

The impacts of the EU Biofuels sustainability scheme in bioethanol markets

Energy and Climate Studies
Dept. of Energy Technology
School of Industrial Engineering
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The division of Energy and Climate Studies (ECS) has an interdisciplinary character with a strong systems approach, linking issues related to energy technology and policy, climate change and sustainable development.



At present, ECS works with three defined research themes:

- bioenergy systems,
- rural electrification, and
- energy and climate policy.

These are some of the central research questions at ECS:

What solutions can be pursued globally and regionally?

Which of them will lead to sustainable development?

What are the solutions that will lead to mitigation and adaptation to climate change while also promoting sustainable development?

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Is it a good deal to tank your car with ethanol (E85) ?

Asking this question in Brazil and Sweden, to which results do we get?



First phase: Price dynamics and economic sustainability of ethanol

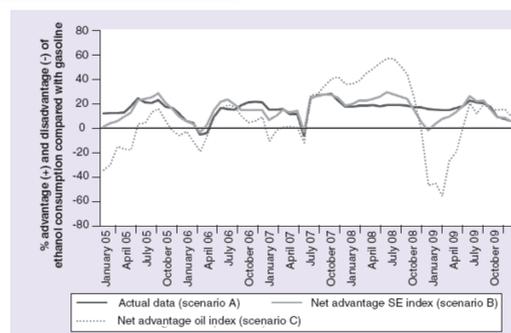
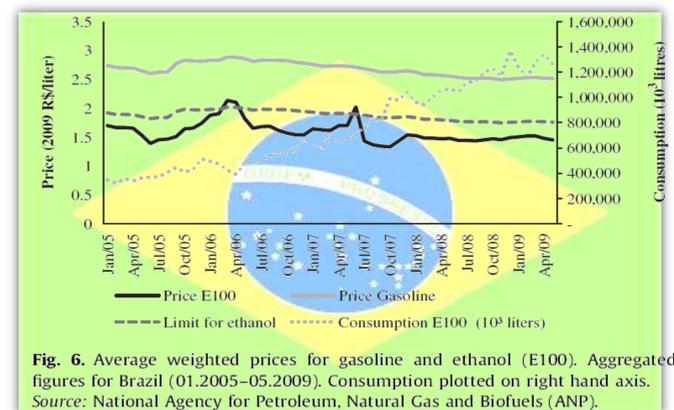
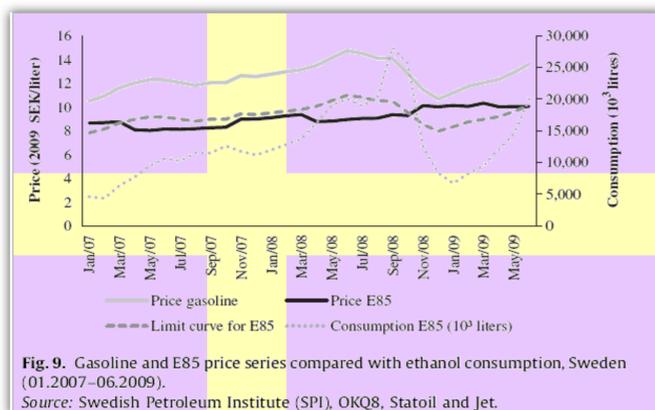


Figure 7. Net percentage advantage of ethanol usage in three price scenarios (January 2005-December 2009). Notice the low deviations from the average for scenario A and highest for scenario C.

Next steps:

Expected papers:

•Background of biofuels and sustainability from an entropy perspective, comparing with EU policy efforts. Aimed publication date: First semester of 2011.

•Review of European biofuels policy. Aimed publication date: Second semester of 2011.

CONTACT INFORMATION



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Preliminary findings

Brazil and Sweden both have infrastructure for high fuel ethanol blends.

Flex-fuel vehicles enable competition between ethanol and gasoline in fuel markets.

Data suggests that consumers make their fuel choice based mainly on prices., not on environmental considerations.

Consumers in Sweden appear to be more price-sensitive than their Brazilian counterparts.

In the absence of international markets, high ethanol prices may drive consumers back to gasoline.

Sustainability certification might exert impact on prices, making the market feasibility of ethanol more delicate.

Inferring from the scenarios and from the observed reduction in ethanol consumption in Sweden, price stability seems to be a relevant aspect to be pursued for the successful adoption of a high blend of ethanol in new markets.

References

Pacini, Henrique. Silveira, Semida. (2010) Consumer choice between ethanol and gasoline: Lessons from Brazil and Sweden. Available online at *Energy Policy*.

Pacini, Henrique. Silveira, Semida. (2010) Ethanol or gasoline? Consumer choice in face of different fuel pricing systems in Brazil and Sweden. *Biofuels* vol 1, issue 5. pp. 685-695.

