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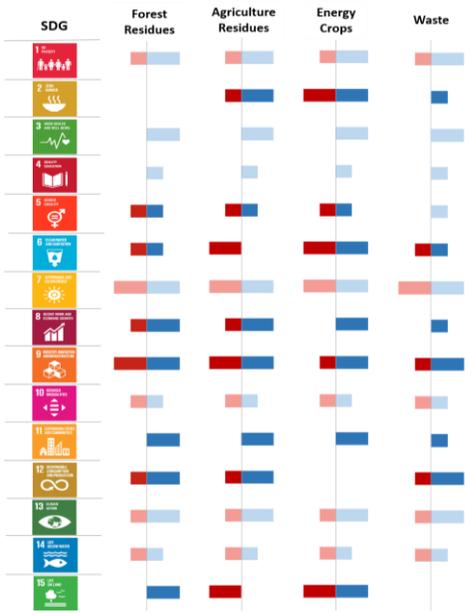
Biomass supply chains and their contributions to the SDGs

Bruno Gagnon (Natural Resources Canada) and Jean Blair (Dalhousie University)
IEA Bioenergy Workshop - Bioenergy and Sustainable Development – Climate Change Mitigation and Opportunities for Sustainability Co-Benefits

24 May 2022

Context

- Inter-task project: The Role of Bioenergy in a WB2/SDG World



Blair et al. (2021). [Contribution to Biomass Supply Chains for Bioenergy to Sustainable Development Goals.](#)



Blair et al. (2021). [Biomass Supply and the Sustainable Development Goals – International Case Studies.](#)



Agricultural	Forestry	Waste/Other
2 Zero Hunger	1 No Poverty	8 Decent Work and Economic Growth
6 Clean Water and Sanitation	3 Good Health and Well-being	2 Zero Hunger
8 Decent Work and Economic Growth	8 Decent Work and Economic Growth	6 Clean Water and Sanitation
12 Responsible Consumption and Production	11 Sustainable Cities and Communities	12 Responsible Consumption and Production
13 Climate Action	13 Climate Action	15 Climate Action
15 Life on Land	15 Life on Land	

Pahlavanlu et al. (2022). [How can biomass supply for bioenergy deliver multiple benefits and contribute to sustainable development goals?](#)

Which SDGs are more likely than others to be related to bioenergy systems?

