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This is a graded discussion: 2 points possible due 17 Jan at 18:30

Reading Reflection #5

Jackson Herron

14 Jan at 18:20

16 31

Respond to the following question(s) in 200-400 words about the assigned reading.

* The reading was Chapter 4 of the 2017 UN Emissions Gap Report

Pick one sector. Describe the emissions reductions potential in 2030 and the technologies and policies that collectively will help reach the reduction. Feel free to draw on other resources.

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Write a reply...

Katie Reeder

(https://canvas.ubc.ca/courses/26675/users/11862)

17 Jan 2019

I chose to examine the energy sector. The UN Sectoral GHG Reduction Potentials Emissions Report suggests that the sectoral aggregate potential of reduction in the energy industry are in the order of 10 .0 (9.3 – 10.6) (GtCO2 e). As chapter 2 of the emissions report explained, we need to reduce emissions by 40 GtCO2 on average by 2030 to *have a solid chance* of remaining below 2 degrees.

Our energy grid will need to run on a portfolio of alternative energy sources, rather than a handful of fossil fuel sources. There is no 'one-size fits all' technological solution. The sorts of alternative energy that a region can produce will be different in each geographic location (Wind farms are not feasible in a densely populated city. Hydroelectric dams cannot be built along weak streams.)

That being said, there are two really promising alt. energy technologies that could be applied to most urban settings: 'micro-hydro' and solar micro-grids.

Micro-Hydro: The installation of systems like Lucid Energy's in-pipe hydropower turbines promises to deliver reliable hydro energy without the disruptions to ecosystems caused by dams. Another benefit is that it can supply power whenever water is running. So any time of day, any seasons. Provided there is water in the pipes. (see: **http://lucidenergy.com/company/) This pilot project alone generates enough energy to power 100 homes.** (http://lucidenergy.com/company/)

Solar MicroGrids

Technology: Decentralized renewable energy solutions (stand-alone and mini-grids) such as Brooklyn based company LO3 energy.**https://lo3energy.com/** (https://lo3energy.com/) Every home becomes a mini power generation station. When a home is not using its power, it can sell it back to the grid. If you go on vacation, your home can be making money for you while you are away. That way, there is an incentive to use less power- you will MAKE more money if you used less.

How could we develop policies to promote these technologies?

Policy change or development can happen at many levels. Federal, provincial, municipal, corporate, etc. Policies to promote the use of renewable energy technology will look different at each level.

Removing subsidies from the fossil fuel sector (total subsidies to the industry are 3.3 billion dollars/ year) See this link for more information **https://www.iisd.org/faq/unpacking-canadas-fossil-fuel-subsidies/** (https://www.iisd.org/faq/unpacking-canadas-fossil-fuel-subsidies/) That amount of money could "offer job training for 330,000 workers (**Canada Job Grants provide up to $10,000 to help workers gain the right skills** (http://www.esdc.gc.ca/en/job_grant/employers.page))". Right now we have a tax on carbon emissions and gas at the pump, but the federal and provincial governments are still giving massive subsidies to oil and gas... Seems a bit counterproductive? This is a change that provincial and federal governments can make.

Change in electricity sale regulations: For the micro-grids, we need to change the regulations related to the right to generate and sell electricity. Right now, individuals are not permitted to sell electricity- only a utility provider can. Once that barrier is removed, the **state** could offer interest-free loans to financially support the installation of micro-grid systems. I *think* this is provincially regulated- not positive.

Other policy changes: Raising feed-in tariffs for renewables, changing municipal planning and zoning regulations (which sometimes make it difficult to install things like solar), raising tax incentives for individual and corporate investment in renewable energy.

Reply (1 likes)

Alexis Lytle

(https://canvas.ubc.ca/courses/26675/users/38541)

17 Jan 2019

Super thorough, thanks you for all the information! 2/2

Reply

Michael Horner

(https://canvas.ubc.ca/courses/26675/users/208938)

17 Jan 2019

2 / 2

I like your 2nd example about micro grids because it using positive reinforcement rather than penalties (demand charges) to accomplish the same thing.

