Summary of key opportunities and concerns

Tat Smith
University of Toronto, Canada
&
IEA Bioenergy Task 43 'Biomass Feedstocks for Energy Markets'

Overview of opportunities and constraints of a wood-based pellet-industry in the southeastern United States

Southeast United States Bioenergy Study Tour
Oak Ridge, Tennessee

11 April 2016

Key points to be made:

- Importance of stable policy incentives that create significant markets and are underpinned by rigorous science

- Importance of inter-sectoral linkages & coordination among gov't agencies

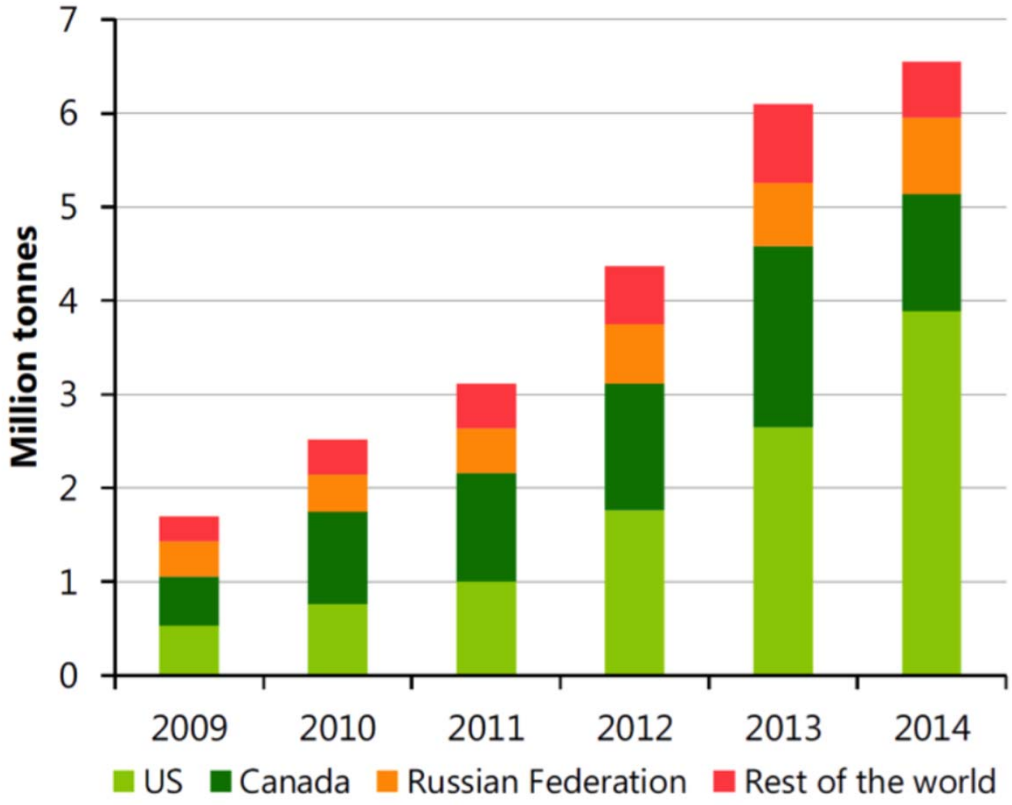
- Wood pellet trade can be an important and sustainable market sector for the SE US.
  - Noting benefits to: NIPF landowners, breadth of competitive markets, active forest management, forests have value, expansion of the forest estate, GHG balances

- Current polarized discourse limits potential

- Opportunities for integrated landscape design and management
  - incl. opportunities for achieving stakeholder consensus

Importance of stable policy incentives that create significant markets

Note significance of European incentives for growth of North American wood pellet exports e.g. EU 28 imports of wood pellets 2009-2014.



Source: www.BioTrade2020plus.eu; UNECE-FAO 2015

Importance of stable policy incentives that create significant markets

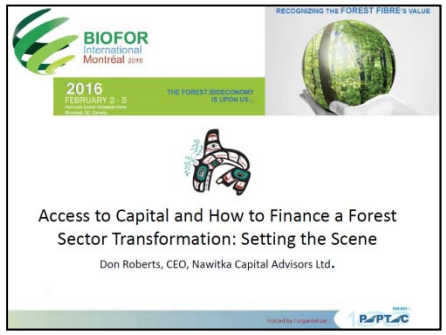
Points arising from Don Roberts' analysis :

- The power market will likely play some role going forward – especially in Combined Heat & Power applications.

