Motivating Questions:
Is OPEC still relevant?
Is recycling such a good idea? If so, shouldn’t government get out of the way and let people just do it on their own?
There’s a lot of discussion of the collapse of global fisheries. What are the economic forces that lead to this collapse and is there anything that can be done to address this problem?

In the final module of AGEC 350 we will use our economic lens to focus on energy, recycling, and fisheries. There are newspaper articles on these issues almost every day, so we all have ample opportunity to apply the fully refined economic lens to this most important public policy question. In addition to the theory and general issues, it is also important that you are familiar with some basic facts about these issues. The chapters in the book do a good job of hitting on many of the main points.

By the end of this module you should be able to
• Talk knowledgably about the basic issues that are behind energy demand and energy policy.
• Explain the economic logic (or lack thereof) of the principal energy policies in the US.
• Discuss knowledgeably how the economics of managing renewable and nonrenewable resources.
• Discuss the economic arguments for and against recycling.
• Explain how the “tragedy of the commons” leads to inefficient management of fisheries and how policies can overcome this “tragedy.”

Module 5 Core Concepts
1. What are the main options for our society’s energy future and what policies are moving us there now and how might we move faster in the future?
2. If recycling is the answer, what’s the question?
3. What government policies affect recycling rates?
4. What is the “Tragedy of the Commons” and why should it really be called, the “Tragedy of open access resources”?
5. How can top-down policies (taxes and individual transferable quotas) lead to more efficient outcomes in open-access resources like fisheries?
6. How can bottom-up policies of common pool management lead to more efficient outcomes in open-access resources like fisheries?
Reading Guide for RAT #9

You will be allowed one 3×5 inch note card with handwritten notes for the RAT.

Preparation Assignments
*(Page numbers in italics & parentheses refer to the 9th edition)*

Chapter 7 (*except* as indicated below)
Supplementary reading on levelized costs (link from calendar page)

The following sections will **not** be covered in the RAT

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<td>Price Elasticity of Demand</td>
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<td>Income Elasticity of Demand</td>
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<td>Fossil Fuels: National Security and Climate Considerations</td>
<td>154-160 (151-157)</td>
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Key Concepts

- What is Hubbert’s Peak?
- What does OPEC stand for and what does it do?
- Why does a monopolist use up natural resources slower than firms in a competitive economy?
- What is the competitive fringe and what effect does it have on prices?
- Do the members of a cartel always have an incentive to comply with the rules of the cartel?
- What is the Strategic Petroleum Reserve?
- In terms of the CO₂ emissions per amount of energy produced, which fuel is the highest emitter and which is the lowest?
- What are the two main environmental concerns related to nuclear energy?
- What are the drawbacks to coal as a fuel source?
- What is fracking?
- The challenges of supplying electricity.
- What are RPS’s and a REC’s? What are they intended to do and how do they work?
- Is there an economic justification for government intervention to encourage use of energy efficient products?
- What policies have been used in the U.S. to encourage energy efficiency?
- What is levelized cost (supplementary reading).
- What is the difference between dispatchable and non-dispatchable technologies?
- According to the EIA report, what is the cheapest type of new energy source? Which is cheaper, wind, solar PV or coal? (EIA Table 1, Total LCOE)
Reading Guide for RAT #10
You will be allowed one 3×5 inch note card with handwritten notes for the RAT.

Preparation Assignments
(Page numbers in italics & parentheses refer to the 9th edition)
Videos on Recycling and Fisheries, Chapters 8 & 12 (13)

The following sections are not covered in the RATs

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<tr>
<td>Dynamic efficient sustainable yield</td>
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<td>Subsidies and Buybacks</td>
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<td>Marine Protected Areas and Marine Reserves</td>
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<td>The Economics of Enforcement</td>
<td>NA (347)</td>
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<td>Preventing Poaching</td>
<td>307-308 (349)</td>
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Recycling
★ How the following factors affect the extent to which a material is recycled: purity, type of material, contamination of material, accessibility of recycling to consumers, distance from virgin ores, the price of virgin ore, labor costs, energy costs, and environmental regulations.
★ If \( a \) is the rate at which a material is recycled, how much total volume of that resource do you get from 1 pound of raw material?
★ What’s the difference between old scrap and new scrap and why is it important?
• When should a community recycle even if it is losing money?
★ What is the efficient level of recycling? This is covered in the video and in Figure 8.4 (8.3)
• The marginal cost of disposal under a flat rate pricing system
★ Volume pricing for disposal. What is it? How does it affect poorer households?
• Refundable deposit systems and bottle bills (Debate 8.1). Do they lead to economically efficient waste management?

Fisheries
★ The simple model of fishery growth (Figure 12.1 (13.1) and start of the video
★ The simple economic model of fishery exploitation and the open-access equilibrium (Figure 12.2-12.4 (13.2) and the video)
  • Why do harvests first rise and then fall as effort increases?
  • What are the meanings of the points \( E^e \), \( E^m \) and \( E^c \)?
  • What point would be reached if the fishery had a sole owner?
  • What point would be reached in an open-access to the fishery?
★ Example 12.1 (13.2) How can common-pool resources be managed by community co-management?
• How has the role of aquaculture changed in recent years?
★ How do the fish regulations, taxes and individual transferable quotas (video and text)
• How does the 200-mile limit lead to more efficient fisheries management?