Northern California Clean Energy Field Trip
ENVIRON 713A-01
Duke University—Nicholas School of the Environment

Spring 2015

Instructor
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I. Course Description
This is a four-day field course in Northern California (March 10-13, 2015), to learn first-hand about the renewable energy industry. The course will include tours of the principal technologies used in the industry and meetings with experts in wind, solar, geothermal, energy efficiency and policy, who will provide perspectives on how the industry is evolving.

II. Goals and Learning Outcomes

Goals
- Give you a first-hand perspective of how the wind, solar and other renewable energy businesses operate.
- Have you hear from a variety of experts on issues facing the industry and how it is responding.
- Put a face to the industry by having you meet and interact with people who work in it every day.

Learning Outcomes
By the end of this course, you will:
- Have a more informed understanding of the renewable energy industry.
- Have a working understanding of the major technologies used in providing environmentally cleaner energy for electricity and transportation.
- Have a first-order understanding of how the industry operates and how operations are evolving in response to past and future challenges and opportunities.

III. Overall Structure of the Course
This course is a mobile seminar. It will consist of three components:
- Me: I will provide context and continuity for the places and people we will be visiting.
• **You:** You will participate fully, by asking questions of our speakers, of myself, and of your classmates during their report presentations (discussed in next section). You will also respond to questions from your peers and me regarding your report.

• **Us:** We will hear from experts representing different areas of the renewable energy industry who are giving very generously of their time and resources to share their understanding of and insight into what’s going on in their respective fields.

### IV. Assessment and Grading

You will be assessed and graded based on the following criteria:

- **Report (50%)**
- **Report Q&A (10%)**
- **Class Participation (40%)**

**Report**

Each student will choose (or be assigned) a topic related to the field trip agenda and will write a report about that topic to be included in the Field Guide, which will serve as the course textbook. Each student will receive a compiled electronic version of this guide prior to the trip. To select the topic you will write about, use the Google Docs link, which is posted on Sakai under “Assignments” and fill out your name by one of the topics on the list. Students that do not choose a topic by February 1st will be assigned one.

The report should provide a brief introduction to the company, industry and/or topic. Also, if it is available, you should include economic data for the company and/or industry and any key company employees and/or companies in the industry. For companies or industries, the basic business model should be described, with a graphic that illustrates the key business components, when possible. Please describe current events and possible industry changes that could affect the company and/or industry.

**Report Requirements:**

- Maximum of four pages, including charts & diagrams
- **Use the Word template titled “CAFieldGuideTemplate” for your report.** The template is posted in Sakai under “Resources”. Please do not change the formatting of the template as all reports will be compiled into a single document. Submissions not using the template will not be accepted.
- Refer to “CAFieldGuideTopics2015”, posted under Resources to guide your research and report content. You must answer these questions at a minimum, but please include other information that you find relevant.
- Include a bibliography (those may be on a fifth page)
- **Due Wednesday, February 25th by 5:00 PM:** Submit to the TA via email and rename the file as follows: “LastnameFirstname_Topic.doc”

**Report Q&A**

At a scheduled point in the trip, you will come before the class to answer 1-2 questions from
me about your report and any follow up questions from others in the class. This discussion will last for 5-10 mins. You will be graded on how directly and how well you answer these questions. Do not use the time to provide a verbal summary of your report. We will have all read it, so we will be seeking further information or insight from you regarding what you learned. Note that because of our tight schedule, many of the Q&A sessions will take place on our shuttle on the way to or from a visit.

V. Reading
The single required reading for this course is the field guide that you and your classmates will produce. This guide, which will be a compilation of your reports, will provide information ranging from background on major industry elements and issues to details about who/where will be visiting.

VI. Course Requirements
The schedule for this course is rigorous, particularly while we are in Northern California. We start early in the morning (between 7-8A) and on a couple days run late into the evening (9-10P). Although you will get tired, you are required to:

**General**
- Participate in all events leading up to and during the trip.

**Prior to the Trip**
- Read all class emails and check the course Sakai site before the trip for last minute changes.
- Fill out the information form posted on Sakai
- Sign release forms (you cannot go on trip otherwise).
- Submit your pre-trip report by February 25th at 5pm.
- Read through the Field Guide by the time we begin the trip in California (the guide will be released on March 4th).

**During the Trip**
- Pay for your meals when necessary, as noted on the agenda.
- Dress Appropriately.
  - Business casual for all days
  - Come prepared for the weather
  - There will be lots of walking, so wear comfortable shoes at all times.

**After the Trip**
- Complete the course evaluation at the end of the course.

VII. Course Policies
• Take advantage of this opportunity to learn as much as you can by asking questions, particularly of our speakers. They participate in order to interact with you.
• Be Safe – on the trip, your safety is our number one priority, therefore:
  – follow instructions
  – avoid going anywhere alone
• Remember that you are representing Duke and yourself, so act in the best interests of both.

VIII. Course Outline / Course Schedule
The agenda will be provided in a separate document. It will also be posted on Sakai, under “Resources”.