### Selected Decarbonization Reading List

This is the reading list that Clean Energy Transition Institute Board member Ross Macfarlane and Executive Director Eileen V. Quigley developed for a course they co-taught during the Winter Quarter 2018 at Western Washington University’s Institute for Energy Studies. Readings and citations were current as of March 31, 2018.

The course, Northwest Energy Systems and the Low-Carbon Pathways, explored what is required to transition from a fossil fuel to clean energy system in the United States within a timeframe that avoids the worst impacts of global warming, with a focus on the Northwest region. We examined existing electricity, transportation, and building energy systems and the challenges and opportunities for transitioning them to low-carbon systems.

We began with a grounding in the complexity of the pathways to a low-carbon future; the barriers to transitioning; and the policies that enable the transition; then explored the clean energy transition in action internationally and nationally and examined how cities, counties, and states can make progress in transitioning off of fossil fuel in the absence of national leadership in the United States, using case studies from local Northwest efforts.

We investigated the impact of citizen advocacy that galvanizes action for carbon emission reduction (e.g., 100% Renewable campaigns; Power Past Coal; Stand Up to Oil; investment portfolio divestment, among others), as well as the importance of corporate leadership in carbon pollution reduction. We looked at the need to shape public opinion to demand the transition to clean energy and explored how to build a clean energy workforce and look at how to protect society’s most vulnerable communities from bearing the brunt of the transition.

The core questions that this course explored were: what will it take to make the transition happen and can we get there without a radical transformation of our economy and political paradigms?

The main texts for the course were:


R – Required reading  O – Optional reading

**Class 1-1/9/18: Overview of Course and Expectations; Context Setting; Drives of the Transition**

- O – Frame, Dave. September 18, 2017. The Conversation. *Keeping global warming to 1.5 degrees: really hard, but not impossible*
Class 2-1/11/18—Low-Carbon Pathways Introduction
O – Romm, Joseph J. and Amory B. Lovins. Foreign Policy, 1992/Winter. *Fueling a Competitive Economy*

Class 3-1/16/18—Overarching Climate and Energy Policy
R – Roberts, David. April 22, 2016. *Vox*. *Putting Price on Carbon is A Fine Idea: It’s Not the End All Be All*
Class 4-1/18/18—Northwest Energy Systems
O – BPA Film Collection. *River of Power* (video)
O – Bonneville Power and Bureau of Reclamation. *Great River* (video)

Class 5-1/23/18—Low-Carbon Pathways Electricity

Class 6-1/25/18—Low-Carbon Pathways-Electricity-Coal, Natural Gas & Nuclear (Macfarlane)
R – Roberts, David. October 19, 2017. Vox. *Four signs that Trump’s furious efforts to save coal are futile.*
Class 7-1/30/18—Low-Carbon Pathways—Transportation
R – Mims, Christopher. August 28, 2016. Wall Street Journal. Why EVs will be here sooner than you think
O – Milman, Oliver. January 1, 2018. The Guardian. Vehicles are now America’s biggest CO2 source, but EPA is tearing up regulations.
O – Cheung, Albert. July 31, 2107. Bloomberg New Energy Finance. The EV Bandwagon is Accelerating, but is it unstoppable?

Class 8-2/1/18—Low-Carbon Pathways—Transportation—Aviation, Freight, & Marine
O – Climate Solutions et al., May 25, 2011. Sustainable Aviation Fuels Northwest.

Class 9-2/6/18—Policy-Transportation
R – Roberts, David. Vox. August 22, 2017. California Has a Climate Problem and Its Name is Cars
R – ICF International/Union of Concerned Scientists. 2016. Half the Oil: Pathways to Reduce Petroleum Dependence on the West Coast (Executive Summary and Chapter 5 (Washington)).

Class 10-2/8/18—Decarbonization in Action
R – Caughill, Patrick, January 16, 2018. Futurism. China is the New World Leader in Renewable Energy
R – Chiu, Domonic, Center for October 6, 2017. Center for Strategic and International Studies, New Perspectives in Foreign Policy, Volume 13, Summer 2017. The East is Green: China’s Global Leadership in Renewable Energy
R – Pham, Sherissa and Matt Rivers, July 18, 2017, CNN Tech China is crushing the U.S. in Energy
O – Sandbag, June 7, 2911, The Guardian. What is the emissions trading scheme and does it work?
Class 11-2/13/18—Washington Policy Update—Accelerating Paths to Clean Energy

Class 12-2/15/18—City-Led Climate and Clean Energy Action
R – Quigley, Eileen V. October 6, 2017. Clean Energy Transition. Cities Take Aim at Carbon Reduction
R – Milman, Oliver, Joe Eskenazi, Richard Luscombe, Tom Dart. June 12, 2017. The Guardian. The fight against climate change: four cities leading the way in the Trump era
R – June 2017. McKinsey. The future(s) of mobility: How cities can benefit

