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# Heinberg: Resilient communities - paths for powering down:

By *bart*

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## Author:

Mattie Porte

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[2]On the last day of the conference, Richard Heinberg was warmly welcomed back for his second presentation.

Last night he gave us 'Peak Everything: Waking Up to the Century of Declines.' Now that he'd warmed us up, he said he'd come back to try out some new ideas he'd working with over the past few weeks.

"It's all a big unknown," he admitted, but had decided we were the kind of audience that could handle the unknown. Where are we? Where are we going? Richard invited us to journey together with him in this exercise in strategic thinking and see where it would lead. Based on his background, research and experience, Richard has formed 8 assumptions:



## Assumptions

**1. Global oil production is near its all-time maximum and will begin to decline in the next couple of years, with gas and coal not far behind.** The peak discovery was in 1964. The polar regions and the Falklands are

now open for exploration. Field sizes are declining — these are flooding environments. Even if there are sizeable oil fields, it will take decades to get them going.

The United States peaked in 1970 after having been the foremost producer and exporter, half of the oil coming from Texas and Oklahoma in the 1930's and '40's. The strategies they applied were:

- \* More exploration - this led to the discovery of oil in Alaska and the Gulf of Mexico which turned the tide temporarily.

- \* New technologies - water/nitrogen flooding of fields which again helped temporarily, but didn't change the direction of decline. Technologies do work, Richard says, but only to a certain extent.

In the United Kingdom, the North Sea peaked in 1999 and in the last 8 or 9 years has declined by half. Britain is now a net importer of oil.

Richard's colleague, Chris Skrebowski, Editor of Petroleum Review, has come up with the best definition Richard has heard of peak oil, that is:

*"Global production falls when loss of output from countries in decline exceeds gains in output from those that are expanding."*

From the standpoint of regular crude oils, the world has been producing 74 million barrels a day even as prices exploded through the ceiling at 107 dollars per barrel as of 27 March, 2008.

There is an impact due to our reliance on the export market. The economies of Saudi Arabia, the United Arab Emirates, and Russia are expanding and therefore using more energy. That's where consumption is rising most quickly, along with China. In the case of Russia, its domestic consumption has overtaken most of that increase and the country's exports are declining now. The picture looks grim because available exports will decline fast and by 2020 - 2025 could disappear.

The British coal industry is virtually gone. The United States has only 250 years of coal left. What is happening to the world's coal? Estimates are based on reserve to production ratio which assumes that consumption will be static; however, it rises dramatically each year, so the estimates are never accurate and reserves tend to be overestimated anyway. Over the last year, several groups have been looking at global coal supplies and have concluded that global coal production could peak in the next 20 years.

Total energy from fossil fuels will peak out in 2010 and according to Richard, it's all downhill from here in terms of energy from fossil fuels. This doesn't mean we'll see a peak in carbon emissions in 2010 because coal consumption is expanding while oil and natural gas consumption is levelling off and declining.

**2. Consequences will be severe.** A study was done for the US Department of Energy in 2005 which examined three scenarios based on when work on the problem of peak oil in the world were to start in terms of developing an alternative food, fuel, transport structure, etc. The three scenarios were:

- \* develop strategies 20 years prior
- \* develop strategies 10 years prior
- \* wait until peak oil happens then react.

The Executive Summary of the study report said, 'The peaking of world oil production presents the world with an unprecedented risk management problem. As peaking is approached, liquid fuel prices and price volatility will increase dramatically and without timely mitigation, the economic, social and political costs will be unprecedented. This will be a bigger problem than either the Great Depression or WWII.' The word unprecedented was used twice just in the executive summary — something Richard thought might be unprecedented itself for a government executive summary.

**3. There is no techno-fix.** This is a controversial assumption, Richard knows. The biofuels conservation has dramatically changed as a result of soaring food costs as we turn food crops into fuel for our vehicles — not a good idea! All alternatives should be supported — solar, wind, greater efficiencies, decentralisation of grid systems. At the end of the day, about 85 - 95% of our current energy budget is made up of fossil fuels plus uranium, a non-renewable source which will be scarce by mid-century. In Richard's view, there is no credible scenario in which efficiencies can make up for the decline in fossil fuels and other energy sources fast enough to offset it.