Reply

Olivia Locke

(https://canvas.ubc.ca/courses/26675/users/189754)

17 Jan 2019

I found the section about the forestry sector very interesting. I love the idea of being able to make a sizeable dent in emissions by preserving and restoring our forests. I think this is a real example of a win-win for climate change and biodiversity. The emission gap report states that for less than US$100/tCO2, up to 13.8 GtCO2e can be reduced each year if focus is placed on both halting deforestation and restoration of degraded forest land.

Unfortunately, some further research makes it seem much less straightforward. This article from Nature (https://www.nature.com/articles/d41586-019-00122-z (https://www.nature.com/articles/d41586-019-00122-z)) outlines some additional complications of counting on reforestation as a means of mitigating climate change. The main issue is in a change to albedo, which is a measure of reflectivity and is very important in reflecting incoming radiation back out of our atmosphere. Forests tend to be dark colours which trap incoming radiation. If the ground cover where these forests exist is light, such as snow or higher altitude mountains, this

decrease in albedo can trap significantly more heat. This report finds that the net effect of reforestation can be either climate cooling or warming, they admit that further research is still needed.

In my opinion we should absolutely still working to prevent deforestation, there are so many environmental reasons aside from climate change that this is a benefit to our planet. However, this report does question whether we should be counting on reforestation playing a large role in our climate change models.

Reply (1 likes)

Taran Bains

(https://canvas.ubc.ca/courses/26675/users/208520)

17 Jan 2019

It didn't really occur to me that where you decide to reforest things make a difference in itself. In my head, you would just put more trees where trees used to be and were cut down. Regardless though, I agree with you that we should support reforestation now before waiting for scientists to come up with an exact answer.

2/2

Reply

Antonio Rodriguez

(https://canvas.ubc.ca/courses/26675/users/15905)

17 Jan 2019

- This chapter also falls into the scientist's myth. They think with just these studies and numbers, policy will follow and work to make the science happen, but it is much more complex.

-It is interesting to see how different perspectives think differently about the forest sector to bridge the emissions gap. Maybe this says a lot about why policy is happening so slowly.

-Absolutely prevent deforestation!

2/2

Reply

Taran Bains

(https://canvas.ubc.ca/courses/26675/users/208520)

17 Jan 2019

I am choosing to focus on the Power Sector, and it makes up honestly most of the GHG emissions so it is definitely the sector that has the most work to do and most potential. The two main options for reducing emissions in the energy sector are wind and solar energy, as well as hydro, nuclear, carbon capture/storage and generally reducing emission reductions from the oil, gas and coal mining sectors all have a role to play. With solar and wind, the technology is already there and exists and is working in parts of the world, like Germany, but it needs to be expanded to the entire world which takes money and policies. Unfortunately, Germany also does use coal plants to supplement the wind power sometimes, but if all of Europe worked together and found a way to share their electricity... and implemented shares of intermittent renewable sources, it would work. These shifts toward wind and solar, as well as trying to get off coal and oil, can really decrease GHG emissions. Even shifting from coal to gas in some areas can start to make a huge difference, as well as taking care of leakage problems and recovery in the oil and gas industry. If we add electricity savings from the buildings and industry sector, we could theoretically decrease power sector emissions by 100% in 2030, but the goal that seems more achievable/realistic is reducing power emissions by 57-65%. It also looks hopeful that power sector decarbonization may develop relatively quickly which will aid us in the total reduction of GHG emissions.

Reply

Melissa Prado

(https://canvas.ubc.ca/courses/26675/users/3017)

17 Jan 2019

2/ After reading this chapter I was also pretty hopeful about this industry, and especially after looking at the graph which indicated that the energy sector is the one that can do most of the impact. Great that you have connected with how places like Germany have already a foot on this issue, but there is still some more to be done in order for the mitigation in this sector to reach its full potential.

Reply (1 likes)

Ashna Misra

(https://canvas.ubc.ca/courses/26675/users/94031)

17 Jan 2019

2/2 You do a good job of synthesizing the whole report and providing some interesting ideas. Creating a shareable grid between the EU countries could be a really interesting thing to explore since it would also clear up some general carbon counting. I think the EU is regarded

as "one country" in most studies for GHG emissions but that's irrelevant to a practical grid. The power sector is definitely the most promising of all sectors for carbon reduction, it's exciting that we as engineers could actually work in it, but there is definitely the need for more policy to encourage that change.

