

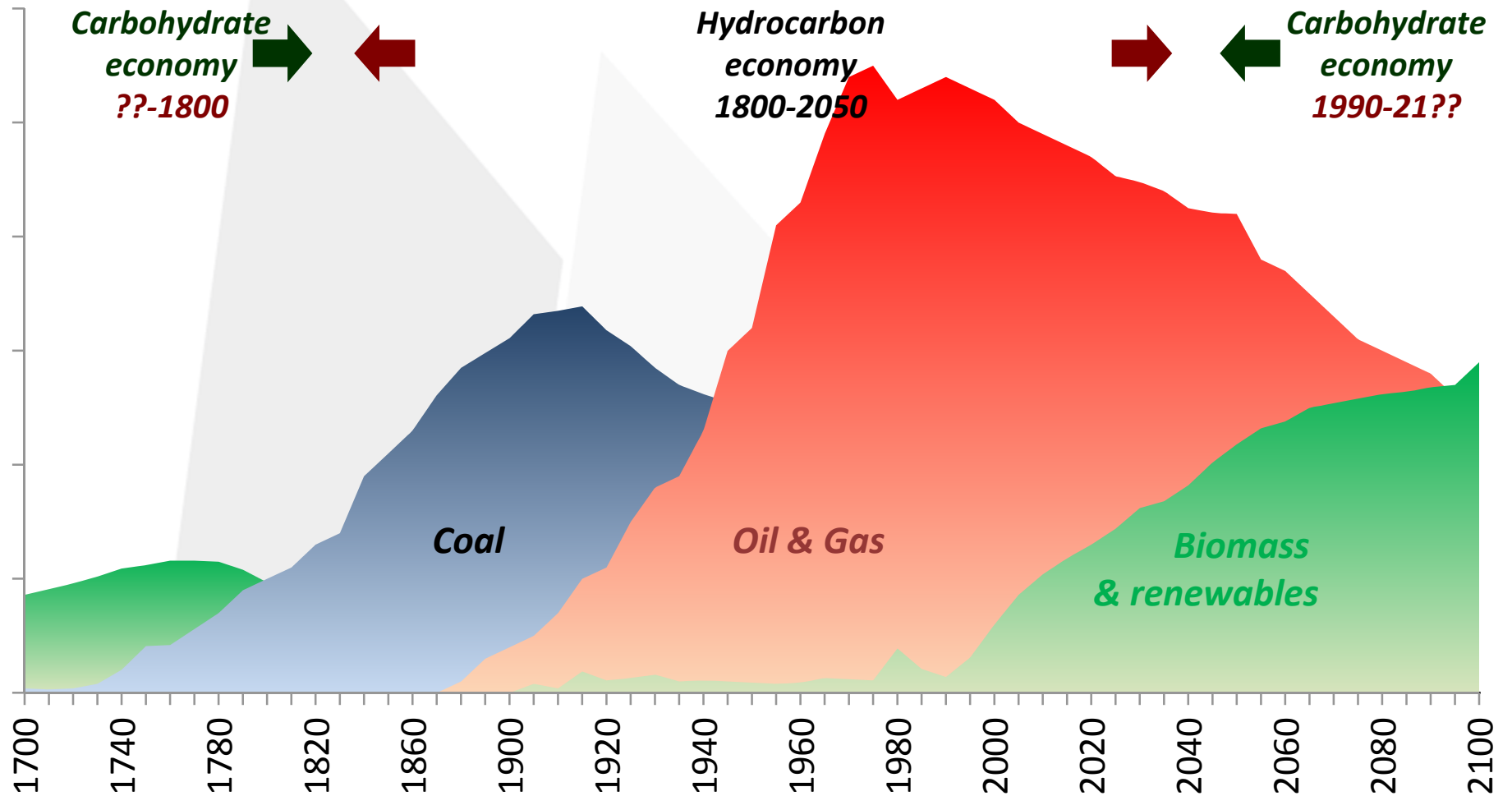
Biorefining and the forest economy

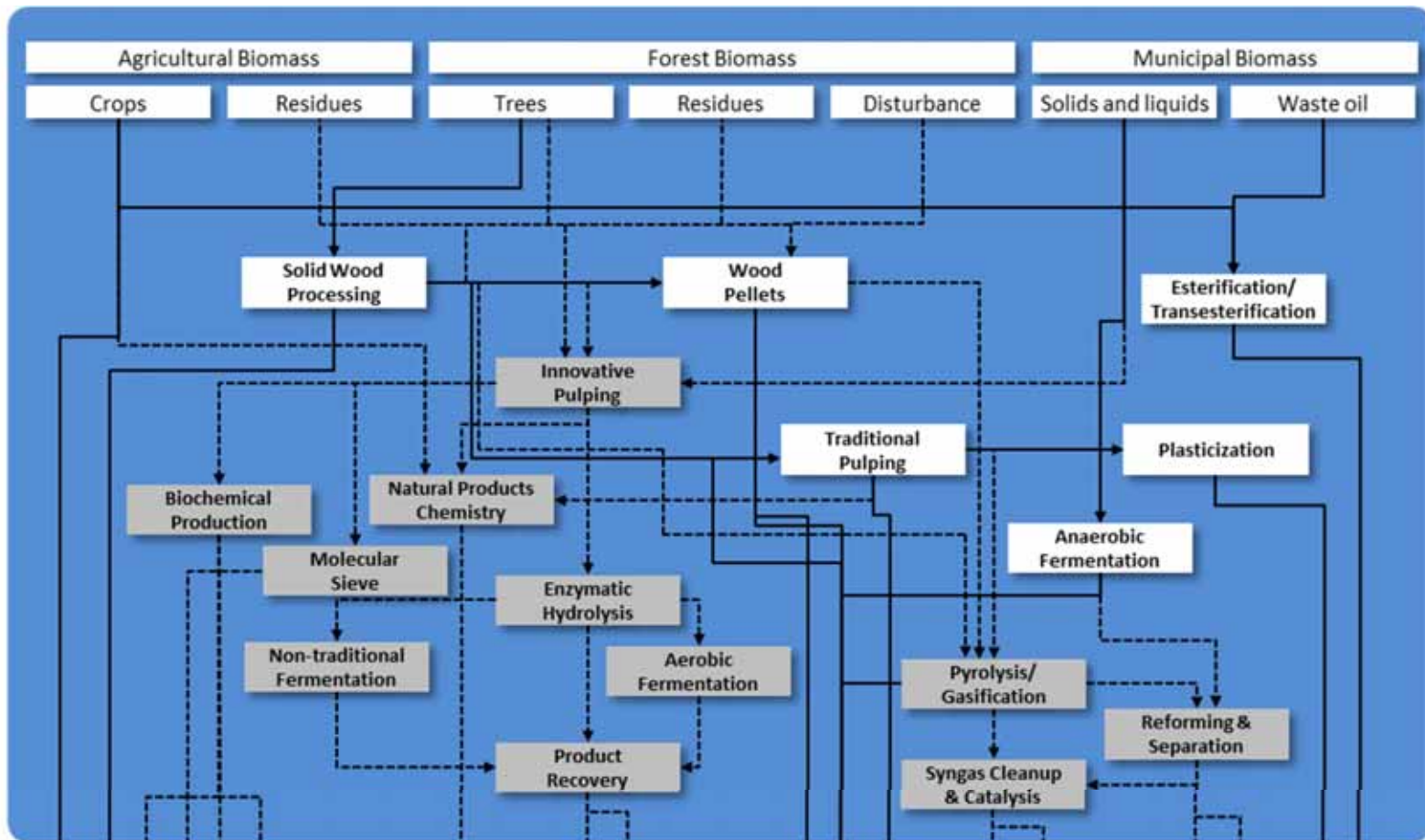
W.E. Mabee, T. Carpenter, J. Mirck, K. Calvert, N. Manion, T. Wood'
Queen's University, Kingston, Canada