All bioenergy contributes to



High likelihood of interaction



Moderate likelihood of interaction



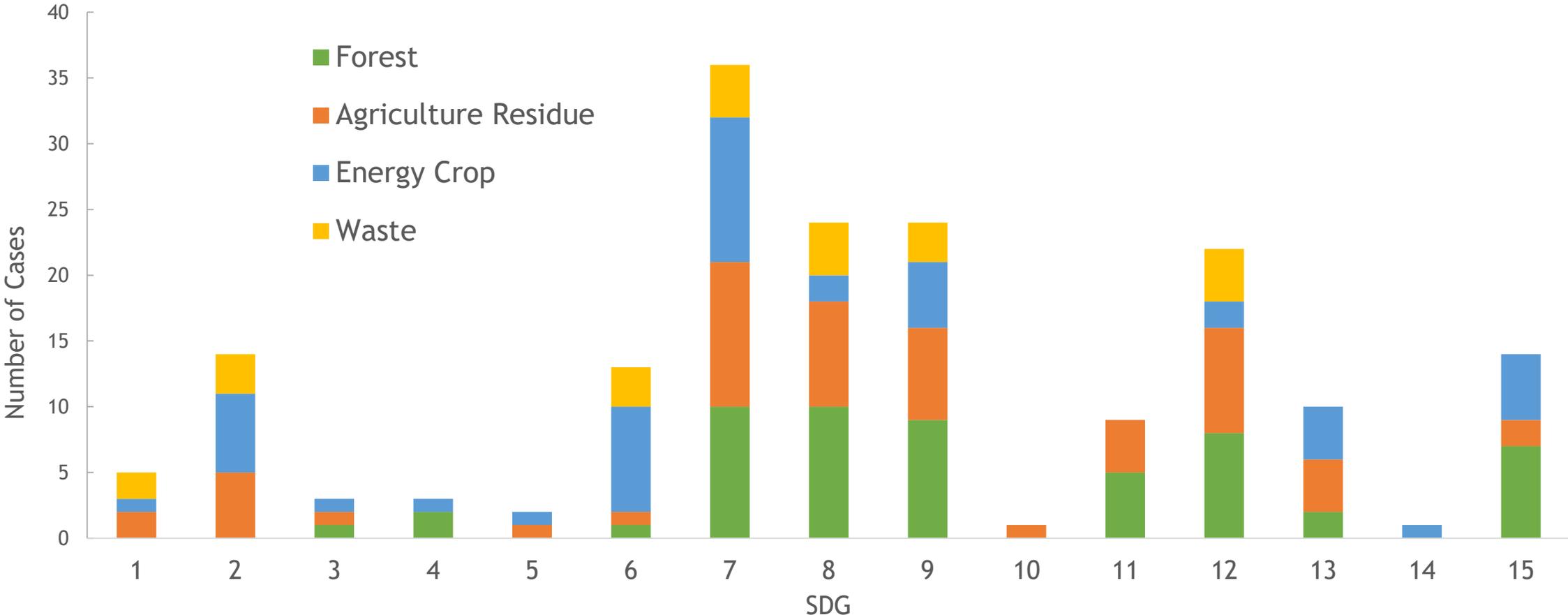
Low likelihood of interaction



Source: Blair et al. (2021). [Contribution to Biomass Supply Chains for Bioenergy to Sustainable Development Goals.](#)



Best practice case studies show multiple co-benefits, beyond contribution to SDG 7



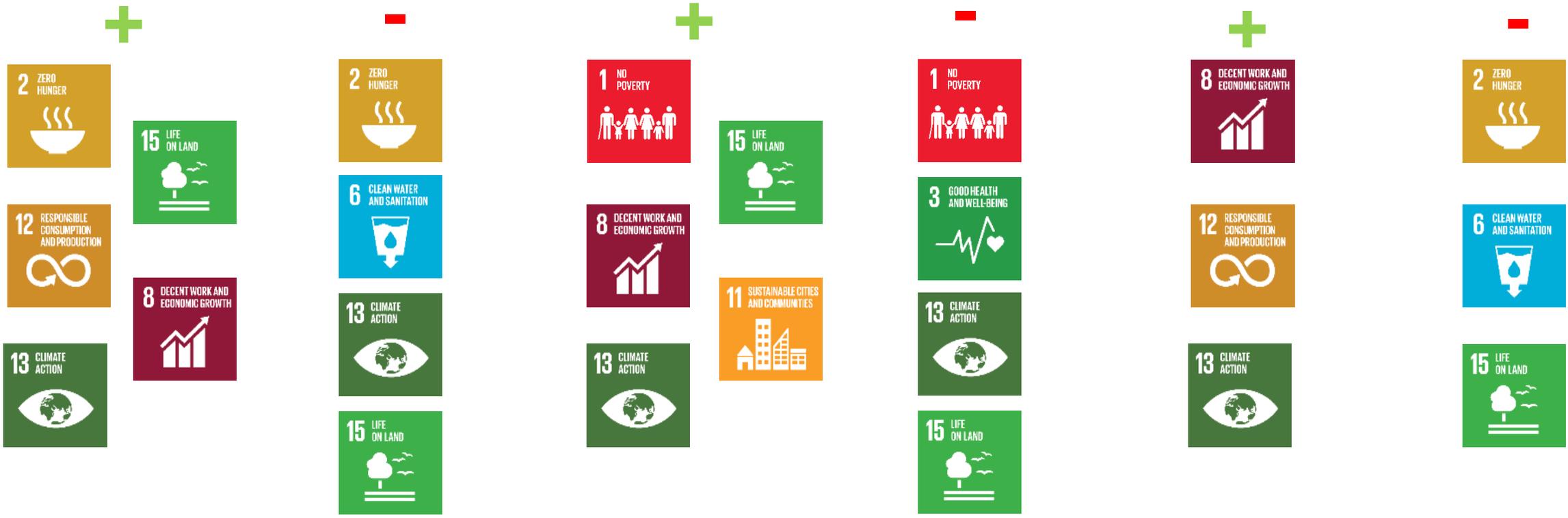
Source: Blair et al. (2021). [Biomass supply and sustainable development goals: International case studies.](#)

The literature and case studies align with what we've heard from experts in the workshop

Agriculture

Forest

Waste



Pahlavanlu et al. (2022). [How can biomass supply for bioenergy deliver multiple benefits and contribute to sustainable development goals?](#)

An Example from Nova Scotia

- Biomass primarily to decarbonize building heat
- Lots of oil heat
- Natural gas is limited, imported and expensive
- 60% of electricity is from coal
- Federal funding available for 'green' infrastructure



Increase renewable energy



Tackle climate change

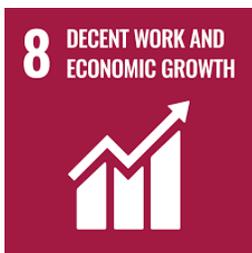
Co-benefits of biomass for energy in NS



- 7.1 – Reliable and **affordable energy**
- 7.3 – Energy efficiency (CHP, storage)



- 11.3 – Inclusive, participatory planning
- 11.6 – Environmental impact of cities
- 11.a – Rural-urban links, **regional planning**



- 8.2 – Productivity, diversification
- 8.4 – Resource efficiency
- 8.5 – **Employment**, decent work



- 12.2 – **Sustainable resource management** & resource efficiency



- 9.1 – Sustainable, **reliable infrastructure**
- 9.2 – Grow domestic industry
- 9.4 – Improve industry sustainability



- 15.1 – Restore ecosystems & services
- 15.2 – **Implement sustainable forest management**
- 15.5 – Promote biodiversity



Communicating Co-Benefits

Need to understand the **local context and issues** to address concerns and communicate benefits

- People are concerned about affordability of heat and power
- Bioenergy is viewed negatively by many in Nova Scotia

At the same time...