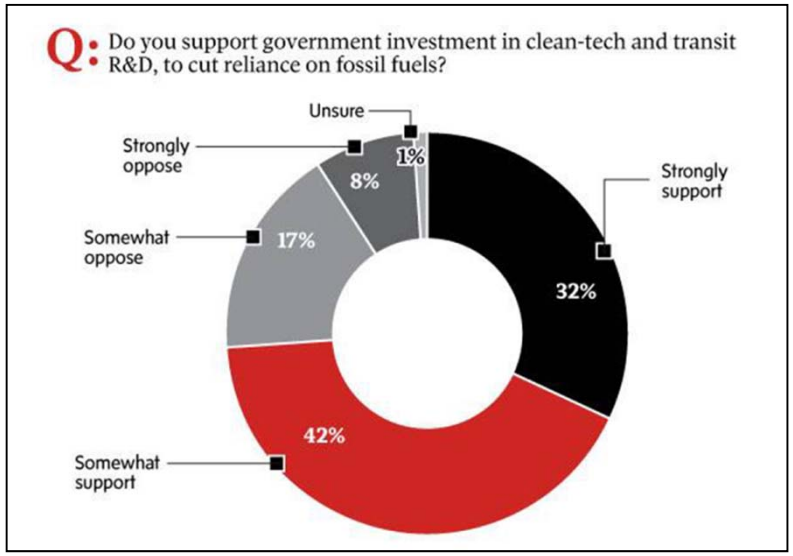
- However, generation of power is unlikely to play a central role in the transformation of the forest sector in North America.

- Need to focus on what is truly unique about biomass – its ability to produce things other than electrons (e.g., liquids, chemicals & advanced materials).

- **Note the importance of RFS2 on market development.**
- **Need to mitigate risk through gov't action – price on carbon, incentives.**

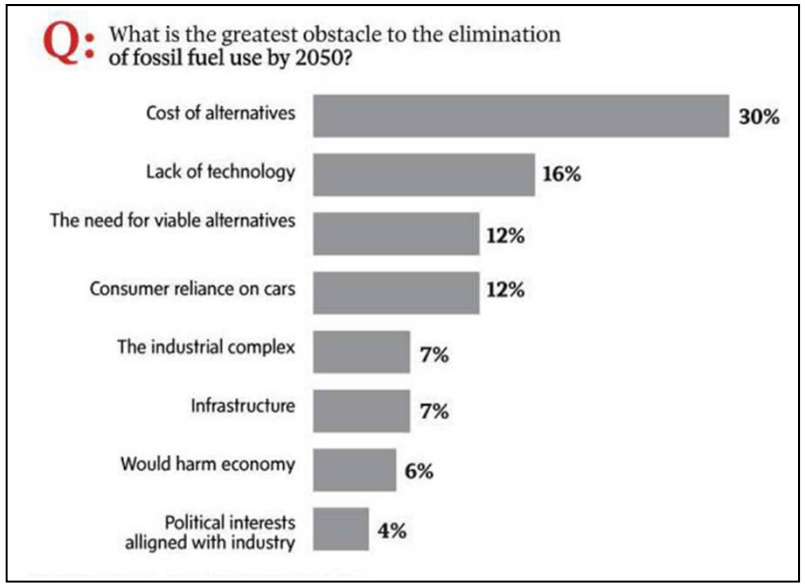


E.g. Canadian CEOs want governments to invest in clean-tech innovation



74% support

… and shy away from financial risk

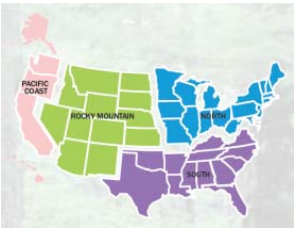


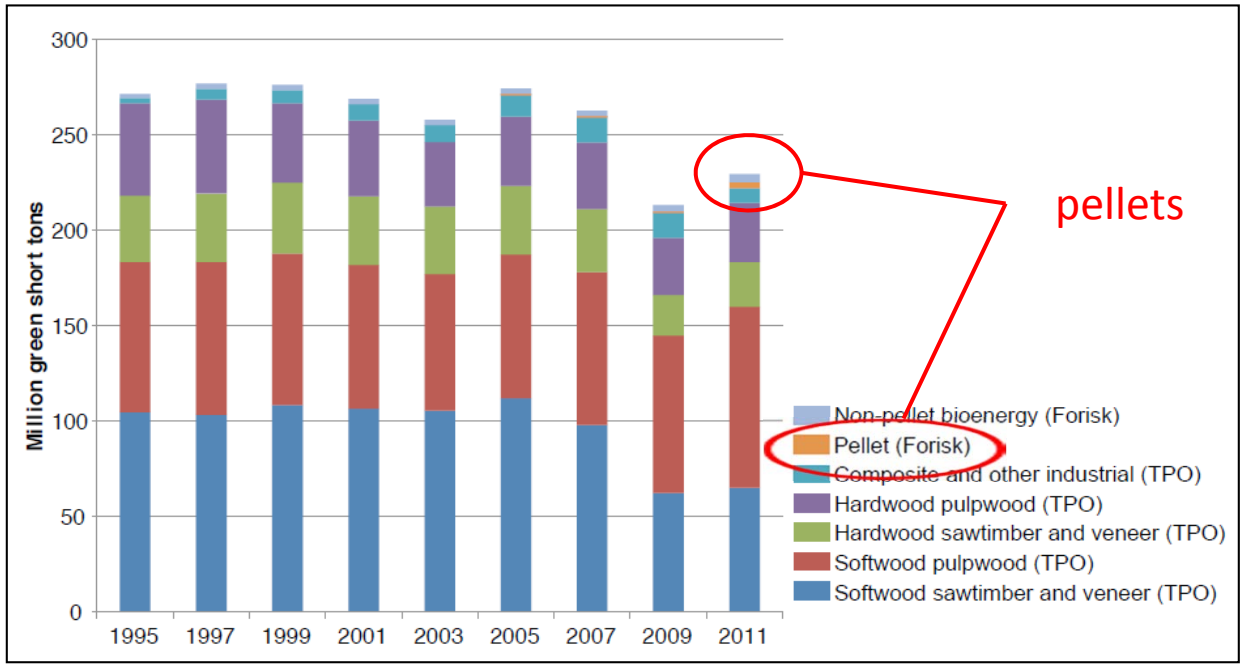
Cost of ‘alternatives’ to fossil fuels biggest concern