Organizations to review: Sierra Club’s Ready for 100; Urban Sustainability Directors Network (USDN); C40 Cities Climate Leadership Group; Innovation for Network Communities; Renewable Cities; America’s Pledge (WRI)


O – Georgetown Climate Center. January 19, 2017 Lessons in Regional Resilience and report


Class 13-2/20/18—Advocacy-Supply Side

R – Carbon Tracker/PRI. June 21, 2017. 2 Degrees of Separation: Transition Risks for Oil and Gas in a Low Carbon World. (Executive Summary)


O – Carbon Tracker/PRI. June 21, 2017. 2 Degrees of Separation: Transition Risks for Oil and Gas in a Low Carbon World. (Full Report)


O – Brown, Dylan. October 12, 2017. E & E News. Bloomberg puts another $64m for the ‘war on coal’


Class 14-2/22/18—Advocacy-Movement Building and Influencing Public Opinion

Communications:

R – Hymas. Lisa. December 7, 2017. The Guardian. Climate change is the story you missed in 2017 and the media is to blame

R – Fahey, Anna. May 6, 2015. Sightline. 3 Climate Messages that Win
O – Blanding, Michael. August 28, 2017. Niemen Reports. Covering Climate Change, with Urgency and Creativity
Climate Chat: An everyday Guide to the Science of Talking about Climate Change

Public Opinion:

Anti-Fossil Fuel Protests

O – McKibben, Bill. February 1, 2018. The Guardian. We can battle climate change without Washington, DC. Here’s how.
O – Adler, Ben, January 18, 2017. Grist. In the Trump era, all climate progress will be local

Divestment:
R – McKibben, Bill December 21, 2017. The New Yorker. The movement to divest from fossil fuels gains momentum
O – Reuters Staff. December 19, 2017. Reuters. NY City Comptroller proposes pension funds to cut fossil fuel portfolio
O – Go Fossil Free

Class 15-2/27/18—100% Clean Movement
R – Roberts, David. February 6, 2018. Vox. A beginners’ guide to the debate over 100% renewable energy
R – Shahan, Zachary. February 23, 2013. CleanTechnica. How much can/should the world be powered by renewable energy.

R – Barton, Charles. February 23, 2010. *Mark Z. Jacobson is credible as a scientist?*

R – Initiatives explicitly about carbon neutrality or 100% renewable energy: Carbon Neutral Cities Alliance; Global 100% RE; Go 100%; Renewables 100; The Solutions Project; Renewable Cities; Sierra Club Ready for 100; Sierra Club 100% Clean Energy.


O – November 8, 2017. EnergyWatchGroup. *New Study: 100% Renewable Electricity Worldwide is Feasible and more Cost-effective than the Existing System; Go 100 Renewable Campus*

If you want to read all of David Roberts’ pieces on this topic (optional):

Roberts, David. April 18, 2016. Vox. *How cheap does solar power need to get before it takes over the world?*

Roberts, David. February 12, 2016, Vox. *Flattening the “duck curve” to get more renewable energy on the grid*


Shahan, Zachary. February 19, 2013. CleanTechnica. *70%, 80%, 99.9%, 100% Renewables—Study Central,*


http://www.youtube.com/watch?v=m1NNZZ2Y_nQ&feature=youtu.be

Class 16-3/1/18—Business Community Leadership


R – We Mean Business Coalition. December 12, 2017. *Business Is Harnessing the Paris Coalition As a Driver of Growth.*


O – Kuramochi, Takeshi *et al.* September 2017. New Climate Institute/ The Climate Group. *States, Cities and Businesses Leading the Way: A First Look At Decentralized Climate Commitments in the US.*


Class 17-3/6/18—Building a Clean Energy Workforce


Class 18-3/8/18—Barriers to the Transition
R – Carpenter, Zoe. November 10, 2016. The Nation. Is This Game Over for the Climate?
R – Golden, KC. May 22, 2015. Climate Solutions. We Have Met the Wrong Enemy.

Class 19-3/13/18—What will it take to create an economy-wide low-carbon pathways approach for the Northwest?
O – Mahone, Amber; Elaine hart; Ben Haley; Jim Williams; Sam Borgeson; Nancy Ryan; Snuller Price. Energy + Environmental Economics. April 6, 2015. California PATHWAYS: GHG Scenario Results.

Class 20-3/15/18—Wrap-Up: What’s needed

Additional References

Animations & Videos
▪ Animated Keeling Curve
▪ 1,000 Years of Carbon Emissions
▪ 800,000 Years of CO2 Levels
▪ Spiral-tastic: Climate Change in three animations
▪ Nissan Leaf Gas-Powered Everything
▪ Big Oil is desperate for your love. Watch their silly plea in this insane video

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