

Katonah Chapter, Great Decisions, February 7, 2012

Summary by Elizabeth Hall
Energy Geopolitics

Books Mentioned:

Larry Lessig, Republic, Lost: How Money Corrupts Congress—and a Plan to Stop It
Daniel Yergin ... The Quest: Energy, Security and the Remaking of the Modern World
Robert Laughlin ... Powering the Future: How We Will (Eventually) Solve the Energy Crisis and Fuel the Civilization of Tomorrow

Question 1: Increasingly, global warming is seen as the mirror image of energy use. To what extent do energy goals coincide with and complement climate goals? To what extent do they conflict?

There are many conflicting estimates of oil resources. My figures say we will be out of oil in 40 years.

When considering various forms of energy, it's vital that we consider the externalities that are part of their cost. Fossil and nuclear fuels require mining operations for their extraction. Solar energy has no externalities.

In his calculations of future energy use, Yergin is extending the present into the future. I wouldn't give a penny for Exxon Mobil in a hundred years. It won't exist. In a hundred years, there'll be no more fossil fuels.

Carbon sinks now absorb half of all the released carbon dioxide. As we pour more and more carbon dioxide into the atmosphere, less and less can be absorbed. Eventually much less than half of the freed carbon dioxide will be absorbed.

What about the externalities involved in nuclear energy: mining uranium, shipping it, storing spent fuel, armies to protect the fuel from terrorists?
How much damage have externalities already done?

Natural gas will go the way of oil.

Solar fuel is generated only when the sun shines. New zinc-flow batteries (not for cars) can produce electricity on a 24-hour basis.

What's the difference between Brent crude oil and WTI crude? Both are sweet crude oil, but Brent is the international price for North Sea oil. WTI is the price in Cushing, OK. The price is based on the cost of extraction.

10 gigawatts of solar power under construction; it doesn't use batteries to store, but molten salts. That ups the available power from about 20% to 50%.

The books Yergin wrote in the 1970s sound like his books today.

In the 1980s, the Prudhoe Bay fields were supposed to be exhausted within 15-20 years. Yet they're still running today. You seem to be saying that oil will soon be exhausted.

Oil will never run OUT, but it becomes increasingly expensive to extract. Governments spend about 360 billion each year on subsidies for oil. The subsidies prop up the demand for oil. As the cost of extraction goes up, it become increasingly harder and harder to maintain.

What about fracking? Do we frack or don't we?
We've been hostage to oil; will fracking set us free?
The data is simply not available. It's all sealed. If we are to use fracking, we need to make everything public.

There's an inherent problem in pollution with natural gas. Every time they try to inject fluid into the ground, it causes earthquakes. State officials closed disposal wells around a brine-injection well after a magnitude 4.0 quake rumbled through the Youngstown, Ohio, area on New Year's Eve day. That was the 11th earthquake in 2011 in the region, which is not considered seismically active. Experts are also investigating a 5.6 magnitude earthquake east of Oklahoma City that has been linked to gas drilling there. [above from internet]

The U.S.G.S. just slashed its estimates of the Marcella Shales Reserves [PA] by nearly 80 percent.

Yet we've been fracking in many places for a long time.

In Sept 2010, the New York Times reported that the Energy Dept would give the go ahead for two nuclear reactors in Georgia that were designed to shut down rather than explode in case of trouble.

Converting solar energy into electricity is a low-efficiency process. There's a world-wide effort to increase that efficiency. Nobody knows where this is going. China is making a big effort to develop solar energy.

How do we make it possible for coal plants to capture carbon dioxide in a cost-effective manner? Right now it increases the cost of coal-fired power by 80 percent. At Columbia, they're trying to capture the carbon dioxide and inject it into the ocean.

What about HAARP? It's an effort to affect atmospheric change and control the weather? [Checked internet, but couldn't find a reliable website; mostly you tube, etc.]

One of the keys to efficient solar power is reengineering a battery. Government could be investing in research in battery technology. Lots of money is going into research, but only about a tenth of what it should be.

Carbon sequestration took a big hit in West Virginia. Went way over budget and shut down.

Congressional studies on Solindra showed no political connection. The collapse in price of solar cells ruined their business model.

Q.3: Where does energy security rank among U.S. Foreign policy interests? What are the appropriate methods for securing energy supply?

We should depend on relationships with countries rather than sending in the military. We should be developing a good relationship with Venezuela, rather than falling back on the Castro method we used with Brazil. It's a tough balancing act that has to be carried out country by country.

Is there a way to publicize the cost of externalities involved with various types of power? It might help us select among various foreign policy moves.

Concerning Clare's article on U.S. policy in the South China Sea... Aren't we doing the same thing as China is doing? What's wrong with that? It all has to do with the way we interpret each other's moves. Why should we worry about the Khazakistan pipeline? Should we stop pouring weapons into Southeast Asia and Australia? Aren't they destabilizing?

What is the point of supplying weapons? Self-interest, for one. The wishes of the oil-rich countries, for the other. Countries that supply oil WANT arms.

Clare is way too alarmist. We know China's interests. They know ours. But we have so many inter-related interests that we could go a century without conflict.

Q.4 Should the U.S. balance the interest of environmental conservation with the energy potential of the Arctic and the Beaufort Sea? If so, how? If not, why not?

Developing Arctic will hasten climate change, but that's what we do. More shipping, more oil and gas development in the Arctic until it is or it isn't too late.

My family saw the site of the Valdez spill a few years ago. There's still terrible devastation there. What if 'drill, baby, drill' wins out?

What's needed is to monetize the cost of oil spills. Allocate the cost and put a tax on each gallon of gas to cover it. That would be impossible to enact, but it would highlight the cost we are already paying. It would level the playing field among technologies.

Are we abandoning the Middle East because so much less of our oil comes from there?

The hope is that we're not abandoning the area, but reducing our over-representation there. It seems to me that we're moving out of Europe, not out of the Middle East.

The core conflict is that China sees the China Sea area as an historic part of China. We're trying to delay their reclamation of that area as much and as long as

possible. Also, under the territory that's in dispute are deposits of gas and oil.

Little is heard about Russia today. They're way ahead of us in taking advantage of global warming in the Arctic.

If we dropped our cold war view of Russia and just saw them as competitors to Saudi Arabia, relations might be smoother.

But they have a habit of just turning off energy supplies to other countries.

All morning, we've been talking short-term, not long-term. The cost of energy is going to rise and energy supplies may become scarce. Yet we're looking at this from the standpoint of keeping our wasteful style of living.

We need a breakthrough in energy technology.

Look how long we've been working on fusion energy and we don't seem to be much farther along.

Once solar energy is cheap and plentiful, we might not have to worry ...But we have to look at the whole society and ALWAYS think of externalities.