**4. Society will have to power down,** reduce our consumption, relocate, implying changes in behaviour and expectations.

**5. Climate change poses thorny policy challenges,** but enormous economic interests stand in the way of enforceable, effective global agreements. There are good proposals out there, Richard believes, but the United States and China must be on board. It's easy for policymakers to say what they want others to hear, but continue with business as usual.

**6. Climate change makes global power down necessary,** meanwhile peak oil means it's not only possible but unavoidable.

**7. Power down will be complex, lengthy and perilous.**

**8.** And there are other concerns, not the least of which are the staggering **financial implications**, for example:

\* The total value of US based mortgage bonds is \$10.4 trillion, 30% of which is expected to be lost in property defaults and devaluation (3.2 trillion in losses).

\* Trillions more are likely to evaporate from related derivative markets (which total 540 trillion).

To put those enormous figures in perspective, US GDP is 15 trillion; the total world GDP 48 trillion, according to the World Bank. There is a possibility that the world is teetering into another Great Depression, resulting in bank and currency failures.



[3] Once we get over the shock of the recognition of this information, and many of us here have already gone through much of the process of integrating this information, the question is:

How can we use this information of looming crisis strategically to ease the transition and make the end result more satisfactory for people and planet?



Richard identified specific strategies and addressed them one by one:

#### **4 Power Down Strategies**

##### *1. Topdown - changing government policy*

Rationale: We do need some topdown thinking and there are some aware government officials. Cuba, Sweden (who commits to being petroleum independent by 2020), Portland, San Francisco — post carbon cities. Only the government has the power to re-allocate resources, build infrastructure, change laws (zoning, taxes, etc.) at the scale needed.

Limit: Elected officials usually tied to vested interests and need public support.

##### *2. Responsive — planning for crisis management — Resilient Communities Action Plan*

Rationale: Proactive efforts may be too little, too late, but crisis could be opportunity as seen in Cuba and during The Great Depression. Often deep change becomes possible when necessity requires it.

Limit: This is not a short-term crisis, but a permanent change of state, thus long-range planning is essential (we do need a vision of the ultimate goal).

##### *3. Bottom up - grass roots organising*

This is famously being pursued by the Transition Town movement and many localisation groups in the US.

Rationale: Power holders are not going to use this process because they have too many vested interests. It's up to us! Even if they were enlightened, they'd need broad public support. Political buy-in is essential for coherent adaptation. If there's a groundswell of public support, then they can boldly act.

Limit: Many needed changes require policy initiatives, ultimately on the scale of WWII or the New Deal. Even if we had thousands of transition towns and villages throughout the UK, Europe, US, New Zealand, and Australia, spreading like a virus, if there's no policy change in China, then it's game over.

##### *4. Proactive - planning for linear adaptation*

Energy Descent Action Plans, Portland, Oakland, and other post carbon cities.

Rationale: It will take a while — must start now — envision where we want to be and make a plan to get there.

Limit: May not be enough time, available capital, political will, crisis may intervene to undermine efforts. What if, in fact, the world is on the verge of a financial implosion, wouldn't that undermine alot of the really good proactive efforts that do require alot of time and investment?

There are historic examples of crisis equals opportunity, for example Cuba and the Great Depression.

In Cuba, there were these organic agronomists who'd been promoting eco-agriculture for years before the crisis, but no-one listened. They'd been developing strategies and at that point of survival crisis they were called in to

redesign Cuba's food system. If they hadn't already been working on it, they would not have survived. This got Richard to thinking we need to be doing this — formulating a plan that can be implemented in a crisis situation.

In the case of the Great Depression, the US stock market crashed in 1929. Initially nothing was done and the economy got worse — abysmal — the government was in denial that there was a problem. 'Don't worry, the market will fix it.' About four years later it became apparent that something dramatic needed to be done. Economists, following the ideas of British economist John Maynard Keynes, were already working on it, building a new infrastructure to put people to work. They suggested that the government needed to step in and create jobs. This was the New Deal, jump-starting the economy. Social security and labour laws that would never otherwise have existed came about as a result. Crisis, in this situation, *was* opportunity.

Another example is the WWII victory garden whereby 40% of fruits and vegetable's were being produced in people's front and back gardens and on golf courses, etc. Richard is amazed by what people can do when necessity requires it.