Reply (1 likes)

Melissa Prado

(https://canvas.ubc.ca/courses/26675/users/3017)

17 Jan 2019

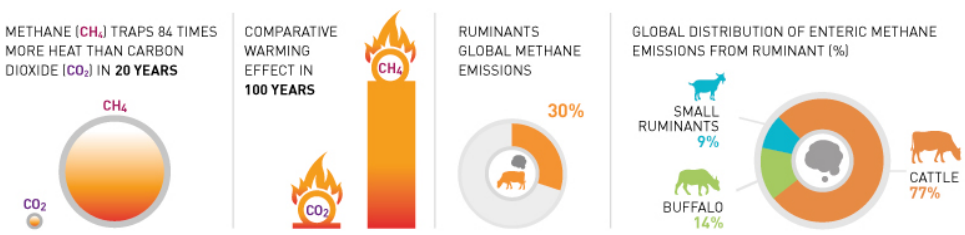
Agricultural Sector:

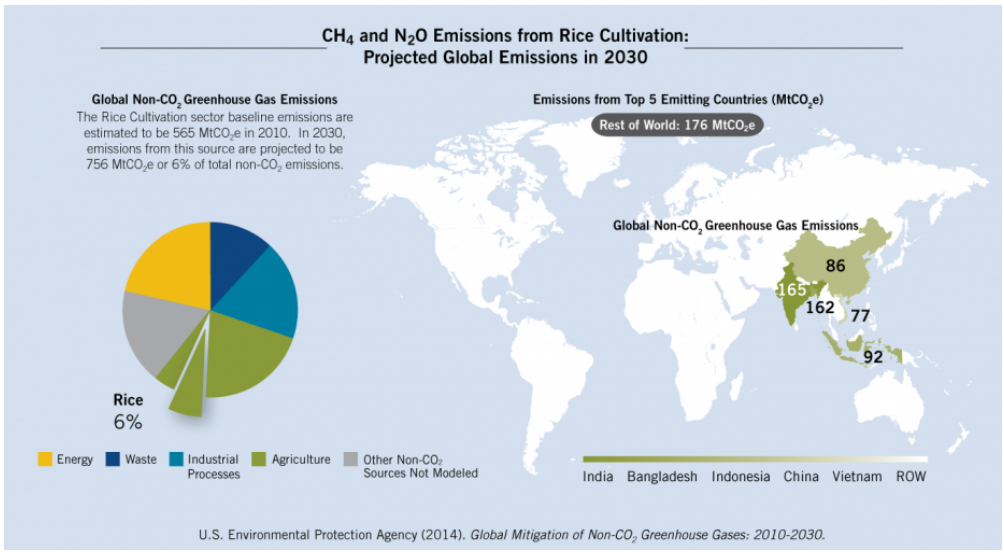
According to the report, there are studies that show that the potential for mitigation in this sector is between 0.26 and 4.6 GtCO2e. From this mitigation, 90% can come from carbon sequestration in soils (cropland, grazing land and reforestation/ of degraded land). A combination of no-tillage and residue, nutrient and agronomy management can lead to a reduction of 0.74 GtCO2e in 2010. Adjusting grazing intensity, allowing for more biomass growth, reducing nutrient deficiencies by increasing land productivity, these are some of the recommended measures for grazing land that together could lead to a 0.75 GtCO2e reduction in 2030. Rice management techniques such as adjustment of flooding, no-tillage and the use of fertilizer alternatives will help to address the non-CO2 GHG generated through rice cultivation.

On the other hand, biochar, for example, is now being considered as a potential carbon remover in the soil, in addition to this it can also enhance the fertility of the soil and improve its water retention properties.

I was a bit impressed by the fact that the chapter points out that the reduction that can be done in the livestock sector is limited, suggesting measures such as manure digesters, anti-methanogens, and improved feed conversion. However, I am hopeful that demand-side measures will be able to contribute to a higher mitigation level in this sector, through our diet shift towards a lowe carbon footprint diet since such change could lead to a decrease of 0.37 to 1.37 GtCO2e per year in 2030.