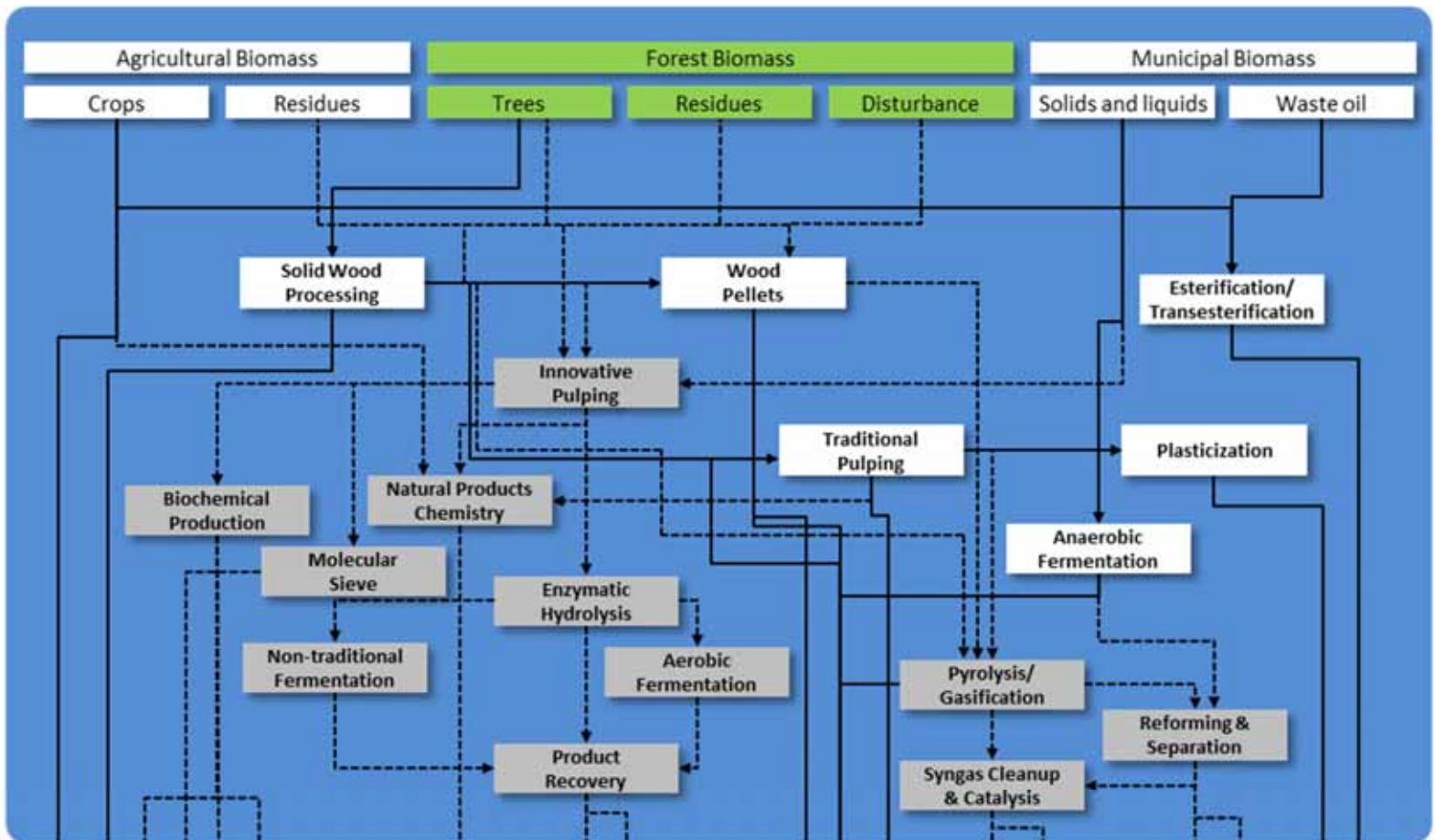
Knowledge Impact in Society (KIS) Showcase, 12 April 2011

