

Today's Notes:

1. **Soylent Green**
2. **Canadian Clean Coal: NuCoal**

1. SOYLENT GREEN ...

"The year is 2022. New York City has become overpopulated with 40 million people and pollution has caused the temperature to rise. All natural resources have been destroyed, leaving 40 million people starving. The Soylent Company has created a new food product, Soylent Green. ... uncovers the horrible truth about Soylent Green."

26 years ago, the movie *Soylent Green* presented a possible future for our crowded planet. It was not a pleasant picture. Recently, I have become fatigued at hearing the word "GREEN." Please don't misunderstand my ennui. It is just that every article in the news today relative to the environment mentions the word, "green." President Obama has proposed spending \$150 billion (a mere drop in the \$9 trillion US deficit bucket) over 10 years to create 5 million "green collar" jobs. What will such a job pay? Will it stimulate economic growth enough to raise a family, enjoy a decent lifestyle and send Johnny and Sally to Harvard?

Even Secretary of State Clinton recently remarked that the US will now embark on a crusade to produce green jobs through new green energy initiatives. I must reiterate that I am not opposed to renewable energy. However before we embark on such a sea change in our lives research shows that we could reduce our carbon footprint 20% or more through simple conservation initiated by aggressive education in much the way that the anti-smoking campaign has been effective. Is this effort a new industrial policy to obviate old (auto?) industries with new green energy producing industries? Is that possible in a \$14.33 trillion dollar (2008) economy such as the US¹?

Political pundits ascribe to the notion that green collar jobs² will restart the nation's growth. Senator McCain, while running in the recent general election, dared not omit his pro stance on "green." Last year he assured his campaign audiences that action to decarbonize America's economy will produce *"thousands, millions of new jobs in America."* Central questions in the bravado surrounding development of a new Green economy are:

In the next 40 years will it be effective as planned in greening the environment? And second, will it create this many new jobs?

There are many, currently intractable, problems facing such bold promises. First, a key question is whether the technology exists and works on a grand scale to reduce

¹ CIA Fact Book, 2008.

² *Phil Angilides defines Green Collar. "It has to pay decent wages and benefits that can support a family. It has to be part of a real career path, with upward mobility. And it needs to reduce waste and pollution and benefit the environment."*

environmental carbon. Second, what will the costs amount to? No country cannot sustain or improve its per capita quality of life while dramatically increasing the cost of energy.

Finally, there is as yet no definitive scientific agreement whether or not global warming is an anthropogenic or natural phenomenon? That issue is very much an open scientific question with as many top scientists doubters as proponents. Persuasive evidence exists on both sides of this central question.

Each critical aspect of contemporary society, health care, jobs, education, infrastructure maintenance, recreation and nutrition, depends upon the abundance of cheap, clean energy. The general timeframe envisioned for this massive “green” transition is the year 2050. I suspect that quite a few readers of this Morning Note will be long departed by the year 2050. However I also know that our children and grandchildren and, more important, their future scions could be at exposed to this real or imagined threat. An important rationale for Morning Notes is to provide an educational forum where individuals can assess and choose individual legacies. One of my legacies is to leave the world a better place for my children, friends and acquaintances and also for my “causes.” It is my most earnest wish that you too have developed legacy causes that are nearest and dearest to your souls.

These green goals of the Administration and Congress will constrain budgets in the next four decades dramatically. We still must develop many of these new green technologies even before the difficulty of their global implantation. These will be challenging goals. Energy Secretary Chu recently spoke of the need to focus on transformational technology (biofuels in this case) research, which he defined as research that is ‘game-changing’ rather than merely incremental.

“ ... targeting breakthroughs in biofuel technology development that will be needed to make abundant, affordable, low-carbon biofuels a reality, ... While these efforts are still relatively new, they are already yielding results, such as the bioengineering of yeasts that can produce gasoline-like fuels, and the development of improved ways to generate simple sugars from grasses and waste biomass.”

According to Dr. Chu, more transformational “game changing” research is necessary to develop a range of clean energy technologies to the point where the private sector can pick them up. Much of Dr. Chu’s transformational research will require decades of R&D effort no matter the size of the government funding. In my view this is the critical Achilles Heel in the plan for the short run “greening” of America.

For the G-8 countries to “go green” alone is entirely a waste of time and will cause a massive destruction and reallocation of wealth. It is the inevitable improvement of the BRICS quality of life and lifestyle that must also play “green” or all is for naught. At present China and India have no intention of participating in any sort of Cap and Trade program to reduce carbon emissions since it too would cap the development of their relatively lower quality of life.

On Monday while in Turkey, President Obama remarked, that he would rectify the failing of his predecessor, President Bush, through a global carbon cap system. He admitted in that forum the expense and difficulty of implementing such a greening of the world.

The greening of the environment has become a religious not a scientific issue. It is based on fear and not science. No one may dare challenge the great fear that the new holocaust will cause higher temperatures and Soylent Green.