I have attached 2 very interesting graphs that helped me understand some of the terms and numbers used in the chapter. Something that surprised me from the chapter and the graph attached is that rice cultivation itself accounts for 6% of the total agricultural non-CO2 emissions, and that is why it is so important to address the current practices that are being used.





U.S. Environmental Protection Agency (2014). *Global Mitigation of Non-CO_2 Greenhouse Gases: 2010-2030.*

Reply

(http

Olivia Locke

(https://canvas.ubc.ca/courses/26675/users/189754)

17 Jan 2019

2/2

Very good description of how mitigation can occur in the agricultural sector. I like that you focused on how demand side changes can have a large impact. It is remarkable how large a percentage of total emissions comes from rice growing, I wonder if it is because so much of the world relies on rice as a staple or because rice is particularly emission heavy compared to other food sources.

Reply

(http

Jackson Herron

(https://canvas.ubc.ca/courses/26675/users/31047)

17 Jan 2019

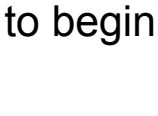
2/2.

There seem to be some best practices for limiting emissions from farmland/grazing, I'm wondering how difficult these are to implement/why they haven't been already in many places? For example no tillage - what does this mean and how much of a change is it for farms to implement? These just aren't topics I'm familiar with.

I was also surprised to read that the emissions reductions potential from livestock was so low - and that they suggested using anti-methanogens! Digestion of manure is a good way of reducing emissions and generating renewable energy, and I think the world should be doing a lot more of it.

The author's don't seem very optimistic about a shift in the way we eat as a society, but I've seen this change in my own communities. Maybe it just has to do with population growth keeping overall demand high even when per-capita demand may fall...

Reply



Jackson Herron

(https://canvas.ubc.ca/courses/26675/users/31047)

17 Jan 2019

My choice is the Industrial Sector. The report projects industry related GHG emissions are 19.3 GtCO2e/year in 2030 under the currently policy scenario, with potential for a further reduction of 5.4 GtCO2e/year reduction if the suggested measures are undertaken - this is around 28% reduction in emissions from the industrial sector by 2030.

The largest source of emissions from industry is from direct and indirect (by consuming electricity) use of fossil fuels. There are other sources of emissions, like direct emission of CO2 in the cement making process and leakage of non-CO2 greenhouse gases in various processes. There are a broad range of mitigation options for the industrial sector. One that is not mentioned in Emissions Gap Report is to reduce demand for energy intensive goods - this is a very tough thing to do but politically, but maybe necessary. Another, more standard option is to apply aggressive energy efficiency standards for industry to adopt efficient technology. It will cost money any time an industry needs to renovate the equipment it uses, so the policies should have a financial price or incentive for companies to implement change. Policies can also include sources of funding (e.g. by grants) for industry to implement efficiency standards. Another measure is to implement CO2 capture. This will only become attractive if there is a financial incentive to do so, for example by putting a price on Carbon. CO2 capture and storage can be regulated to effectively help industries to begin to capture and store their CO2 underground - a daunting task for and industry to

undertake. Additionally, industries can seek to source more of their energy from clean sources, however this is not always easy to do for industrial processes. Depending on where an industry is located will determine the available access to clean energy and other opportunities, like industrial symbiosis. Lastly, emissions of HFCs (or other non-CO2 GHGs) can be reduced by applying stricter limits and penalties where they don't already exist, forcing industry to adopt better pollution control measures.

In British Columbia, many of these measures are already being undertaken. There is the $35/tonne carbon tax, set to increase $5 every year by 2021, on top of a proposed federal carbon tax. The CleanBC plan (2018) says that industries that meet "cleanest in the world" benchmarks on their product will receive a reduction in their carbon tax, and offers incentive programs (paid for by the carbon tax) to help industries get there. The plan also cites electrification of industrial energy use (switching from using fossil fuel) as potential for large emissions reductions. This however, means expanding the electricity supply (e.g. by building mega-dams like Site C.)

