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## Sustainability Accounting and Management Policy Journal Call for papers

### **Sustainability Accounting for the Industrial Use of Biomass**

Joint Guest Editors

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The environmental impacts of oil use are increasing due to rising petrol, kerosene and oil consumption, more risky exploration of oil in the deep sea, high polluting technologies such as oil sand extraction and an increasing oil tanker traffic in shallow waters and politically unstable regions.

This, together with the prospect of decreasing oil reserves, has led to the development of plant oil based oil products, i.e. biofuels such as bioethanol, biodiesel, biokerosene, or palm oil fat, soy oil feed, etc. and the vivid discussion in public and among politicians to promote biofuels. The European Union for example aims to meet various biofuel related goals such as a 10% blend of “sustainable, second generation biofuels” by 2020 (EU-RED). Australia is still formulating policy and will release an Energy White Paper in the next 12 months for public comment and finalisation during 2012. In the US, federal agencies are committed to purchase alternative fuels for ground and air transport with lifecycle greenhouse gas emissions “less than or equal to such emissions from the equivalent conventional fuel produced from conventional petroleum sources” (US EISA). Similarly, the commercial aviation industry is seeking low carbon alternative fuels to meet IATA’s voluntary commitment of “carbon neutral growth” beyond 2020 as well as emission reduction obligations required by the sector’s inclusion in the EU’s ETS from 2012. Plant oils, such as palm oil, soy oil or rape seed oil, have furthermore “conquered” the global food and cosmetic production systems with the effect of fast growing monocultures developed on clear-cut rain forest land in Brazil, Indonesia and in many other countries.

In the context of this discussion, biofuels have been heavily criticised for not necessarily guaranteeing positive ecological or social benefits. On a large scale, the production of plant-oil based biofuels and oil products may cause severe agricultural problems through monocultures, clear cutting rainforests, the use of fertilizers, pesticides, etc. Furthermore, conflicts have been reported between agribusinesses, local communities and smallholder farming production systems discussed under the term of “fuel versus food” and “land grabbing”. In response to these threats, numerous sustainability certification schemes and guidelines have emerged from both government and non-governmental actors, leading to a complex set of regulations and voluntary measures.

It is thus timely to take a closer look at the relevant factors which influence whether and under which conditions and with which production systems biofuels can actually create a real contribution to a more

sustainable or less unsustainable oil based production (e.g. of food, cosmetics) and service provision (e.g. air, sea, and ground transport). The measurement of the contribution towards greater sustainability or to the further destruction of ecosystems and desirable social impacts is at the core of sustainability accounting.

Accountants are therefore faced with a new set of challenges that mean they will have to account for and communicate the issues faced by sustainable plant oil production for key stakeholders: airlines, food industry, cosmetics industry, governments, fuel supply chains, and the agricultural community will all shift their strategies and thinking in such a dramatic way that it has never been widely appreciated before.

Conventional and other accounting systems, internal and external will be faced with unprecedented measurement challenges, both physical and monetary. Management accounting and environmental management accounting (EMA) will be critical tools required to provide internal accounting for managers, business associations, non-government organizations, international organisations and governments in order to identify, measure, accumulate and prepare information that assists stakeholders in decision making about the new area of accounting for biofuels and plant oil. Here, issues of units of measurement, data quality and its sources will emerge for all stakeholders which cannot be neglected if purpose-orientated information is to be provided.

Despite the potential benefits of alternative fuels and plant oil as a basis for industrial production, there is a lot of unease with considerations such as food-pricing, land and water use dominating first generation plant oil and biofuels considerations. Lifecycle assessments have indicated more than a 70% improvement in emissions contingent on good land use practices, as well as dramatic improvements in reliability and consistency of pricing. All stakeholders, especially governments, need not only take seriously the potential for alternative fuels and plant oils, but also quickly eliminate any social and environmental risks, such as unsustainable oil tree and oil plant production systems.

Clear accounting approaches and methods for the benefits to variable and fixed costs and revenues and social and environmental issues faced by airlines and car manufacturers as well as the food and cosmetics industry, their suppliers, customers, farmers and regulators is a necessary means to a global sustainable economy, supported of course by a clean and green focus by the accountancy profession. Furthermore, accounting for sustainability performance is critical because if biofuels and plant oil production systems are not confirmed to be sustainable national and international public policies would be challenged to redesign current paths of development.

Issues to be addressed in papers could include, but are not limited to:

- Sustainability accounting, accountability and reporting of plant oil production and related agricultural systems
- Supply chain issues in the production of biofuels and plant oils
- Case studies and empirical analysis of plant oil and biofuels
- Comparison with conventional fuels, oils and fats
- Analysis of fuel versus food issues, or large agribusiness versus smallholder farming issues, etc.
- Methodological issues of sustainability performance measurement, accountability and reporting
- Stakeholder issues in the assessment and reporting of the sustainability of biofuels and plant oils
- Accounting for changes and design of social systems related to biofuels and plant oils
- Environmental impact assessment, including LCA, LCC, EMA and other methods
- Comparative case studies with biofuels and plant oils used in transportation (including aviation, shipping and road transport), or the food and cosmetics industry
- Assessment of emerging sustainability certification systems and their relevance for EMA