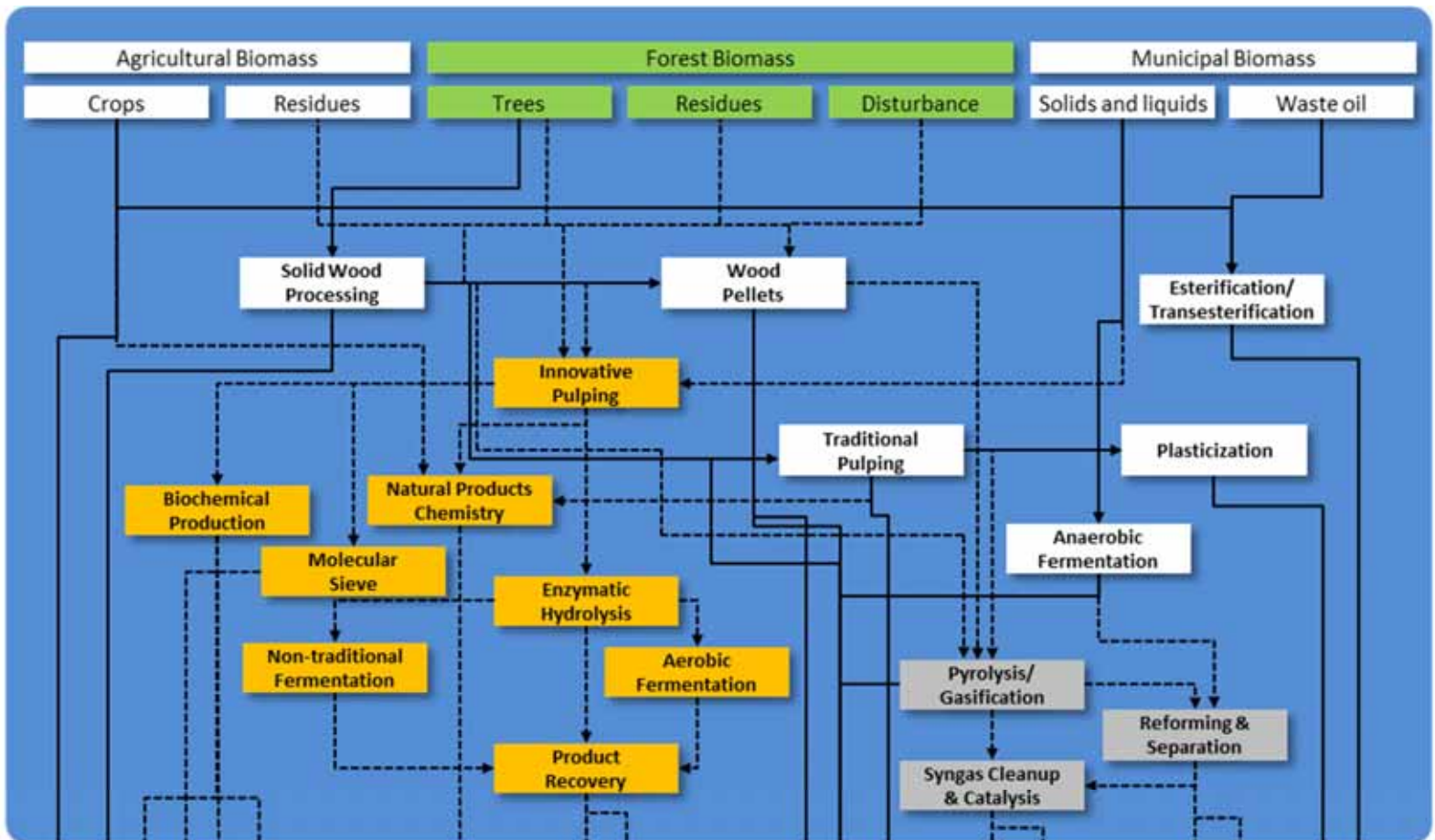
Beyond Oil

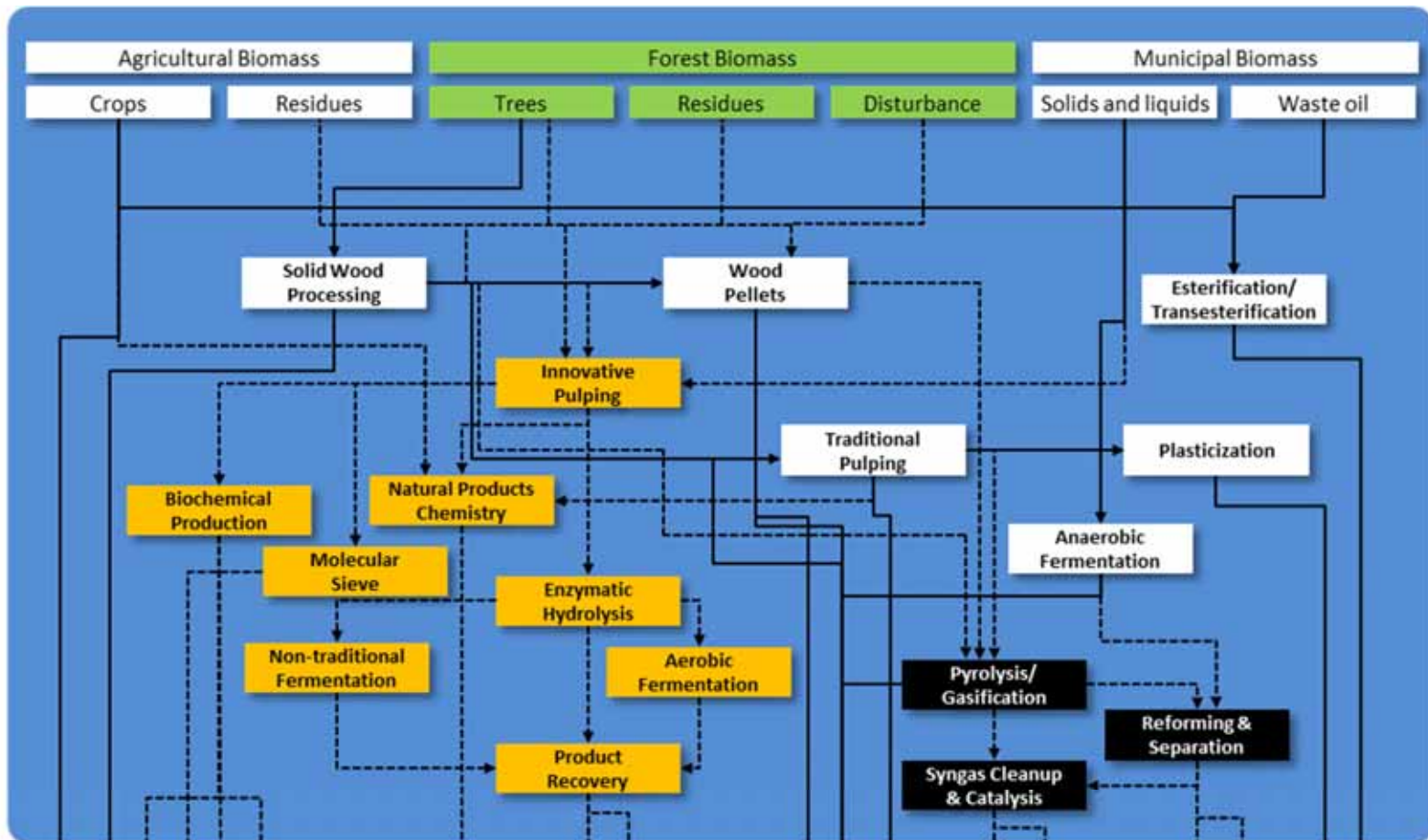
