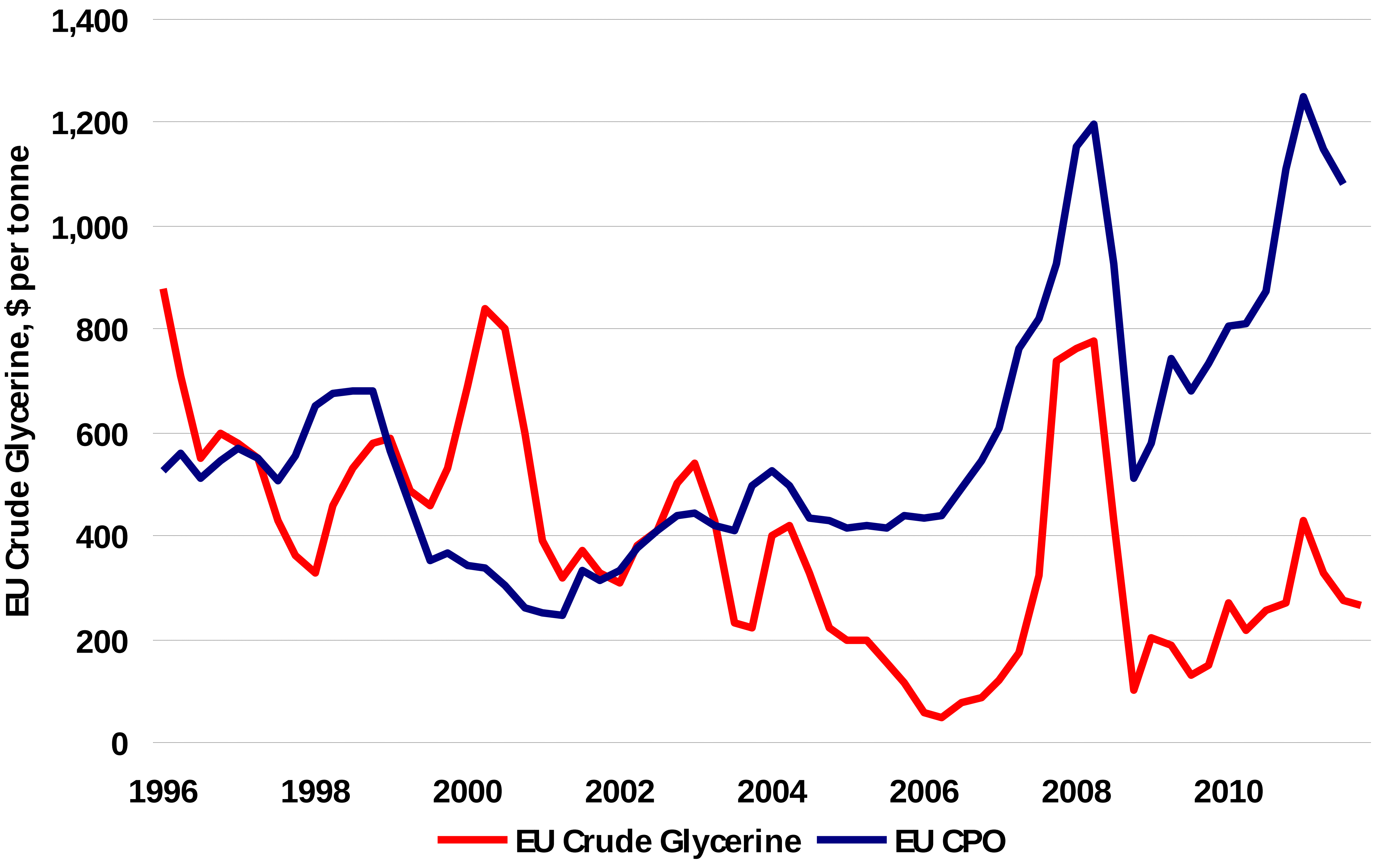