http://www.theglobeandmail.com/report-on-business/canadian-business-wants-government-to-invest-in-clean-tech-innovation/article29398955/

Importance of inter-sectoral linkages in forest sector response to market demand for pellets

- Traditional relatively high-value forest products dominate SE-US markets
  - Sawtimber, veneer & pulpwood
- Pellet markets are relatively small
- Pellet demand will probably not dominate forest management planning & operations



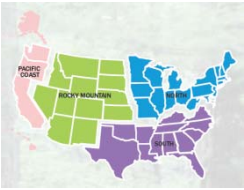


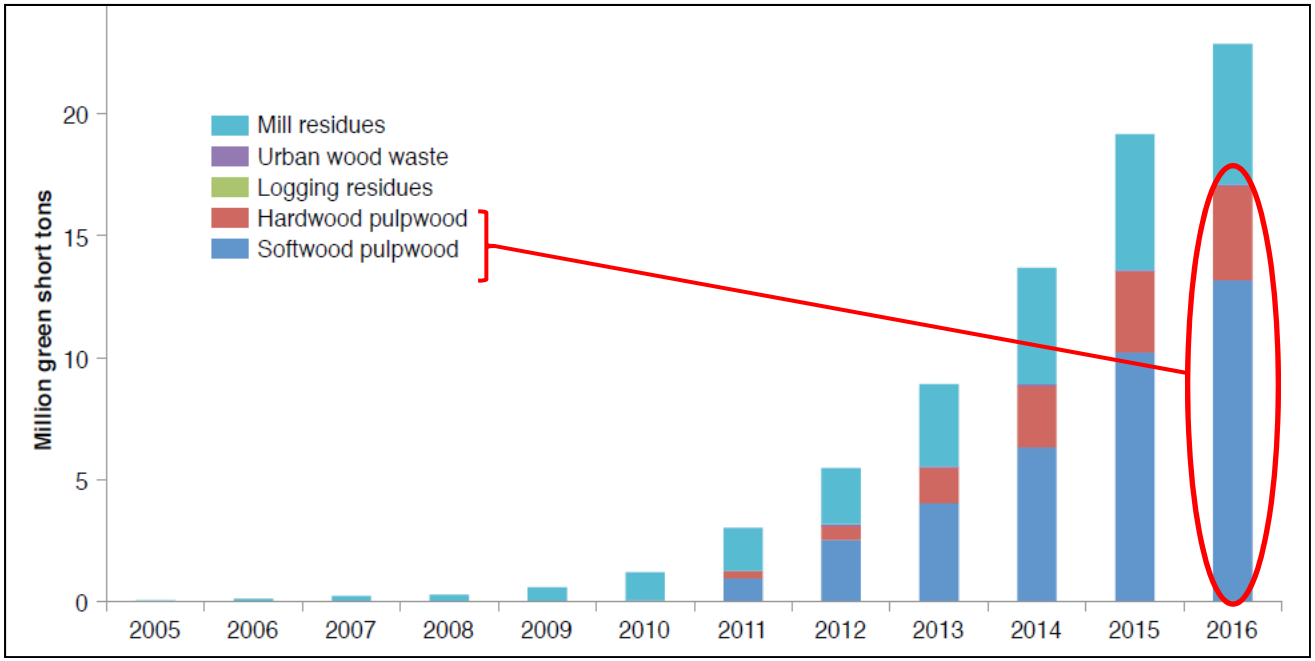
200 million green short tons = 181 million green tonnes

Source: Abt et al. 2014 GTR-SRS-202; http://www.srs.fs.usda.gov/pubs/gtr/gtr_wo091.pdf

Wood pellet trade can be an important and sustainable market sector for the SE US

- Some will be pleased with potential increase in demand for small diameter hardwood & softwood for making pellets, and some not very happy!
  - Non-industrial private forest (NIPF) landowners ☺
  - Pulp and paper industry ☹
  - ENGOs ☹