log (primary energy use) by category

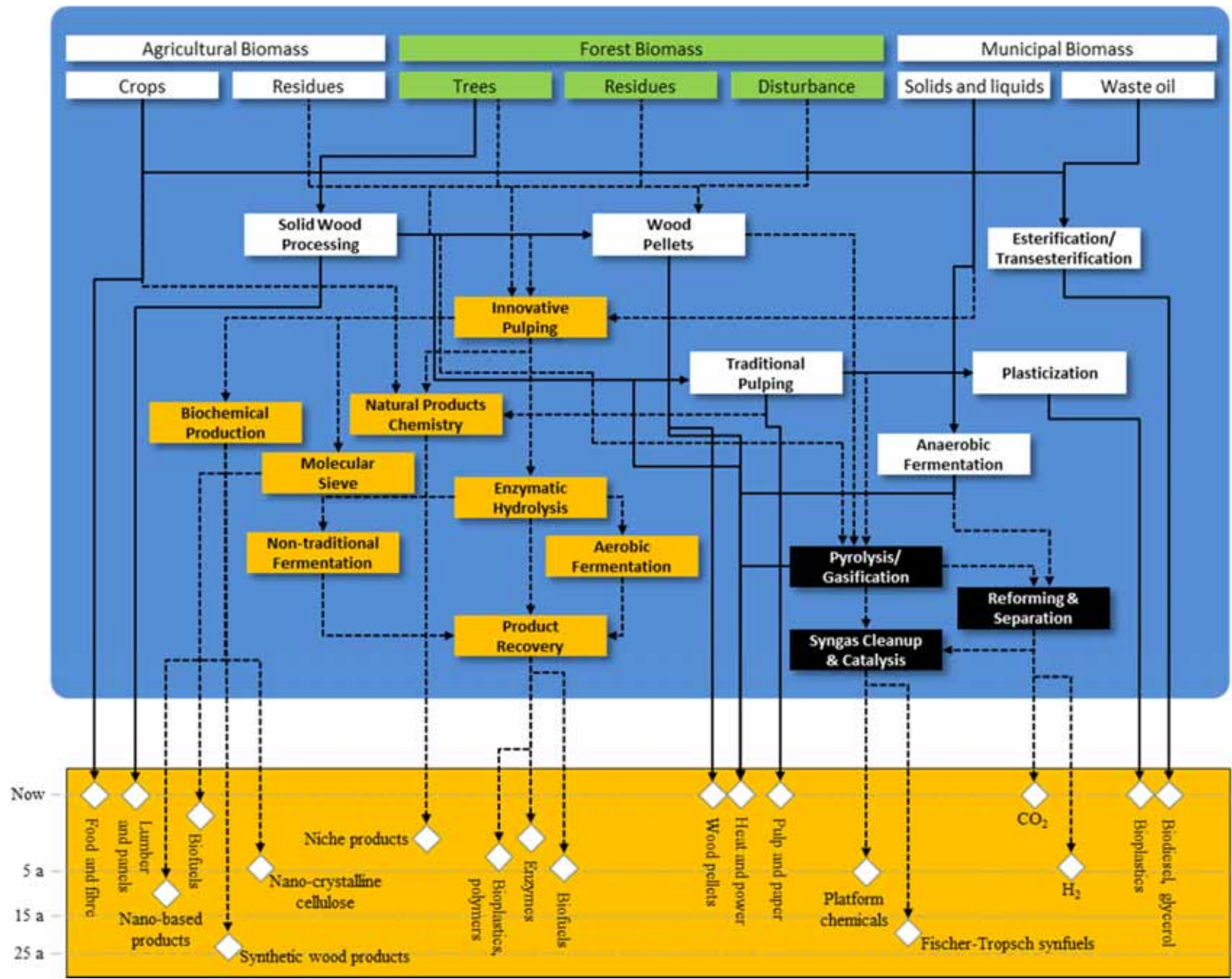