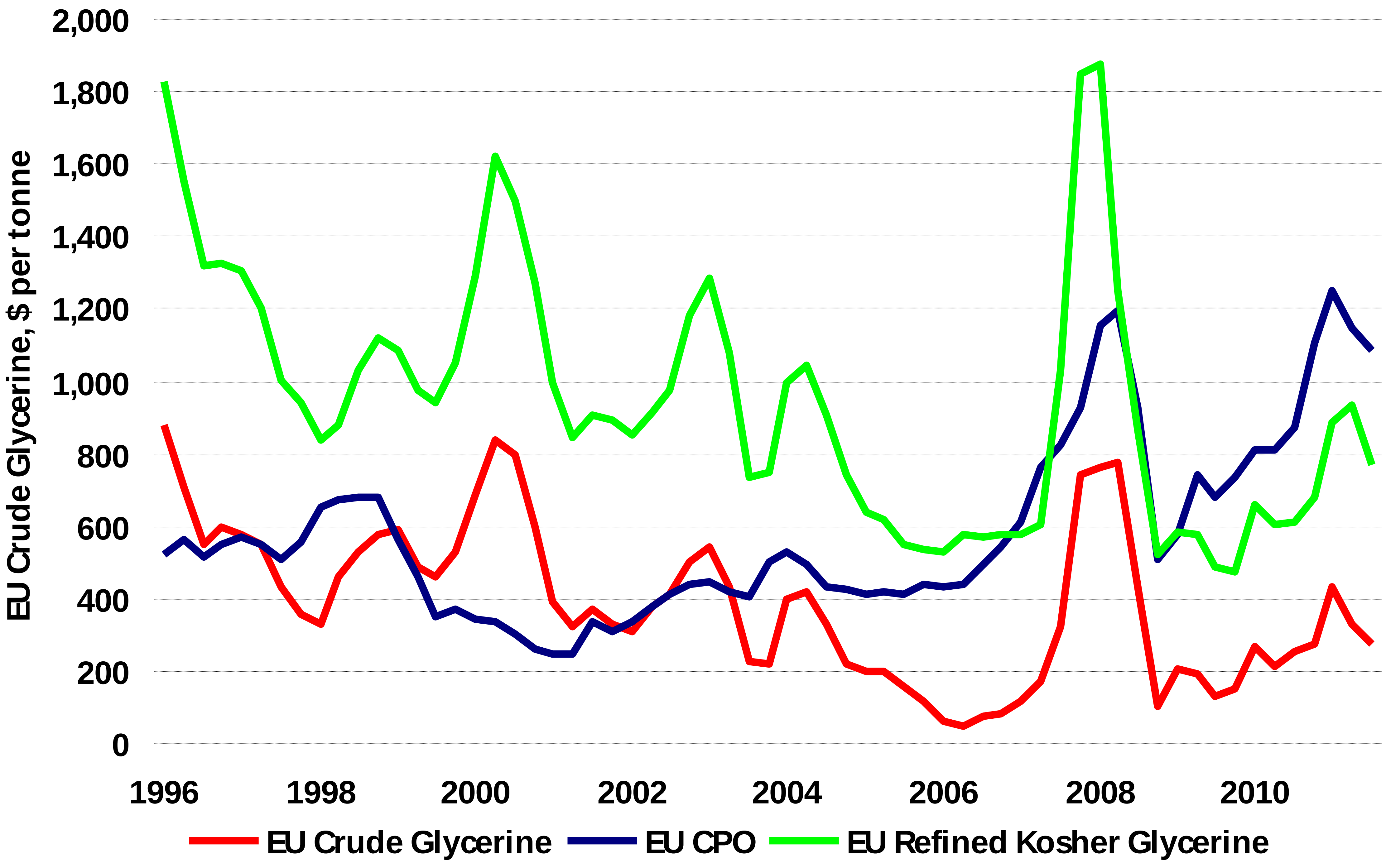