- Nova Scotians want ecological forestry in Acadian mixedwood forest, mandated by province in 2020
- Lack of regional market for low grade wood makes ecological forestry difficult
- Closure of large pulp mill has exacerbated problem and many jobs lost



Messaging

Biomass for energy \longleftrightarrow Ecological forest management

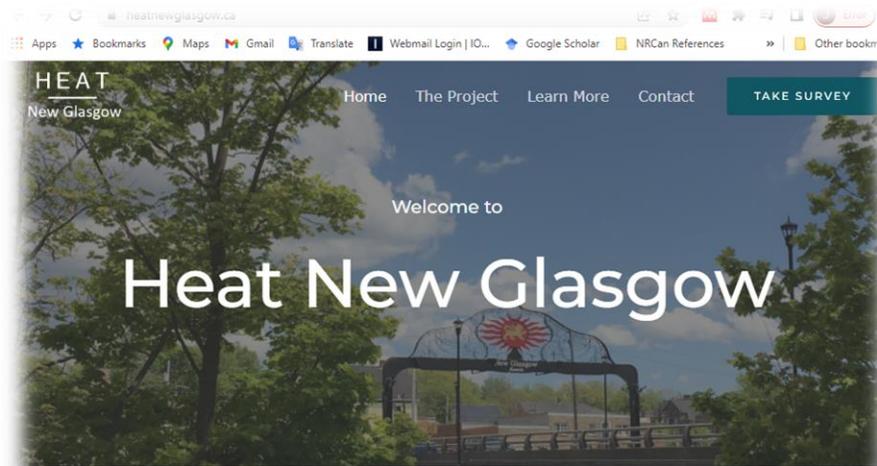
- Local biomass fuel \longrightarrow Stable, secure, low cost energy
- \longrightarrow Local jobs, rural development
- \longrightarrow Money for energy stays local

- District energy \longrightarrow Reliable, proven, flexible infrastructure
- \longrightarrow Community/municipality owned

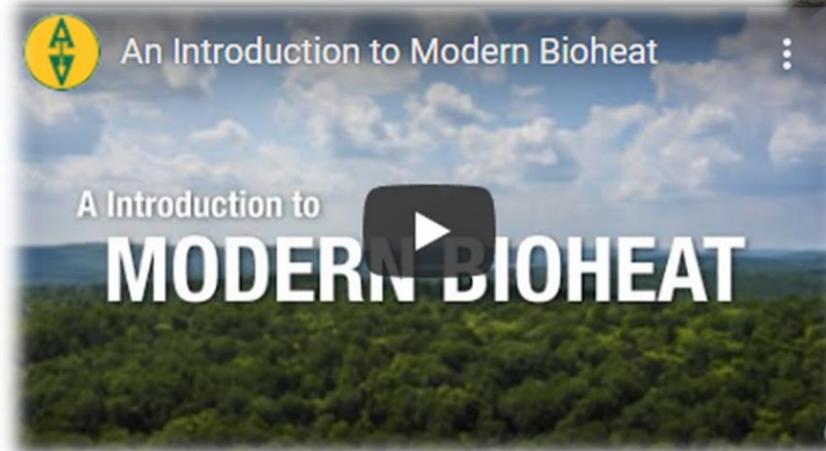


Approach

- Start with municipalities
- Educate
 - Videos
 - Field trips
 - Social media
 - Informational websites
- Understand and engage
 - Surveys
 - Workshops
 - Project-specific websites
- Listen and evolve



Your information hub for New Glasgow's biomass district energy project. Find information about the project, get the latest news, and stay up to date on activities and look for opportunities to get involved. **Wondering what biomass district energy is?** [Click here!](#)



SELECT A TOPIC BELOW TO BEGIN!



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Key messages

- Bioenergy goes beyond SDG 7 and can relate to all SDGs: **co-benefits are as important, or perhaps even more.**
- Priority SDGs will vary from case to case: **certain interactions are more common, but there is no “one-size-fits-all” approach.**
- Contribution to SDGs can be either positive or negative, **but bioenergy “done right” has a role in the low carbon transition.**
- Best practices and modern technology make a difference **and they can be enabled by appropriate governance frameworks.**
- **Understanding local context will help to target messaging and ensure best practices implemented**



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