13:11:34 From Dave Dougherty to Everyone:

 NFU Staff | National Farmers Union < <https://nfu.ca/about/nfu-staff/> >

13:35:54 From Dave Dougherty to Everyone:

 Report link. Sustainable Aviation Fuel (SAF): A Critical Analysis, with a Focus on Agriculture, Land, and Food | National Farmers Union
< <https://nfu.ca/publications/sustainable-aviation-fuel/> >

13:42:24 From Peter MacKinnon uOttawa, Engineering to Everyone:

 C: I agree with Darrin's opening comment that this topic he is addressing has implications to number of Planetary Limits/Boundaries within the context of the physical polycrisis, which itself is running in parallel with the geopolitical polycrisis.

13:59:12 From Art Hunter - CACOR to Everyone:

 Q: Has SAF considered ocean and freshwater grasses and other fast growing plants?

13:59:26 From Richard van der Jagt to Everyone:

 C: See the article in the Hill Times by van der Jagt and Geoff Strong on misconceptions of what net zero is.

14:00:19 From Claude Buettner, MN to Everyone:

 Q: Is there a good understanding of the relative sizes of global commercial aviation to global military aviation?

14:10:38 From Richard van der Jagt to Everyone:

 C: Overshoot.

14:12:40 From Richard van der Jagt to Everyone:

 Q: Is the answer to become vegetarian and stop flying?

14:16:21 From John Hollins to Everyone:

 Q: Your message is overwhelming. Have you been able to deliver it federal and provincial audiences, bureaucratic or political?

14:17:19 From Peter MacKinnon uOttawa, Engineering to Everyone:

 Q: With respect to planetary boundaries, the theme of atmospheric aerosols is not yet quantified, as you know. Thus, can you comment on the impact of agriculture now and in the time-frame you are speaking about including if we were to pursue SAF? Thanks

14:25:27 From Richard van der Jagt to Everyone:

 C: SMRs have no comprehensive regulatory mechanism to oversee by-products.

14:25:27 From Peter MacKinnon uOttawa, Engineering to Everyone:

 C/Q: More nitrogen in the agricultural system will further stress the pollution of fresh water. This is a conundrum with respect to feeding the world while constraining the polycrisis? Can you comment on this conundrum? Thanks

14:26:23 From Ralph Martin to Everyone:

 C: Very good presentation. I agree that improving soil organic carbon, and thus soil health, is crucial. It is also important to account for the real GHG emission and energy costs of manufacturing N fertilizer.

14:28:25 From Jeff Passmore to Everyone:

 C: Lots of material for thought. One comment, the US Billion ton study is not directly comparable to Canada. US has 900 million acres of farm land (constantly decreasing), Canada has "only" 154 million acres. Forestry is closer--Canada has 365 million hectares, the US 300 million hectares. Agree there will be more demand for biomass than biomass supply, but we need to do something with all that low grade wood that is causing forest fires. The chief forester for Renfrew County at last year's Scaling Up conference begged for more demand for forest products in order to maintain forest health. So unlike the US, the forestry contribution in Canada could be larger than that from agriculture, but agreed not likely to meet total biomass demand. P.S. I have been taking the train to Toronto and to Montreal for 10 years--and you arrive downtown!

14:30:02 From Peter MacKinnon uOttawa, Engineering to Everyone:

 C: CP Rail is currently running two mainline locomotives for freight that are powered by hydrogen using Ballard fuel cells.

14:34:59 From Richard van der Jagt to Everyone:

 C: Enhancing transition to renewables would be a good start.

14:35:16 From Meg Sears to Everyone:

 Replying to "C: CP Rail is currently running two mainline locom...":

 C: Well, that’s a thermodynamic, fundamental mistake. Check out the analyses of Dr. Paul Martin. < <https://h2sciencecoalition.com/> >

14:36:41 From Richard van der Jagt to Everyone:

 Replying to "C: CP Rail is currently running two mainline locom...":

 C: I looked at the link and it is about hydrogen fuel, not other forms of renewable energy.

 C: Aviation Industry Announces Establishment of the Council on Sustainable Aviation Fuels Accountability. European Business Aviation Association (EBAA)
< <https://www.ebaa.org/press/aviation-industry-announces-establishment-of-the-council-on-sustainable-aviation-fuels-accountability/> >

14:41:32 From Richard van der Jagt to Everyone:

 Q: How much do you speak to farmer's groups on organic farming?

14:43:04 From Meg Sears to Everyone:

 C: This type of analysis is crucial. I saw these sorts of analyses decades ago, but magical thinking prevails. To my mind, being outside of planetary boundaries has only two answers--reduce and improve efficiency/capturing (Darrin talks about targetting). Hopefully, we’ll become a whole lot smarter about being efficient. How far might improving efficiency take us?

14:49:17 From Richard van der Jagt to Everyone:

 C: Perhaps its better to use at least some SAF than give it up as an impossible dream?

14:50:21 From Jeff Passmore to Everyone:

 C: I've read that organic farming cannot feed the world.

14:51:12 From Richard van der Jagt to Everyone:

 C: Who funded that study Jeff?

14:55:05 From Jeff Passmore to Everyone:

 The Council was established by the airline industry. Or did you mean organic farming Can Organic Feed the World? Rodale Institute. Here's a report that refutes the notion that organic food cannot feed the world.

< <https://rodaleinstitute.org/blog/can-organic-feed-the-world/> >

**“The Bottom Line**

Our growing population needs farming methods that conserve and regenerate resources while generating healthy food—not methods that use more chemicals, polluting the environment in order to grow more corn to feed more feedlot animals.

The truth is that yes, organic can feed the world!

Organic can compete with conventional yields and outperform conventional in adverse weather. Small farmers using organic methods have huge potential to expand global food production, and only organic methods actively regenerate resources and protect the environment from pollution and toxic waste. For a healthy future, we can’t afford anything less.”

14:59:12 From Meg Sears to Everyone:

 Replying to "C: CP Rail is currently running two mainline locom...":

 I was commenting on Peter’s note about CP Rail.

14:59:23 From Darrin Qualman -- NFU to Everyone:

 https://nfu.ca/wp-content/uploads/2024/11/Sustainable-Aviation-Fuel-NFU-for-website.pdf

15:04:38 From Darrin Qualman -- NFU to Everyone:

 https://www.youtube.com/watch?v=S8K25R87e5A

15:13:27 From Richard van der Jagt to Everyone:

 C: If i read your graph correctly, Dave, the car has a lower footprint than the plane??

15:13:43 From Dave Dougherty to Everyone:

 Replying to "if i read your graph correctly Dave, car has a low...":

 Yes, with conditions.

15:13:55 From Dave Dougherty to Everyone:

 Replying to "if i read your graph correctly Dave, car has a low...":

 This link. Climate change: Should you fly, drive or take the train?
< <https://www.bbc.com/news/science-environment-49349566> >

15:22:50 From Darrin Qualman -- NFU to Everyone:

 Qualman@nfu.ca