Where Is the Oil Shock?

With oil priced at over $70 a barrel many are asking why the impact is not as severe as the two OPEC-induced oil shocks that struck the world economy in 1973 and 1979.

From 1958 to 1970 oil prices averaged $3 a barrel though in real terms the price per barrel declined from $16 to $13. There was also a moderate decline in real terms from 1974 to 1978.

Rising oil prices in recent years have merely put a drag on what otherwise would have been even more robust growth. One senior economist suggests oil price rises have not been noticed because they are the equivalent of a bruise on a galloping racehorse.

In fact, oil is still cheaper in real terms that it was after the first oil crisis. Since the 1970s there has been steady progress towards greater fuel efficiency, a shift to other energy resources especially gas and a decline in traditional manufacturing in the principal trading countries.

A combination of the Shah's fall and the Iran-Iraq war resulted in crude oil prices more than doubling from around $14 in 1978 to $35 a barrel in 1981. However, after the 1990 Persian Gulf war crude oil prices entered a steady decline and in 1994 inflation adjusted prices reached their lowest level since 1973, ameinfo.com said.

Marginal Capacity

Even so, there are real causes for concern. Over the last 18 months spare capacity to produce oil has been barely enough to cover any significant interruption of supply. Some economists predict that the world is getting closer to a tipping point where recession, even slump could follow the barrel price approaching $100.

The room for maneuver has lessened. Global consumption, led by Asia now as much as the US, is running at 80 million-85 million b/d, up 7 percent from 2000 and 17 percent since 1995.

But Iraq's oil production is down 900,000 b/d compared to before the US-led invasion. Venezuela's production has never fully recovered after a strike four years ago and is down330,000 b/d. Offshore supplies in the Gulf of Mexico are still disrupted as a result of damage caused by last year's hurricanes.

Pressures Mount

Nigeria is producing about 450,000 less barrels a day because of tensions in the Niger Delta. The West's attempts to rein in Iran's nuclear ambitions are also causing pressures. There is at least a $15 per barrel premium on oil prices related to such political tension Qatar's oil minister Abdullah bin Hamd al-Attiya suggests.

Others are more sanguine pointing out that energy isn't as big a part of major economies as it was 25 years ago illustrated by countries' ability to absorb higher oil prices and their companies' ability to still record substantial profits.

On an inflation adjusted basis, oil prices would have to rise above $90 to exceed the all-time highs set a quarter of a century ago when supplies became tight in the aftermath of the Islamic revolution in Iran and the war between Iraq and Iran.

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Largest Onshore European Wind Farm Approved

Proposals were given the green light to build the Whitelee wind farm comprising 140 wind turbines with a maximum output of 322 megawatts (MW), said to be the largest single onshore wind farm in Europe. Situated south of Glasgow, Scotland, when the ScottishPower wind farm is complete it will satisfy more than two percent of Scotland's electricity needs in a typical year, solaraccess.com said.

"Whitelee is the largest single onshore wind farm to be consented in Europe and is a significant milestone towards achieving our renewable energy and climate change targets," said Allan Wilson, Deputy Enterprise Minister. "We are strongly committed to the continued development of a diverse renewable energy portfolio in this country and there are many more proposed projects in the pipeline, including biomass, wave and hydro power."

In bringing forward our Scotland's Renewables Obligation plans, the Scottish Executive aims to meet a target that 18 percent of electricity generated in Scotland should come from renewable sources by 2010 and 40 percent by 2020.

Scotland's Renewables Obligation wants 18 percent of electricity generated in Scotland to come from renewable sources by 2010 and 40 percent by 2020.

"We are already well on target to surpass the 2010 target and this single development equates to over five percent of the capacity needed to hit our 2020 target," Wilson said.

The announcement follows a lengthy consultation process that involved a wide range of stakeholders and members of the public. Following consultation with East Ayrshire Council, East Renfrewshire Council, South Lanarkshire Council and other bodies, conditions were attached to this consent to safeguard local and environmental interests.

The proposed development raised a number of issues in respect of its likely impact on the operation of air traffic control radars at Glasgow Airport, the NATS En Route installation at Lowther Hill and the Corse Hill weather radar operated by the MetOffice. Following negotiations between the parties involved, solutions have been agreed to the satisfaction of the aviation authorities, Glasgow Airport and the MetOffice, which ensure that the wind farm development can proceed.

The site, located on elevated ground to the south of East Kilbride, occupies an area of moorland and forestry centered on the Corse, Drumduff and Myres Hills and straddles the broad ridge formed by these hills. The site is extensive, 11.5 km east to west and 7 km from north to south -- 55 km2 in total. The project will start to become operational in 2008, and will be completed in 2009.

Iceland Harnesses Green Energy For Heat, Power

Imagine an entire nation dependent on something other than oil for its energy. It's cheap. There's plenty of it. And it means never worrying about instability half a world away.

But to find it, you have to go to Iceland--a country better known for its glaciers and booming fishing industry than leading the world in energy.

Here, it's all about hydrogen and geothermal technology.

Bragi Arnason, also known as Professor Hydrogen, has been working for decades on methods to harness and conventionally use hydrogen throughout Iceland, and eventually the entire world.

"Oil is about one-third of the total energy consumption of the world, so we have to increase the harnessing of the renewable energy sources," Arnason said.

And his research is only the beginning of Iceland's quest to rid itself of fossil fuels, msnbc.com said.

Now, hydropower--using water--and geothermal plants provide all of the electricity, heat and hot water for the entire nation.

"A lot of western countries envy Iceland for their renewable energy we have--we can actually run the whole power system on hydro and geothermal--its emission free, and its renewable," said Thorsteinn Hilmarsson of the Landsvirkjun Power Co.