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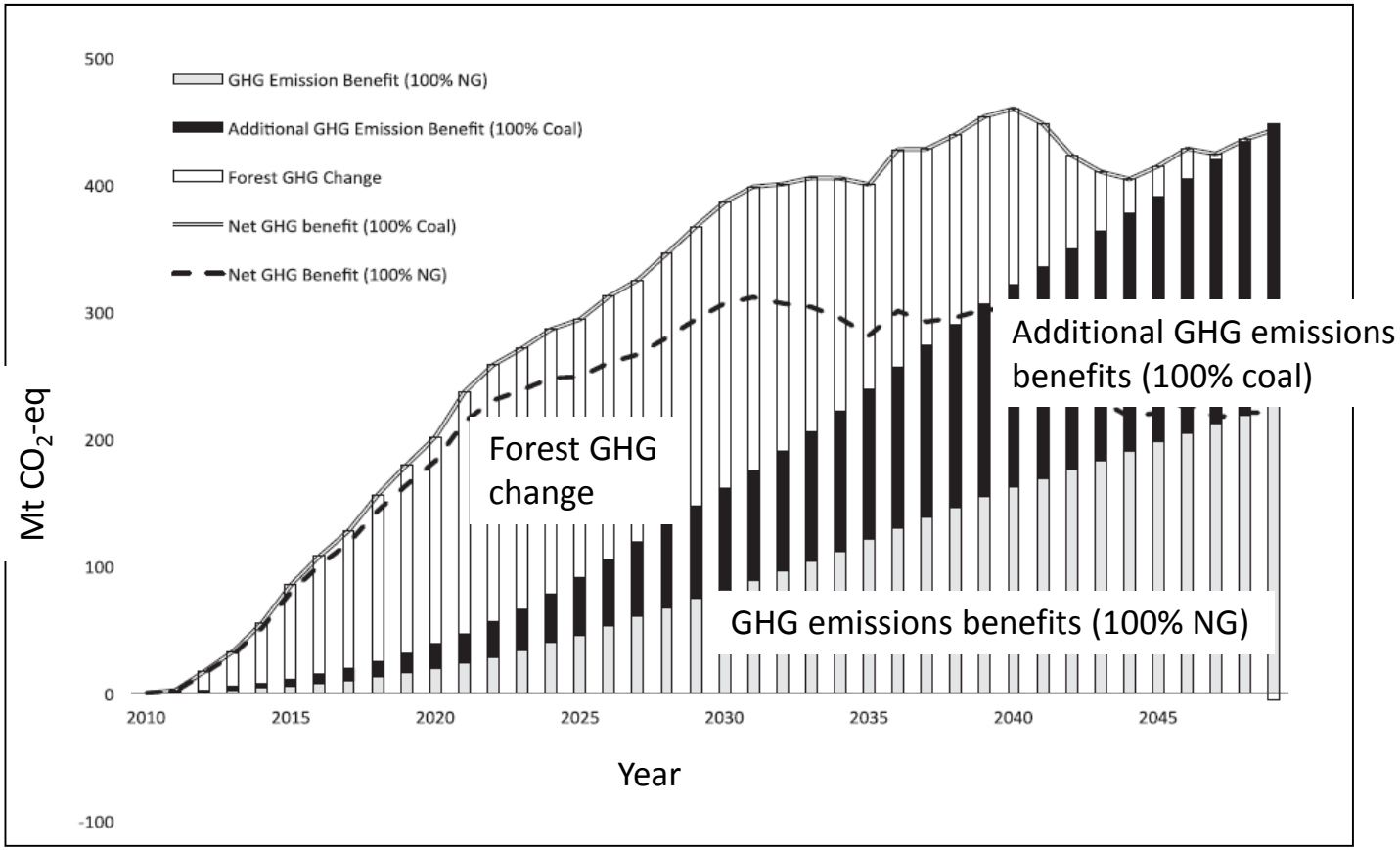
Wood pellet trade can be an important and sustainable market sector for the SE US

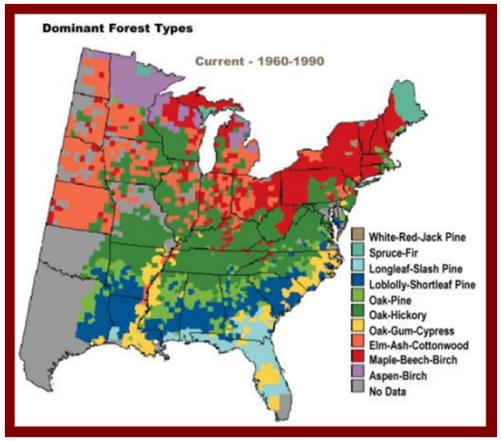
- Change in forest carbon is significant from a southern regional renewable portfolio standard (RPS) with estimate of displaced emissions
- Put a price on carbon!

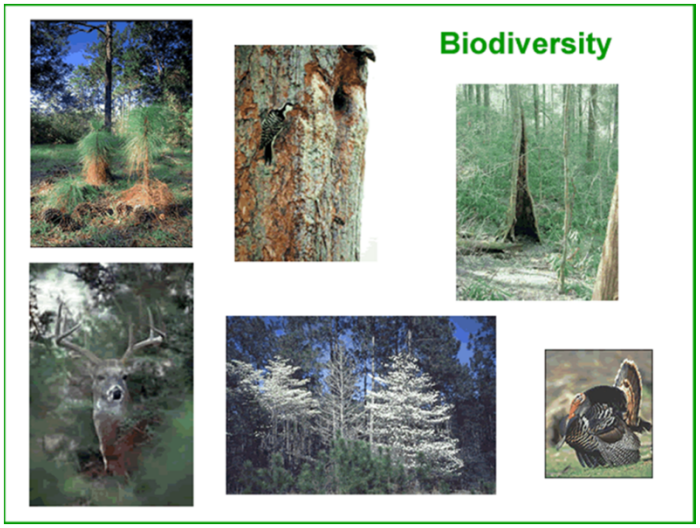


Source: Galik et al. 2015

Wood pellet trade can be an important and sustainable market sector for the SE US

