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--- by email only ---

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Dear Vice-President Timmermans,

In our letter of 19 December 2019, we introduced the European Academies' Science Advisory Council (EASAC) as the conduit for Europe's academies to give scientific advice to inform EU policy for the benefit of society. We briefly introduced our work and expressed our wish to continue to support the development of future EU policy based on sound science.

With the Green New Deal a high priority, EASAC's recent work is highly relevant to two central actions in the EU roadmap relating to the role of bioenergy in achieving the EU's renewable energy targets.

1. Regarding the action "*comprehensive plan to increase the EU 2030 climate target to at least 50% and towards 55% in a responsible way*", our analyses over the last three years show that taking account of recent science is essential if we are to ensure that such targets are to be met **in a responsible way**.

We, and many others, have noted the dominance of forest biomass in allowing member states to achieve current renewable energy targets, with conversion of coal-fired power stations to biomass pellets an expanding trend. Due to the accounting rules and the gross oversimplification of the forest carbon cycle embedded in the presumption of 'carbon neutrality', emissions from biomass combustion are treated as zero. In reality however, this switch increases atmospheric levels of carbon dioxide for periods which are too long to make any contribution to meeting Paris agreement targets. Reliance on such methods thus increases the risk of accelerating the feedback loops which lead to dangerous climate change. At the same time, there are concerns in several EU member states, as well as other countries such as the USA and Canada, over the loss of forest stock and the damage to biodiversity caused by the associated forest removal. Yet this damaging practice is fully consistent with the Renewable Energy Directive (RED).

Furthermore, large subsidies allocated to such projects have diverted public support from more effective renewable energies (solar, wind etc.) which reduce atmospheric levels of CO₂ in a short timeframe. Any attempt to achieve even current renewable energy targets (let alone the enhanced targets proposed in the Green New Deal) must address this serious mismatch between the RED's objective of reducing atmospheric CO₂ levels and the reality of what is being achieved.

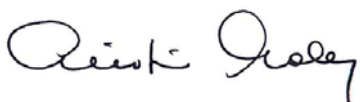
The critical factors here are scale and location. When the original RED was drawn up, the model on which the regulations were based visualised residues from sustainable forestry as the primary local

source of biomass. For large scale use in power stations however, the quantity of residues is not only insufficient but residues cannot meet the quality criteria for power station feedstock. The current biomass pellet industry thus has to rely on stem wood (typically over 80%) requiring felling of additional timber. This reduces forest carbon stock in addition to the emissions associated with transport to the mill, drying, pelleting and shipping over thousands of kilometres. The net effect is that emissions of CO₂ across the supply chain per unit of electricity generated are higher than from the coal replaced, and overall effects on climate change are negative for decades. It is thus of great concern that, if current conversions now being considered were to be implemented, this would have major impacts on Europe's forests and their biodiversity, while exacerbating climate change. If the Green New Deal is to increase targets *in a responsible way*, it requires an urgent review of the role of biomass in meeting renewable energy targets. While our work has focused on the use of forest biomass in coal conversion projects, the inherent error in assuming 'carbon neutrality' drives other climate damaging projects (e.g. burning palm oil or converting forest to 'biodiesel').

2. The EU roadmap includes reviewing the "*Emissions Trading Scheme (ETS) and Land use, land-use change and forestry (LULUCF) reporting*". The primary reason why biomass conversion has been so attractive is the ability to rate its emissions as zero for the purposes of the ETS. This is based on unintended consequences of the UNFCCC accounting rules which the IPCC has recognised as making it impossible to assess the net carbon impacts of bioenergy projects. The planned review of the ETS should reform reporting rules to relate properly to overall climate impacts. At present, some EU states typified by Estonia and other Baltic states are removing forest to provide biomass pellets to be exported to other member states (e.g. Netherlands, Denmark and the UK). The importing member state currently receives the advantage of zero emission under the ETS; the exporting country is losing carbon stock which should ultimately be reflected on its LULUCF reporting. But the segregation in this accounting system does not allow the overall impact on atmospheric CO₂ to be quantified. The system is thus not transparent; moreover, it does not allow regulations to be adjusted to ensure that their basic objective of mitigating climate change can be met. Reforming the ETS and LULUCF regulations should aim to make the revised procedures transparent and also remove the incentive to promote climate negative actions by exploiting accounting loopholes.

In summary, we have published extensively on these and other related issues and can help inform the development of the Green New Deal. We remain committed to assisting the Commission in achieving its vitally important objectives.

Yours sincerely,



Professor Christina Moberg
President, EASAC
Past President, Royal Swedish Academy of Sciences

Publications list:

- GCB (Global Change Biology) Bioenergy M.Norton et al: [Serious mismatches continue between science and policy in forest bioenergy](#), August 2019
- [Forest bioenergy, carbon capture and storage, and carbon dioxide removal: an update](#), February 2019
- [Commentary on Forest Bioenergy and Carbon Neutrality](#), June 2018
- [Multi-functionality and Sustainability in the European Union's Forests](#), May 2017

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