Counter examples are Germany in the 1930s, North Korea in the 1990s. Canadian journalist, author and activist, Naomi Klein, in her book, *The Shock Doctrine*, chillingly describes how neo-liberal and conservative forces deliberately step in in crisis situations and put in policies that would otherwise be rejected. In the case of Hurricane Katrina where the United States government response was incompetent, it is very likely that part of the response was to push their agenda. The city became a republican city because most of the black people were forced to leave.

If crisis is approaching, doesn't it make sense for us to think strategically to help society make it through the crisis as survivably and decently as possible?

### **Alternatives**

We need to create a coherent disaster response plan that draws on the skills of the alternative movement to design low energy, low impact ways of meeting people's needs:

- \* natural healing (herbalism)
- \* renewable energy
- \* eco-agriculture, permaculture
- \* low-energy retrofitting
- \* carsharing, bicycle advocacy
- \* psychospiritual help for trauma
- \* Extensive literature (e.g., that of path-breaking ecologist, C.S. 'Buzz' Hollings who's been doing work on resilience since the 1970's) re: ecosystems and economies

Could the people with all these skills be tapped to develop that coherent plan?

### **Qualities and Characteristics**

- \* redundancy
- \* dispersed systems control points
- \* dispersed inventories
- \* diversity
- \* balancing feedback loops

That's a whole presentation in itself, Richard admits.



[4]

## 10 Steps to a Resilient Community

*What would that creation look like?*

1. Form a working group with the express purpose of creating a resilience response strategy.
2. Identify people and organisations with something important to offer post peak.
3. Ask for their help and participation.
4. Work with them to develop a contingency plan in their field: how to scale up quickly.
5. Seek input from disaster management officials. It's for the sake of the community so inclusivity is important so that the plan is not undermined.
6. Contact mainstream organisations responsible for water, food, power, fuel, healthcare, etc.
7. Assemble a coherent Resilience plan.
8. Present the plan to public officials and the community as a whole.
9. Implement the plan.
10. Work with other communities to create a national plan, then repeat steps 1 though 10 at higher levels.

*Obvious Questions*

- \* Is there time? Is it too big a job?
- \* Could there be resilience networks and certifications?
- \* Does this plan supercede existing peak oil and climate change response networks or groups?
- \* How does this differ from most existing plans? Most response groups cultivate an upbeat, hopeful tone which is essential. In contrast, disaster management, while a sobering activity, is necessary. Somebody's got to do it!
- \* What's in it for the alternatives movement? It may become mainstream.

\* What's in it for the policymakers and officials? They'll be strapped for ideas and will need the alternatives movement. Richard is convinced that there will be the need for more options and an array of strategies to implement and deploy, so this is in every respect to their advantage.

What's your strategy? Disaster management is not for everyone. Do you have the capacity to undertake a particular strategy? What do you want to do? Put your energy where you're drawn.

### **The Essence of the Idea**

\* Create a disaster response plan for peak oil and economic or environmental collapse that draws on the skills and knowledge of the alternatives movements.

\* Make the plan persistently visible to policy makers and the community at large.

In closing, Richard admits that he has no successful example because he's presenting all this information for the first time, but contends that elements already exist in transition towns, post carbon cities, and relocalisation projects. He suggests we need a subgroup within the activist groups to pull it all together with a shift in emphasis. He ended by sharing that he hopes the exercise was helpful to our collective thinking, even if it's on the sobering side.

To that, Richard received a standing ovation. Very brave to tell the people what is sure to be hard to hear and require a commitment to awaken and act.

To find out more about Richard's work, visit: <http://www.richardheinberg.com> [5]

*Photographer: Sverre Koxvold*

### **Does the article specifically mention Peak Oil or Peak Energy?:**

Yes.

### **Editor's Notes:**

This is the second presentation by Richard Heinberg at the recently completed Positive Energy Conference at the Findhorn community in Scotland. Reports on the many other speakers are available at [Findhorn website](#) [6] and [Transition Culture](#) [7].

Rob Hopkin wrote a [commentary on the talk](#) [8] and I hear through the grapevine that Heinberg's next MuseLetter will be devoted to the subject.

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-BA

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