- The SE US is blessed with rich diversity of physiography, habitats, flora and fauna
- Sustainable forest management, as practiced, intends to conserve biodiversity at stand to landscape and regional scales





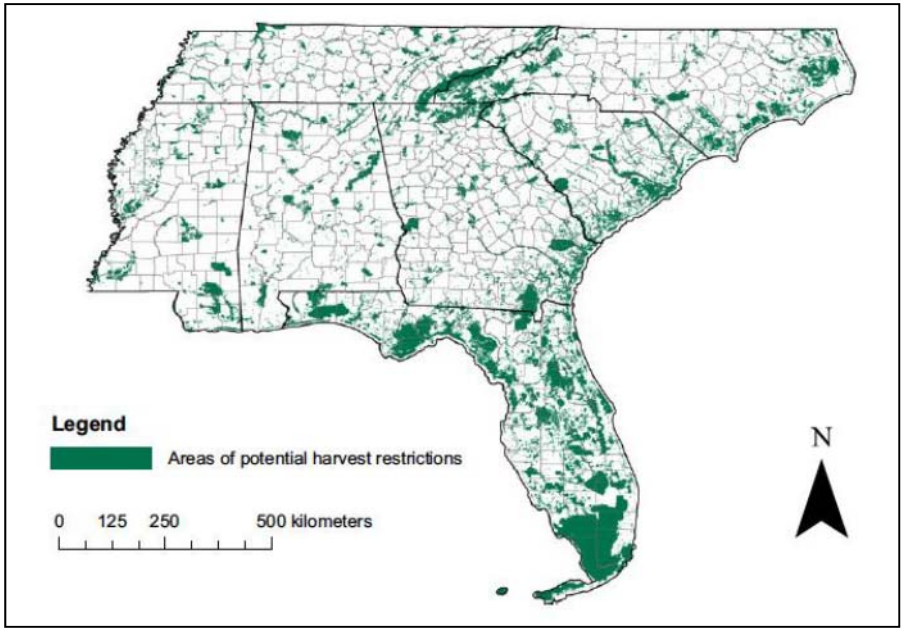
http://www.forestencyclopedia.net/p/p1268

Current polarized discourse limits potential

"There are some terrible cases in the United States where last vestiges of landscape, which weren't considered to be commercial because they were in a wonderful swamp and provided great biodiversity, were classified as waste and cleared for the purposes of biomass"

Source: http://www.examiner.com.au/story/3718012/plant-backing-highly-unlikely/

- What has become the 'word on the streets' is not true!
- Significant local, regional, national and int'l governance in place to sustain environmental, social and economic values, including protection of High Conservation Value or Protected Areas in SE US



Source: www.BioTrade2020plus.eu; Galik & Abt 2015

Current polarized discourse limits potential

Many factors contribute to polarization:

- Technical knowledge varies among stakeholders
  - e.g. meaning of residues, unmanaged forest, intact & primary forests

- Different opinions about how forest management & operations will respond to pellet demand
  - Often an unrealistic portrayal of forest sector practices and response to markets