The biodiesel production growth has kept crude glycerine prices in check, when other commodity prices have been strong.



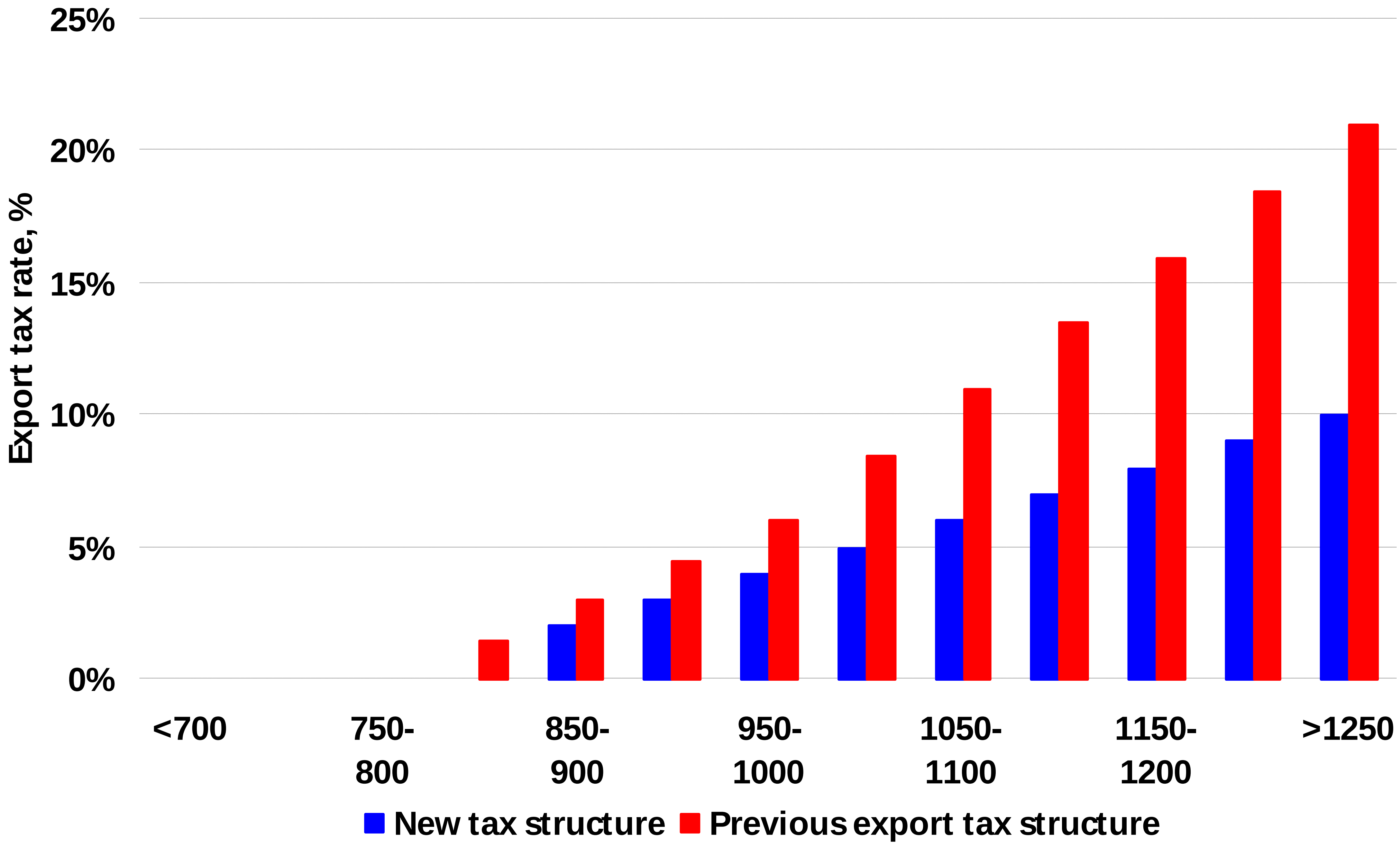
Refined glycerine has settled at a premium of over $400 above crude glycerine prices, and have now fallen well below CPO prices.