On March 31, 2009 Congressmen Henry Waxman and Edward Markey established a proposed energy bill that will be injurious to our country. It would force curtailment of CO₂ emissions by 20 % by 2020 and by 80% by 2050. The draft proposal would require utilities to produce or obtain 25% of their power from renewable sources, such as wind and solar, by 2025. It would establish a national renewable energy standard and an energy efficiency standard aimed at cutting power demand by 15 % by 2020 and natural gas demand by 10 %. I believe that energy efficiency is definitely the way of the future, as I have mentioned. There is no doubt that North Americans are prodigal when it comes to wasting energy. However when you cut too close to the bone you begin to disrupt the economic lifeblood of growth. Carbon Cap and Trade is a big piece of the Waxman / Markey proposal. Washington understands Cap but they do not yet understand Trade. Such a policy at the present level of technology will increase energy costs by a minimum of 10% and a maximum of 30%. The proposal will be voted on in the House in June and in the more conservative Senate in August. It would be wise to voice your opinions – one way or the other on this legislation. Robin West, chairman of PFC Energy, the Washington-based consultancy said Washington was moving away from conventional sources of energy, such as coal, oil and natural gas. But he warned:

“The weakness is the practicability and the scalability of the alternatives they are talking about.”

I must agree. That brings us to the final piece of our journey toward Soylent Green. We now have, for the most part, lawyers in Washington with starry-eyed views of an idyllic renewable energy deployment in the near future. This is a radical program and its implementation cannot come to fruition in any meaningful way given the constraints I have described above. Therefore as a country we must include nuclear energy in the renewable energy mix. I have suggested that for the \$17.4 billion loan from the Bush Administration for General Motors and Chrysler, we could build 2 or 3 nuclear plants and supply millions of homes and electric cars with the absolutely cheapest form of renewable, carbon free energy on this green planet in 5 to 7 years. What issue am I missing in my thought process? Green energy in the next two decades does not have to be perniciously expensive (as it will be in the Waxman / Markey proposal) if today’s scalable nuclear energy technology is part of the mix. I noticed with satisfaction in my meetings in Calgary that both Alberta and Saskatchewan seem to be moving forward on the deployment of Canada’s famous and well – tested CANDU technology. Canadians get the importance of the real energy picture - the American Left is far behind the curve. Soylent Green anyone?

2. CANADIAN, CLEAN, COAL

As always it was great fun to be able to present at the Cambridge House Symposium in Calgary. During my visit I was privileged to meet with Mr. Tom MacNeill, President and CEO of 49 North Resource Funds Inc. The fund is managed out of Saskatoon, Saskatchewan. I have written several times over the past few years that Saskatchewan is the next major wealth creator of the Canadian provinces. Why, you ask? Because with a population of only about 1 million people, the province is rich in water, potash, lignite coal,

oil sands, Bakken oil resources, uranium, precious metals, wheat and agricultural potential. Let's see food water, arable land, energy resources and metals? This provides another wealth creation and Discovery opportunity for Canada and citizens of Saskatchewan to live a high quality life – you know, to improve their lot. I suppose each family strives to do this.

I was privileged to listen to Mr. MacNeill present the Saskatchewan story at the Calgary Cambridge Conference. It was a good education. Being Canadian myself I well remember the ultra Conservative Prime Minister John Diefenbaker (sobbing when the Canadian ensign was replaced with the new flag) and CCF socialist Tommy Douglas (premier of the Province of Sask. from 1944 to 1961). It appears that now that Saskatchewan is freed from the socialist shackles of the Douglas legacy, it will blossom. This is Mr. MacNeill's view I think and mine as well. This means investment opportunities. If you have an interest in learning more about opportunities in Saskatchewan check out the fund's web site at www.49northresource.ca or contact Ms Andrea Davidson (email: adavidson@fnr.ca) for a copy of Mr. MacNeill's presentation.

More important is the work of NuCoal Energy Corp. that the fund is supporting. NuCoal is a coal to gasoline (CTL) project that is being undertaken in the province of Saskatchewan. It seems the province is replete with billions of tonnes of lignite coal at surface. It just so happens that this coal is close to the US border where very adequate infrastructure is available in terms of railroads, pipelines and road transport. The project is carbon free (yes green!) and a pilot CTL plant recently began operation at Shenhua in China. In fact it seems as if the Chinese, (Sinopec) may also be involved in the creation of this plant in Sask.

Current estimates are that with \$6.5 billion and about 4 years the plant can be up and running and producing about 150,000 barrels of low sulphur gasoline with no carbon footprint in the manufacture. In phases two and three it will produce 300,000 barrels of high quality gasoline. The technology for carbon capture and sequestration is well known and the economics seem to work. Mr. Alan Cruikshank, President and CEO of NuCoal Energy Corp., indicates that the project will be green, clean and profitable at oil prices above \$40 per barrel. Oh, by the way, there is no decline curve to worry about in terms of peak coal. With a resource of 5 to 15 billion tonnes of coal I estimate that production could last for many, many years. Please see my MNs from Monday or go to the web site www.nucoalenergy.ca.

Here is what President Obama's Energy Secretary Steven Chu said about the need and desirability for clean coal technology in the US in an EIA meeting in Washington yesterday.

"It absolutely is worthwhile to invest in carbon capture and storage because we are not in a vacuum ... Even if the United States or Europe turns its back on coal, India and China will not ... quite frankly I doubt if the United States will turn its back on coal. We are generating over 50% of our electrical energy from coal."

"When you gasify it (editor: coal), you can capture the carbon and sequester the carbon -- that actually becomes a net sink of carbon, meaning that as the plant grows, it takes carbon dioxide out of the atmosphere ... I would be very enthusiastic about anything that goes in that direction."

Once again Canadian technology, assertiveness, natural resource heritage and inventiveness may provide a solution for the energy hungry US. Please see NuCoal's technology.

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