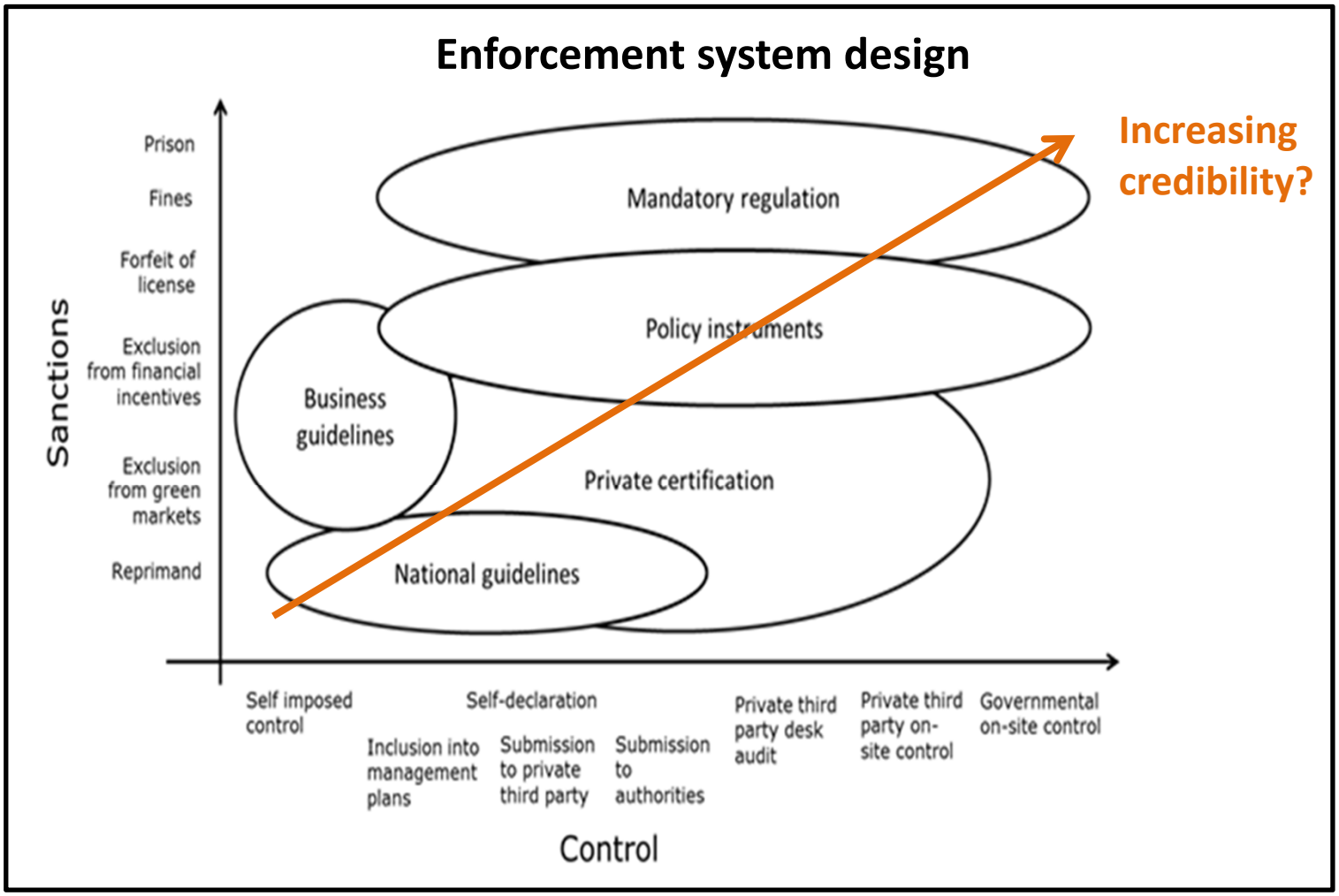
- Issues of trust and input/output legitimacy in development and implementation of standards

- Basic differences in world views and culture

e.g. Consider differences across 4 generations!

Current polarized discourse limits potential

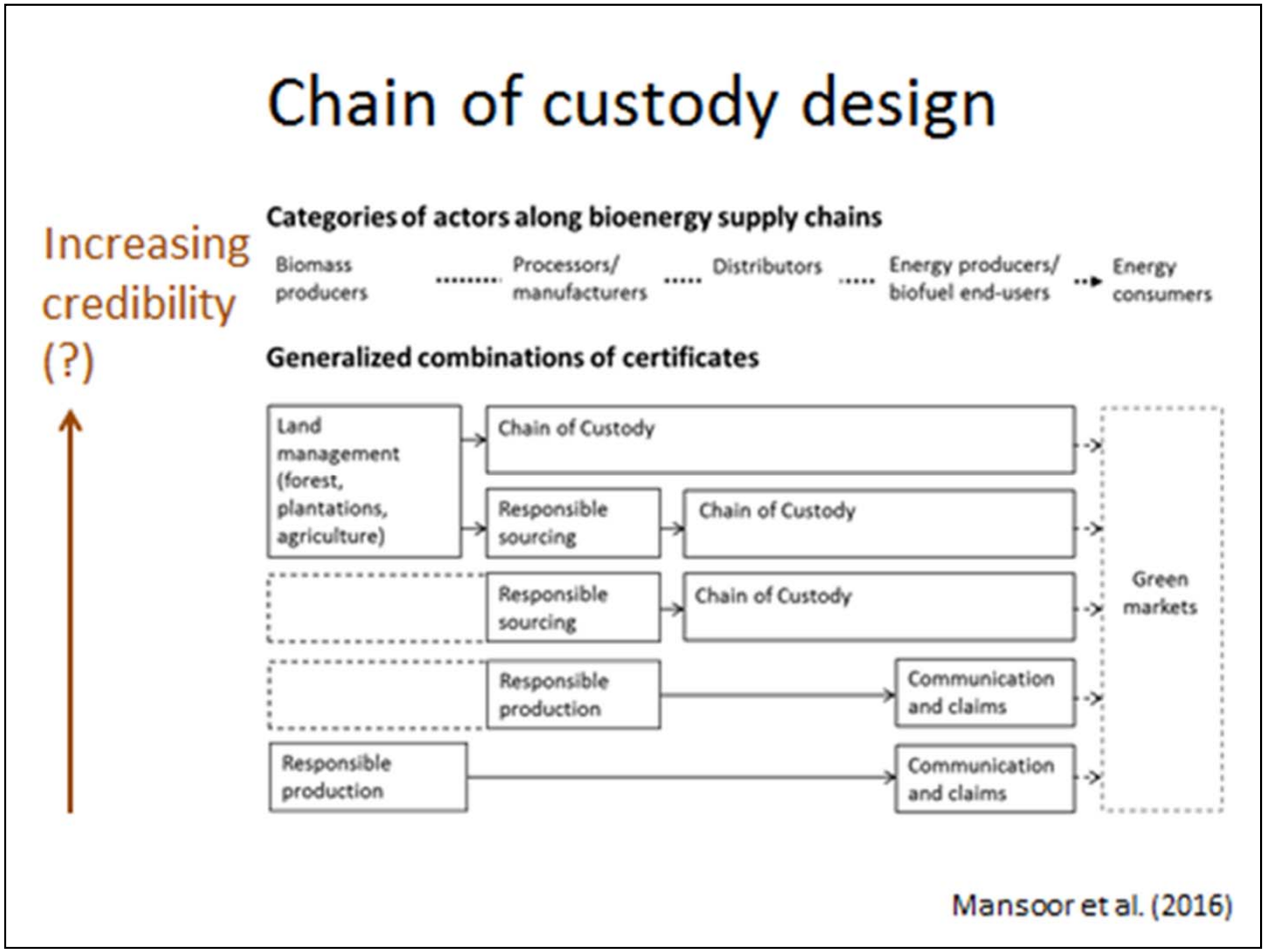
Some stakeholders only have confidence in strict control and harsh sanctions