Edited by **Jackson Herron (https://canvas.ubc.ca/courses/26675/users/31047)** on 17 Jan at 16:29

Reply (1 likes)

Alexis Lytle

(https://canvas.ubc.ca/courses/26675/users/38541)

17 Jan 2019

Excellent point about the need to reduce demand for energy intensive goods and to incentivize practices such as CO2 capture in order to speed up widespread implementation. 2/2

Reply

Taran Bains

(https://canvas.ubc.ca/courses/26675/users/208520)

17 Jan 2019

Another point I just want to include is that I don't want the financial burden of these policies to come to the consumer... I don't want things to substantially increase in price because these companies want to put the same amount of money in their pocket but also meet strict policies regarding their CO2 emissions.

2/2

Reply

Ashna Misra

(https://canvas.ubc.ca/courses/26675/users/94031)

17 Jan 2019

Energy Sector:

The energy sector has the potential to reduce 9.3-10.6 Gt of Co2 through renewable energy and an additional 5.8-9.1Gt through modifications in the fossil fuel industry. The UN Emissions Gap Report showcases the huge opportunities in wind and solar energy to provide a combined total of over 6,700 GW of energy, and reduce over 5.6Gt CO2, by 2030. Reaching this production capacity would require an annual installation that is significantly less than annual data from the last decade. This seems extremely positive because it indicates current policy and subsidies in wind and solar energy have been effective and we could definitely surpass the policy scenarios, bringing us closer to our emission limits, for these energy sources.

The chapter continues to discuss the effects of photovoltaics and bioenergy and explores carbon capture systems for decreasing emissions. However the most fascinating bit is that the report "does not include the shift from coal to gas since natural gas declines in the World Energy Outlook 450 scenario" (pg 31). In other words, the role of natural gas in reducing greenhouse gas emissions is statistically insignificant. Yet, the Canadian stance is often that exploitation of our natural gas is a key step to bringing countries off coal and reducing emissions. This brings the validity of the TransMountain pipeline even more into question for me.

Reply (1 likes)

Michael Horner

(https://canvas.ubc.ca/courses/26675/users/208938)

17 Jan 2019

2 / 2

I am not familiar with the world outlook 450 scenario but it sounds interesting. This argument is reused when making a case for nuclear power - that if we were not using it more fossil fuels would be used - so it would be interesting to see if this logic is valid.

Reply

Olivia Locke

(https://canvas.ubc.ca/courses/26675/users/189754)

17 Jan 2019

2/2

Good explanation of how mitigation can occur in the energy sector.

I learned a little bit about the natural gas question in a different course, we learned that if even 3% of gas leaks out along the supply chain then any savings in emissions are totally negated. I can't remember what this was compared against but I believe it was coal. I think this is in large part due to the high impact of methane compared to carbon dioxide.

Reply

Michael Horner

(https://canvas.ubc.ca/courses/26675/users/208938)

17 Jan 2019

2030 Emissions Reduction Potential in 2030 in the Transport Sector

Emissions in the transport sector come from the burning of fossil fuels, and by using electricity generated using fossil fuels. 2030 estimates give total emissions of 9.7 $GtCO_2$. Of this number, the majority (9.42 $GtCO_2$) are from direct emissions. Several approaches to emissions reduction in the transport sector include raising fuel efficiency standards, the use of biofuels, and a transition to electric heavy and light duty vehicles. A policy initiative that could support these reduction measures would be directly subsidizing electric vehicles through rebates or tax credits. These reductions will be amplified by the removal of fossil fuel plants for producing electricity and replacing them with renewables. In addition to government legislation, innovation in combustion engines will be the primary reduction potential in heavy and light duty vehicles. Minor efficiency improvements will also come through the use of more lighter composite materials. These changes will come primarily from car manufacturers and rely on the popularity of single occupant vehicles to succeed. A second policy that could assist this change would be allocating more land to grow biofuels, which have significantly less emissions over their lifecycle. Lastly, the transport sector could be transformed through subsidizing the replacement single occupant vehicles with public transport projects. Overall, these assumptions on emissions reduction account for a current scenario that relies on a globalized shipping and distribution economy. Any measures to reduce the total amount of shipping will also reduce the association emissions.

Reply

David Ontaneda

(https://canvas.ubc.ca/courses/26675/users/27548)

17 Jan 2019

2/2

Great summary. I like how you describe both policy and technical solutions.