Renewable energy portfolio



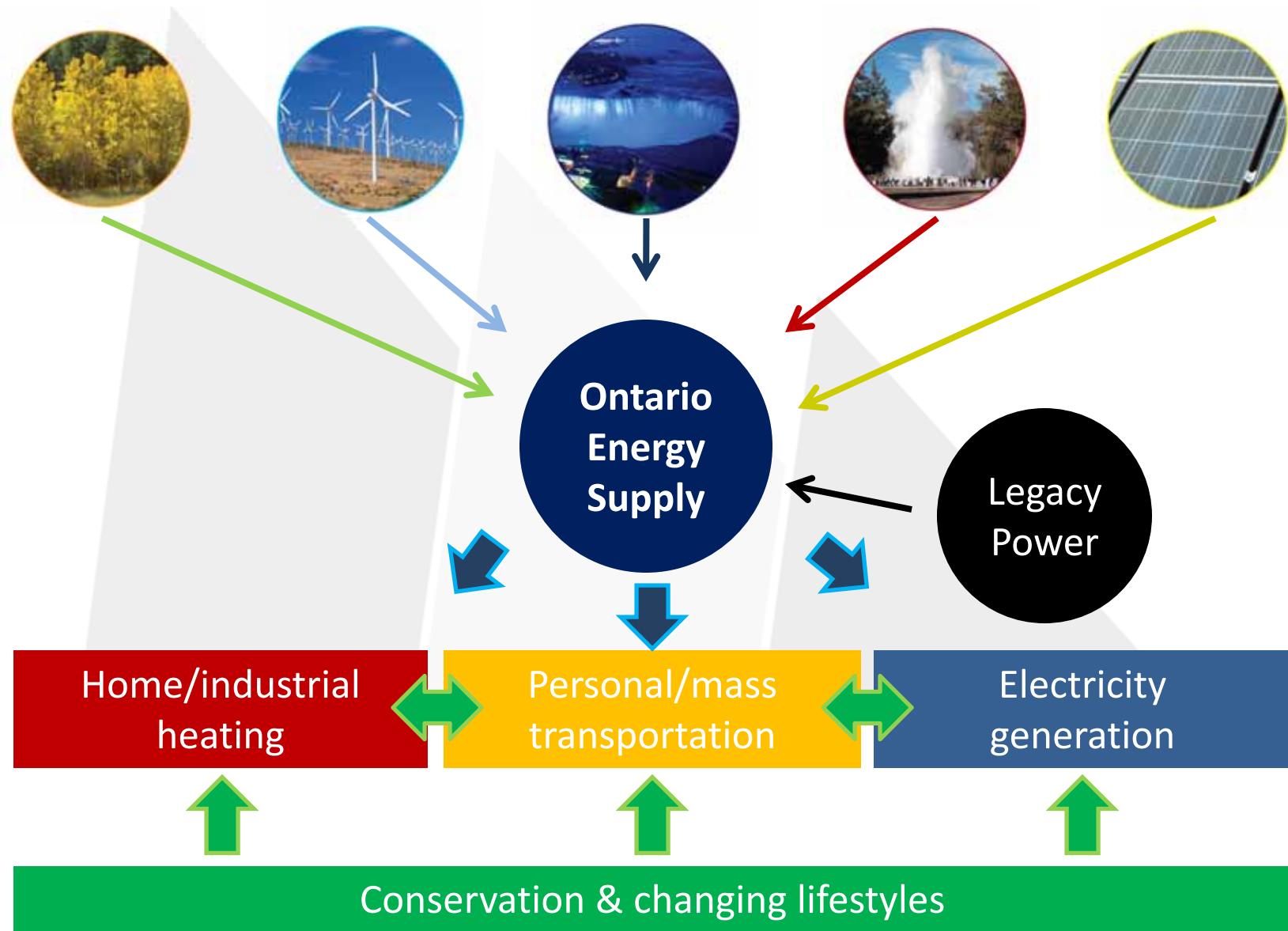
- How do we determine what mix is appropriate?
- Trade-offs
 - ▶ Jobs, \$, carbon, GJ/MW
- Sector demands will change