Mansoor et al. 2016; after Stupak et al. 2013

Current polarized discourse limits potential

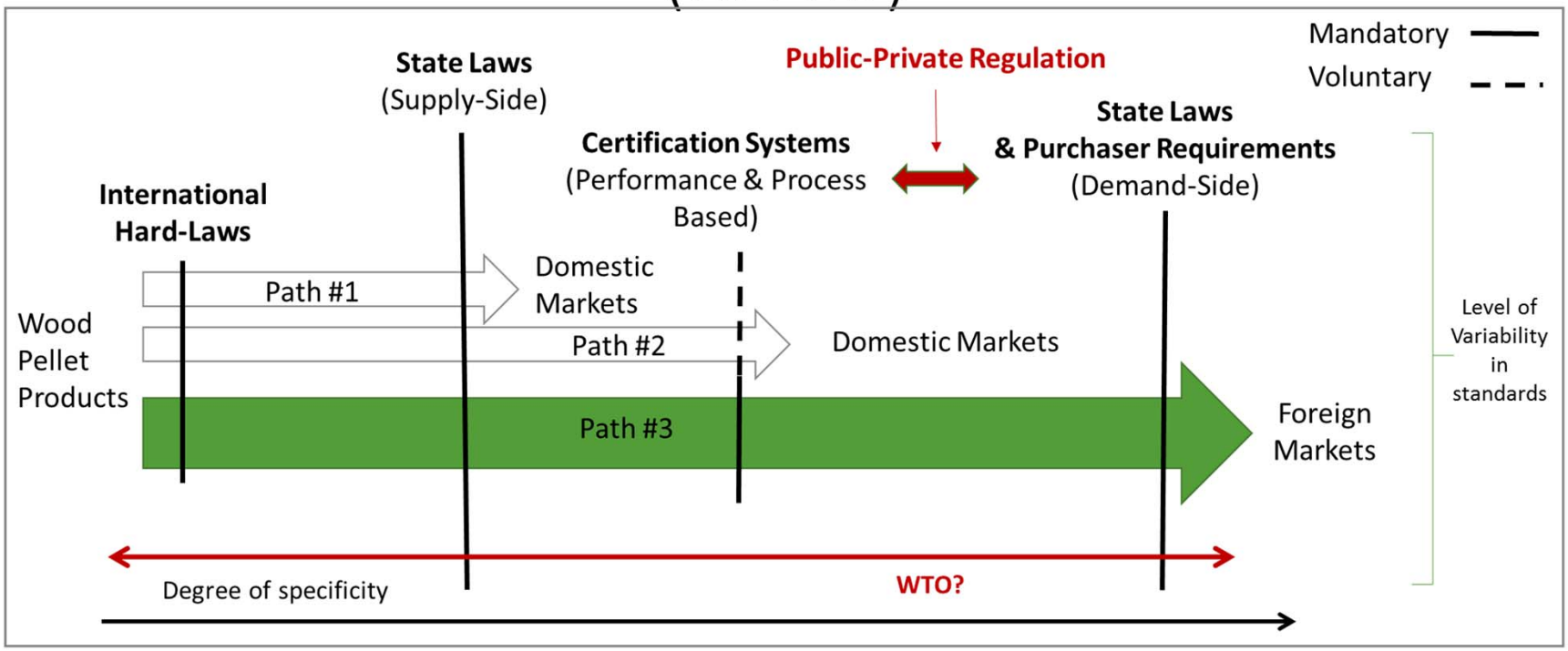
Some stakeholders only willing to accept claims of sustainability if feedstocks are certified as originating from SFM-certified forests



Current polarized discourse limits potential

- Urgent continuing need for rational, science-based trans-Atlantic dialogue to develop integrated governance for wood pellet trade
- There a need for further rationalization of bioenergy 'governance' mechanisms