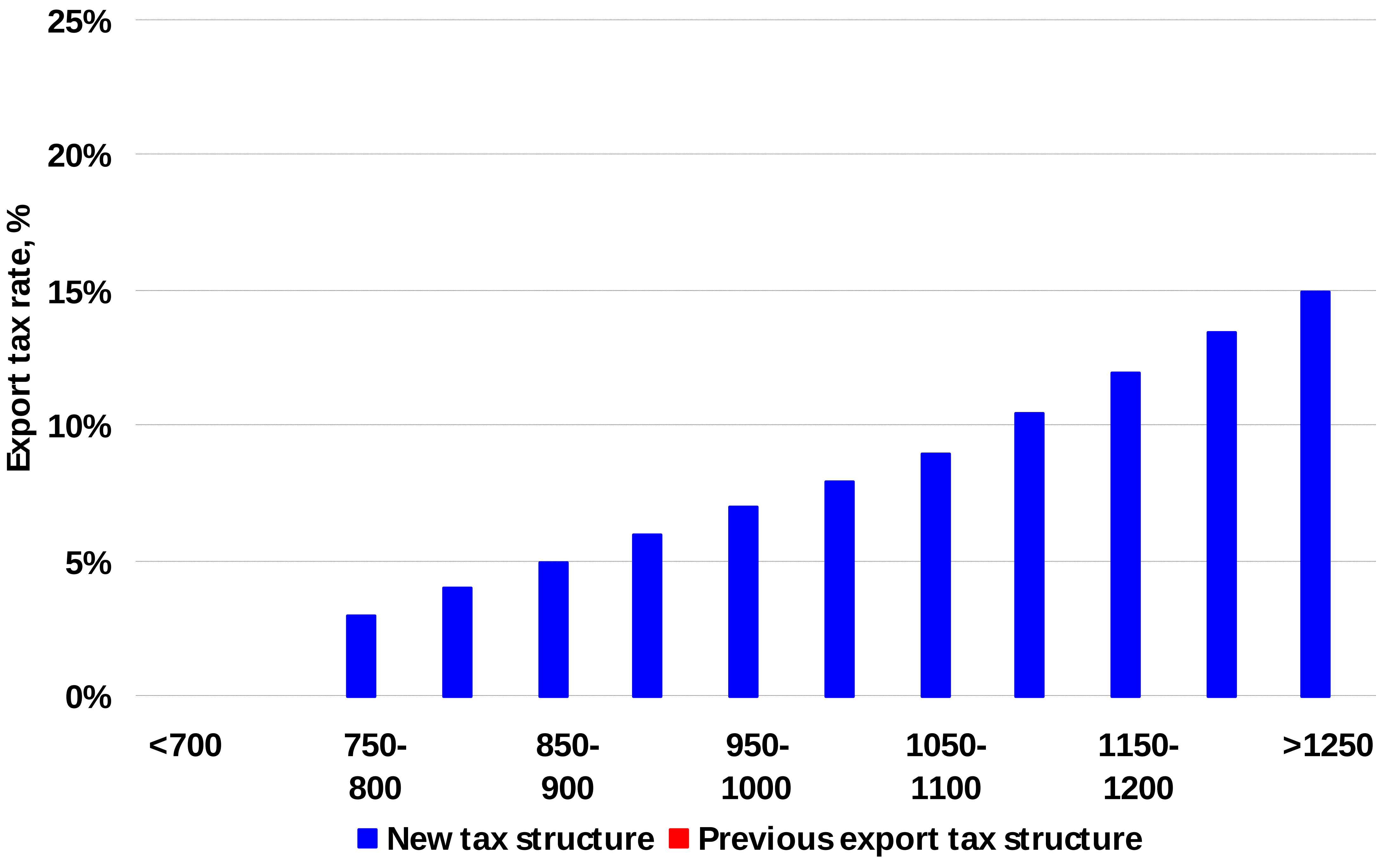
Indonesian Export taxes

- Keeps a cost advantage for domestic industry
- Disadvantages the rest of the world
- Will there be retaliation? (Import duties, anti-dumping taxes, quotas)
- Unnecessary capacity may be built in Indonesia causing spare capacity elsewhere (on a global basis)

The new Indonesian export tax system has reduced the export taxes on RBD palm stearin by approximately half



At the same time, the Indonesian government has introduced relatively high export taxes on PFAD, after a long period with no such taxes



Anti – Dumping Duties on Alcohols

- Formal complaint by two European producers
- EU puts variable anti-dumping tariffs on Malaysian, Indonesian and Indian producers
- A number of the affected producers claim not to have shipped alcohol to the EU in the period in question
- One complainant has now withdrawn

Users are upset, producers are upset

Sustainability Issues

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•Land use, Raw materials, Pipeline, Storage, Traceability, etc.

•But does the ultimate consumer really want it?

NO, the ultimate consumer wants no more deforestation and safe raw materials, doesn’t care about the rest and certainly doesn’t want to pay for it

•For oleochemicals the danger is being hijacked by the edible/biofuel industry problems

What's next?

- Geographic expansion? - Indonesia, China, India, South America
- Contraction? – US, Europe
- Downstream activities? - surfactants, consumer products.
- Green chemistry - new ways of making chemicals from natural sources.

An explosion of new names, along with some familiar players…

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DuPont Tate & Lyle BioProducts
metabolic explorer
GALACTIC THE NEXT NATURE
Cargill
verdezyne™
GENENCOR® A Danisco Division
DSM BRIGHT SCIENCE. BRIGHTER LIVING.
ADM
VIRENT
NatureWorks LLC ingeo: ingenious materials from plants not oil
Rennovia
Cobalt Technologies
rivertop™ RENEWABLES
VINYTHAI
wheatoleo
AMYRIS
Cereplast®
CODEXIS®
LS9, INC.
ROQUETTE
Inventure
genomatica
BASF The Chemical Company
solazyme
gevo
Metabolix Bio-Industrial Evolution
SOLVAY
purac pure by nature
AVANTIUM research & technology
futerro
DOW
Draths™ CORPORATION
BioAmber GREEN TECHNOLOGIES
CATHAY INDUSTRIAL BIOTECH
MYRIANT
GlycosBio® RENEWABLE BIOPRODUCTS
uop A Honeywell Company
Braskem
Segetis
Elevance RENEWABLE SCIENCES
BioH®
opxbio™ good chemistry.
TIANAN BIOLOGIC Creating Value From Nature
ZeaChem

Thank you for your kind attention

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