

# What if They're Right? Responding to Climate Change in the University Classroom

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# Why teach this class?

## Tom's Muse

*“Experience changes you. Nothing else changes you.”*

—Paul Kingsnorth

## Nico's Muse:

*‘The only true response to the ecological crisis is on a global scale, provided that it brings about an authentic political, social and cultural revolution, reshaping the objectives of the production of both material and immaterial assets.’*

—Félix Guattari

# Approach to the class (why team teach?)



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= Quantitative and  
Qualitative on  
Equal Footing

# Four General Course Outcomes:

- 1. Through a critical analysis of climate change and its (possible) responses, students will be able to identify, understand, and describe basic philosophical responses to climate change. Students will be able to quantify these responses using appropriate scientific and mathematical tools.**
- 2. By examining not only climate change as an academic discipline, but one in which they have a stake, students will demonstrate personal responsibility, integrity and interpersonal respect.**
- 3. In reaction to various proposals and ideas, students will begin to be able to formulate and articulate their own moral beliefs and values, including some of their moral biases, intuitions and emotions and how these influence their own ethical reasoning.**
- 4. Through a sustained reading of key texts, students will demonstrate reading comprehension and the writing skills necessary to engage in ethical and scientific dialogue with other stakeholders possibly affected by climate change.**



# Essential Topics to Introduce:


- **Science of climate change (Dan Dixon, UMaine)**
- **Food and Agriculture**
- **Renewable Energy**
- **Environmental Philosophy**
- **Consumerism**
- **Transportation**
- **Activism**
- **Anthropocene**

# Meaningful Change:

- **Individual Responses,**
- **Community-Scale Responses**



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What worked?





# Husson Garden





# Alternative Transportation



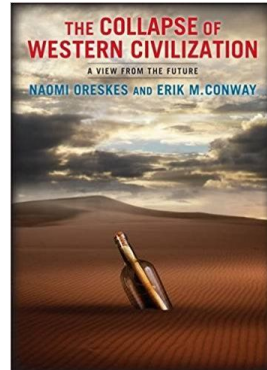
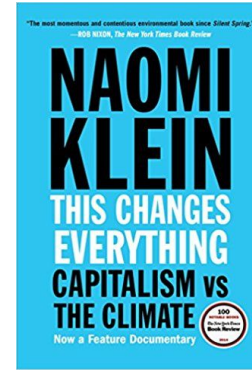


# Alternative Transportation



# And what didn't work...

- Individual and Group Responses
- Teaching in a classroom/traditional learning environment
- Activating students to become more aware, critical thinkers
- Quantifying what effect we were actually achieving
- Structuring the course around a sustained reading



# Other Resources

- Dark Mountain Project
- NYTimes Antarctic Ice Collapse
- Bill Nye Global Meltdown
- Bill McKibben The Question I Get Asked the Most
- History of climate denial podcast
- Forest Man: Video of man who has been planting a forest since 1979 and Wangari Maathai's Green Belt Movement
- Forget Shorter Showers
- A Million Bottles a Minute.
- James Hansen Ice Melt
- The Uninhabitable Earth
- 6th mass extinction PNAS paper July 2017
- Nature article, how much fossil fuel must remain in the ground to remain at 2C temperature change
- Katharine Hayhoe

# Conclusions

What worked and what did not?

Change for next semester?

Advice from the audience?

Pictures: Nico Jenkins, Tom Stone, Melissa Stone, Kaile Kimball, Abby Dyer, Alex St. Cyr





## Homework and Written Responses

**1. Solar panels in Maine.** One consideration when deciding where your electrical energy will come from is cost, but by no means is this the only (or even the most important) consideration. However, we should still have a working knowledge of the typical finance considerations associated with solar. Here we will assume that the Stone family wants to install enough solar to completely cover their electrical energy needs for the year (question to ponder, are these really “needs” and what defines a need—this was mentioned in the Al Gore film by the P.M. of India). Based on the solar calculator at Revision Energy (<https://www.revisionenergy.com/at-home/solar-electricity/>), I will need to install a 6000 W (6 kW) system at a cost of \$21600 (which does not include tax incentives) to offset 100% of my electric bill. The system will produce a total of 7620 kWhr of energy per year, and take up 432 ft<sup>2</sup> of roof space.

a. Find out what federal and state tax credits are available for residential solar, and list them (what credits/rebates apply to my house?). How much will I actually pay for the system? What is the cost of solar in dollars per Watt installed?

b. Using the Veazie cost of electricity of \$0.174 per kWhr, estimate how many years will it take the system to pay for itself?

c. If the panels are good for 40 years, how much money do I save in electricity bills after the system has paid for itself?

d. The company states that I will offset 5508 pounds of CO<sub>2</sub> emissions per year. This is equivalent to driving how many miles in my car? (which gets 30 miles per gallon, and gasoline produces 19 pounds of CO<sub>2</sub> per gallon burned)

e. Explain net metering in your own words (consider how net metering works in Maine, where you do not get paid for any energy you put onto the grid).

f. A common concern is that Maine does not have enough sun to make solar viable. Define insolation in your own words, being sure to include units. Compare the insolation of Maine to that of Germany (which generates ≈6% of its energy from solar, the percentage of electricity usage in Maine that is from solar is negligible according to the EIA).

g. Briefly explain the premise behind Greater Bangor Solarize (and all the other Solarize campaigns around the country). What is GBS trying to accomplish and how?