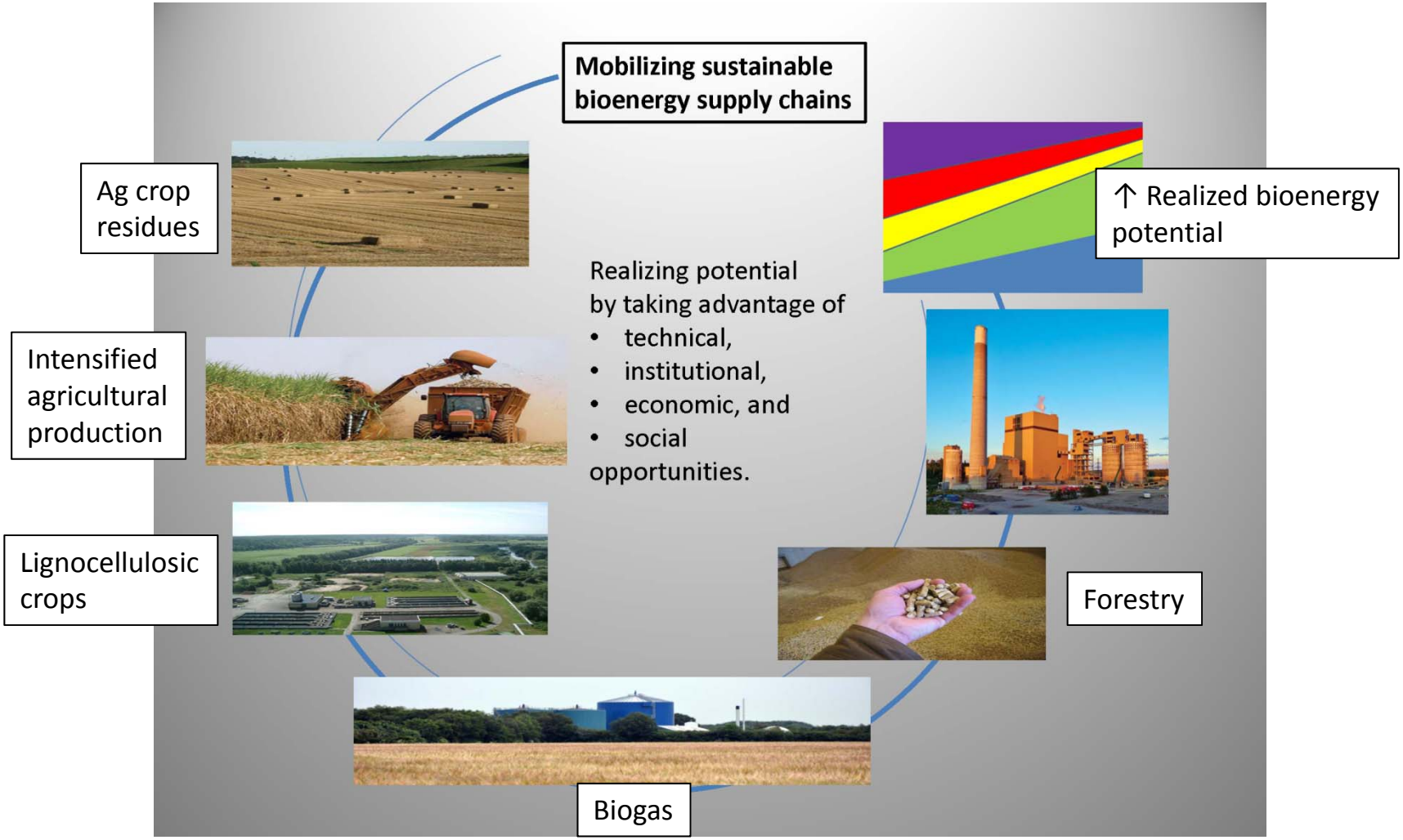
Solid Bioenergy Governance Spectrum (NA-EU)



Adapted from Murray et al. 2013; Mansoor et al. 2016
Data from: WPAC 2016 & StatsCan

Opportunities for integrated landscape design and management

- Requires coordination across ag, forestry, environment and energy sectors
  - incl. opportunities for achieving stakeholder consensus



Source: Smith et al. 2015

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Thanks!

Acknowledgements

For further reading:

- Mansoor, Maha, Inge Stupak and Tat Smith. Private regulation in the bioenergy sector. 2016. Chapter 17. pp. 406-438. In: Yves Le Bouthillier, Annette Cowie, Paul Martin and Heather McLeod-Kilmurray (Eds.). “The Law and Policy of Biofuels”. Publisher: Edward Elgar. Accepted for publication.

- Smith CT, Lattimore B, Berndes G, Bentsen NS, Dimitriou I, Langeveld JWA, Thiffault E, eds. Mobilizing Sustainable Bioenergy Supply Chains -- Inter-Task Project Synthesis Report. IEA Bioenergy ExCo: 2015:04 170. ISBN 978-1-910154-19-9 (printed paper edition). ISBN 978-1-910154-20-5 (eBook electronic edition). Available at: http://www.ieabioenergy.com/publications/mobilizing-sustainable-bioenergy-supply-chains /.