Some questions come into mind: Could allocating more land to biofuels contribute to deforestation? If this isn't also calculated into the mix then possibly we would be defeating the purpose. Nonetheless, when done right biofuels are obviously better than oil.

Next, do you think that reducing the amount of shipping will be absolutely necessary? A common theme among environmentalists is that we should strive for a society of abundance, and when we design our production systems to work in a regenerative way, we will achieve that abundance.

Reply

Antonio Rodriguez

(https://canvas.ubc.ca/courses/26675/users/15905)

17 Jan 2019

-In the article they did not mention about the amount of people switching to bikes or public transportation. It is a very good point to bring up. Maybe the emission reduction is very small compared to the rest of the factors.

-I would like to see studies comparing the 'well-to-wheel' emissions from different type of fuels.

-Remember that designating more land to biofuels will impact the people growing these crops and maybe even increase food cost.

-Nice 2/2

Reply

Alexis Lytle

(https://canvas.ubc.ca/courses/26675/users/38541)

17 Jan 2019

Pick one sector. Describe the emissions reductions potential in 2030 and the technologies and policies that collectively will help reach the reduction. Feel free to draw on other resources.

According to this report, the potential to reduce direct emissions in the buildings sector is 1.9 GtCO2/year (uncertainty range 1.6 – 2.1 GtCO2) in 2030. This is after accounting for the overlap between energy efficiency in buildings and the use of renewable energy in other sectors. It is important to note that current emissions in this sector are mainly indirect, due to appliances and

lighting (71%), as opposed to direct processes such as heating and hot water (29%). This figure surprised me at first, and I am still not entirely sure why the proportions are so imbalanced.

Steps to reduce emissions in this sector include building near or net-zero energy buildings, which have 90% lower emissions than regular buildings being produced right now. Thermal retrofits of existing buildings are also extremely important, with a 75% direct emissions reduction per retrofit. These near-zero energy buildings and retrofits could be powered by biofuels, solar energy, and biomass. Reductions for indirect emissions would means upgrading electric appliances (est. 3.3 GtCO2/year in 2030) and energy efficient lighting (equivalent to 0.92 GtCO2/year in 2030).

I am excited about the developments being made in green building technology. Energy efficient buildings are not only more environmentally friendly, they are also more comfortable and healthy for their occupants. Vancouver plans to have all new construction be net zero emissions buildings by 2030: https://vancouver.ca/green-vancouver/zero-emissions-buildings.aspx **(https://vancouver.ca/green-vancouver/zero-emissions-buildings.aspx)**

Reply

(http

Melissa Prado

(https://canvas.ubc.ca/courses/26675/users/3017)

17 Jan 2019

2/ Great response. This article was definitely more hopeful than the previous one and focused on a lot of solutions with already available technology, good connection with the goals the city of Vancouver has for 2030. I am also curious about how those percentages were calculated, I guess that throughout the use of the house there are more emissions coming from the constant usage of the appliances and lightning when direct processes are not so constantly used, I do not know, it is something to further look into.

Reply

(http

David Ontaneda

(https://canvas.ubc.ca/courses/26675/users/27548)

17 Jan 2019

2/2 Great reflection, and good use of the statistics on emissions and potential reductions in building operations. I like that you highlight the difference in emissions from direct and indirect processes. I would also consider the emissions from building materials.

Reply

Antonio Rodriguez

(https://canvas.ubc.ca/courses/26675/users/15905)

17 Jan 2019

The transportation is a place where many emission cuts can be made before 2030. 2.88 GtCO2/year can be cut down from switching to more fuel efficient heavy and light duty vehicles and also a transition to electrical vehicles making up 9% of new vehicles. The transition to more efficient passenger cars is projected to contribute within the top six for most emission reduction potential; the top six contribute 18.5 GtCO2e/year to the reduction potential out of a total of 33 GtCO2e/year for 2030. Aviation and shipping are not as significant in cutting down emissions with only around a quarter of transportation's total emission reduction potential. Overall, transportation has an emission reduction potential of around 4.7 GtCO2/year in 2030, which is the fourth highest out of all the other sectors, behind the forestry, industry and energy sectors.