Home/industrial
heating

Personal/mass
transportation

Electricity
generation

Transformative technologies

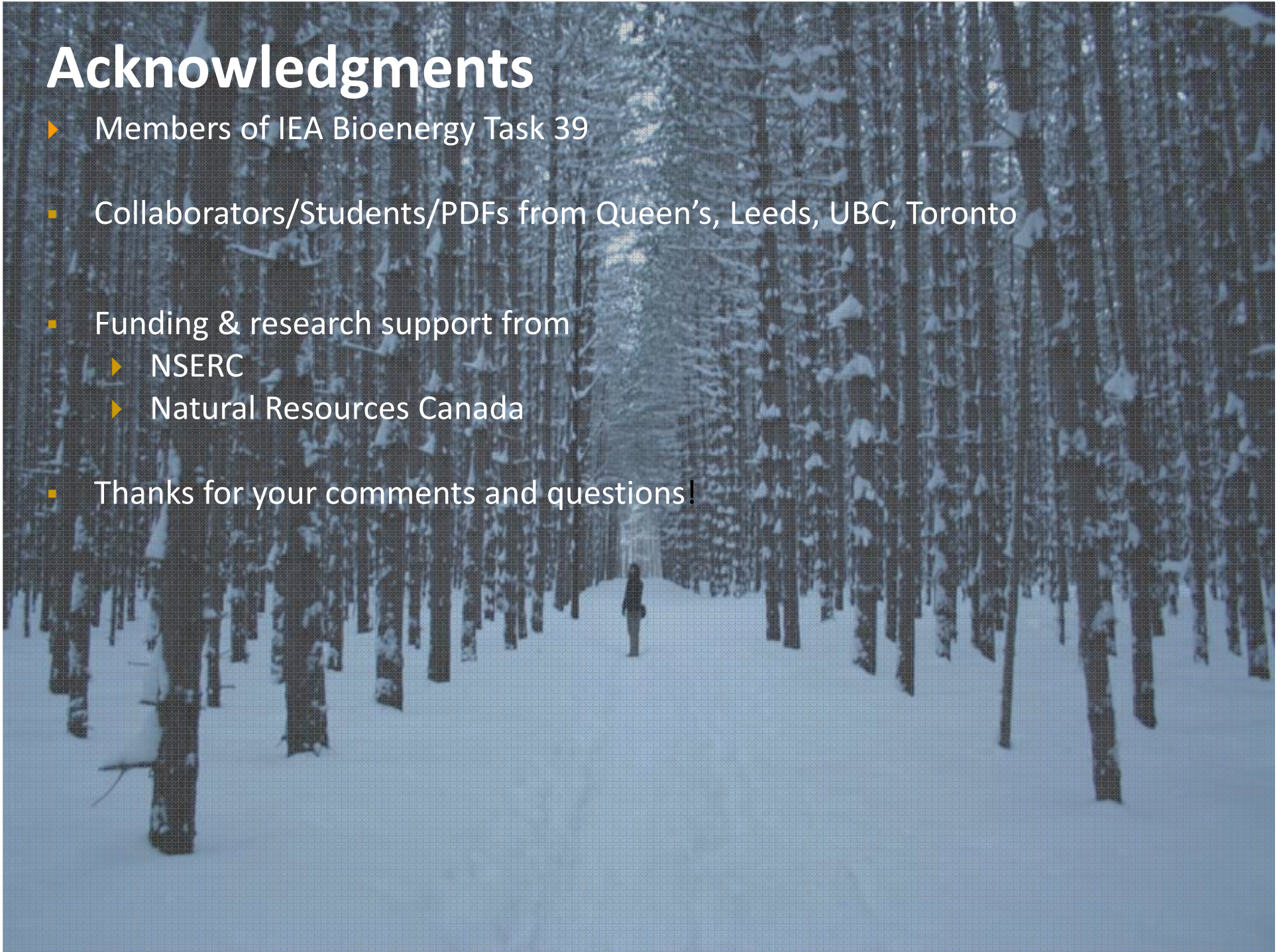


Summary

- Multiple bioenergy and biofuel options are available - the **best use** for the biomass must be clearly dictated by **policy**
 - ▶ **Canadian policy** is not well organized to capture bioenergy options; biofuel, energy, and electricity goals need to be defined
- The best **technology pathway** is not yet clear
- Ultimately, it comes down to a social question – **what do we want** from the forest, and how can we best achieve that goal?

Acknowledgments

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 - ▶ Natural Resources Canada
- Thanks for your comments and questions!



QUESTIONS?



QUEEN'S INSTITUTE FOR ENERGY
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