It is important to also take into account the 'well-to wheel' factor which includes emissions from generating the fuel, adding infrastructure and the production of new vehicles as well as the efficiency. Some of these will fit into the other sectors, like fuel generation into the energy sector or vehicle production into the industry sector; but it would be interesting to see a study for ‘well-to-wheel’ emissions between different types of cars using different fuel types.

This chapter also falls into the scientist’s myth by putting all these numbers from models and expecting the policy to follow when it is much more complicated. It is not reasonable to say that since this study shows that we can bridge the emission gap, we are fine and don't need to worry; there is still a lot of work that needs to be put into implementing and regulating these policies and making sure every country and sector agree and work accordingly.

Reply

Ashna Misra

(https://canvas.ubc.ca/courses/26675/users/94031)

17 Jan 2019

2/2 Definitely an interesting point on the "well-to-wheel" analysis. I found while this chapter was illuminating for facts it didn't feel very transparent about their methods. For example I am curious about how much they accounted for growth of energy usage in developing countries and what they mean about overlap in sectors. I agree with your last point for the scientist myth. Although I will say where a lot of us felt like the last chapter was lacking in direction this picks up some of the slack, again it should stress more of the urgency.

Reply

Katie Reeder

(https://canvas.ubc.ca/courses/26675/users/11862)

17 Jan 2019

2/2. What policies need to be adjusted or created to transition to more fuel-efficient cars or electric cars?

Reply

David Ontaneda

(https://canvas.ubc.ca/courses/26675/users/27548)

17 Jan 2019

Forestry Sector

I found the information on the forestry sector to be very limited. Simply put there are two options for emissions reductions in this sector: Halting deforestation and regenerating deforested land. The common theme here is that there is uncertainty as to what the emissions reduction potential is specifically in halting deforestation. Combined, the claim is that there is an emission reduction potential of 5.3 GtCO2e/year. However, the uncertainty range extends up to 6.5 GtCO2e/year. This means that under their calculations there could potentially be net positive emissions from the efforts of the forestry sector.

I bring in bamboo production as a carbon sequestration technology that has the potential to reduce emissions with much greater certainty (at a level I have no idea of yet). The concept is that bamboo is a fast growing grass that has high carbon sequestration potential if then used as a long term building material. Additionally, the section on the building sector didn't seem to talk about building materials as much as building operations. If bamboo could be a substitute for cement and concrete, we would be looking at building with a carbon negative material rather than one which produces roughly 7% of global CO2(e) emissions.

A quick look at carbon sequestration potential of bamboo production and reforestation from a study done in Ecuador:

"By protecting 22,400 ha of forest from projected deforestation, The Maquipucuna Foundation has avoided the emissions of approximately 3.36 million tonnes of carbon. Every hectare reforested is estimated to sequester between 150 - 300 tC over a 30-year period. University of Georgia studies have shown carbon stocks above and below ground for bamboo range from 80 to 240 tones of C

per ha at normal stand densities, much higher than pasture."

Excerpt from:

Justicia, Rebeca & Ronald Carroll, C. (2005). The Chocó - Andean Corridor: Sustaining Livelihoods and Protecting Biodiversity.

Reply

Katie Reeder

(https://canvas.ubc.ca/courses/26675/users/11862)

17 Jan 2019

I agree that the use of bamboo has amazing potential, but it is also an invasive species in many regions. Where could we realistically plant this amount of bamboo? Also, is it realistic to think that bamboo could *displace* concrete? I've only read that bamboo fiber can be used to reinforce concrete instead of steel fibers. I'm curious though- toss me a link if you have a good one!:)

Also, part of the question was to outline what sort of policies could promote the use of your technology (in this case, your material). How could policies (at any level of government) incentivize the use of bamboo?

Reply

Katie Reeder

(https://canvas.ubc.ca/courses/26675/users/11862)

17 Jan 2019

2/2

Reply

Jackson Herron

(https://canvas.ubc.ca/courses/26675/users/31047)

17 Jan 2019

2/2

It's interesting how simply the mitigation measures for the forestry sector boils down to simply stop deforesting and start reforesting. I do think the authors could have given some more concrete example of policy or case studies to achieve these goals. This probably needs to take a different form wherever its implemented.

Interesting information of using fast growing bamboo!

Reply