"We've been utilizing our geothermal resources for decades now, and we know it works--its renewable, you can utilize it for decades or hundreds of years and it comes from the heat down below our feet," added Arni Magnusson from the Glitnir Bank Energy Sector.

Over half of Reykjavik's population gets its energy from the Nesjavellir geothermal plant.

This is where geothermal water is drilled, processed and then sent off in pipes all the way to the capital city. And it's not pollution spewing out into the atmosphere--it's pure steam.

And even the commuters are using hydrogen.

"We produce hydrogen, we pump it into vehicles--and the only pollution coming from this is pure water," said Jon Bjorn Skulason of GM Icelandic New Energy.

That's right. No fumes at all.

Reykjavik currently has three hydrogen buses, and plans for more, and eventually passenger cars.

Experts say this hydrogen is safe with no danger of explosion.

But living on the cutting edge of technology has its costs--literally. Hydrogen buses generally cost about four times more than normal diesel buses--and passenger cars are averaging more than $150,000 each.

So how soon until consumers are actually able to afford it?

"People are asking when it will be a reality, and it will take some more time, " Skulason said. "I think it will be about 10-to-15 years ahead."

While everyone from General Motors to Honda are working on cheaper hydrogen cars, many are banking on a real business in exporting Iceland's natural hydropower and geothermal energy to Europe--and perhaps to the United States.

Until then, as oil prices keep rising, businesses and governments around the world are looking to this tiny nation to help power the future.

Portugal Makes Waves in Renewables

Portugal's sunny climate and picturesque coastline have long been a magnet for tourists. But now, those natural attractions are drawing a different kind of attention. From solar photovoltaics to electricity generation from wind and ocean waves, some of the world's most ambitious and innovative renewable-energy projects are taking shape in this historically poor country of 10.5 million on Europe's western rim.

In a farming region 125 miles southeast of Lisbon, General Electric's GE Energy Financial Services unit is teaming up with PowerLight, a Berkeley (Calif.)-based solar-electric equipment maker, to build the world's largest photovoltaic-generation project. The $75 million project, announced on Apr. 27, calls for construction of an 11-megawatt powerplant that will start operating next January, producing enough energy to light and heat 8,000 homes.

The Portuguese government is expected to award a contract this summer for the construction of more than $1.3 billion worth of wind turbines around the country, enough to provide power for 750,000 homes. And the world's first commercial "wave farm," which will generate electricity from ocean waves, is expected to start operation later this year off Portugal's northern coast, yahoo.com reported.

Creating Resources. Cylindrical floating generators built by a Scottish company, Ocean Power Delivery, are expected to provide enough power to supply 1,500 households. The facility will be operated by Enersis, a unit of Semapa, a Portuguese developer of hydroelectric and wind-generation projects.

These and other facilities--including a planned new hydroelectric dam on the Sabor river--reflect Portugal's push to reduce its dependence on the imports that now supply 86% of the country's energy needs. "Portugal doesn't have the luxury of having conventional resources" such as oil, gas, and coal to generate electricity, says Andrew Scott, an Ocean Power Delivery engineer who's overseeing the wave project. "But it does have some very good renewable resources."

Generating electricity from the sun, wind, and waves also can help Portugal curtail greenhouse-gas emissions. Because of the country's rapid economic development after its 1986 entry into the European Union, emissions increased almost 37% from 1990 to 2003, one of the fastest growth rates in the world. GE and PowerLight estimate that their photovoltaic project will reduce annual greenhouse-gas emissions by 30,000 tons.

Not Alone. To encourage such projects, the Portuguese government is providing incentives ranging from R&D grants to preferential tariffs for electricity generated from renewable sources. For example, the operators of the ocean-wave farm will collect more than 25 cents per kilowatt hour for electricity they supply to utility companies -- more than four times the rate for electricity generated from conventional sources.

Many European countries, facing record-high fuel prices and concerns over global warming, are enacting similar measures (see BW Online, 4/6/06, "Europe Opens the Tap for Clean Energy").

For now, few if any of Portugal's alternative energy projects would be economically feasible without government help. But generating costs will come down as new technologies are tested and made more efficient.

A Sight to See? And the projects' developers say they're on board for the long haul. "We hope this project clearly demonstrates that solar energy is a promising alternative power source that should be freed from roadblocks," said Sergio Costa, co-CEO of Portuguese alternative-energy group Cataventa, in a statement announcing plans for the photovoltaic plant. Cataventa developed the project and is providing management services.

Sunshine and scenery will remain the big attractions for most people visiting Portugal. But maybe soon they'll consider adding a visit to a state-of-the-art renewable energy plant to their sightseeing itinerary.

No Solution to Energy Problem

Leadership, Urgency Lacking

Republicans typically believe government is part of the problem rather than part of the solution, but history shows that in certain instances our government is capable of greatness in ways that the private sector is unable to match on its own - but only when there is strong leadership and a tremendous sense of urgency and focus.

For example, in June 1942, General Leslie Groves took the reins of a fledgling nuclear research program that was spread all across the country. Thirty-seven months later the United States ushered in the Atomic Age by successfully detonating a nuclear weapon near Alamogordo, New Mexico using a synthetic substance (plutonium-239) which had only been discovered in early 1941.

In May 1961, President John F. Kennedy issued what some considered a fantastically ambitious goal: to put a man on the moon by the end of the decade. Eight years and two months later, on July 20, 1969, Neil Armstrong stepped out of the Apollo 11 lunar module and onto the surface of the moon. Four days later the entire crew returned safely to Earth.

So why we can't marshal the same sort of national effort to accelerate the transition of our economy to alternative fuels and energy independence?

Let's put one of the main factors of our current energy situation in context. The first Ford Model-T rolled off the assembly line in October 1908 and went about twenty-five miles on a gallon of gas. Nearly one hundred years later we're still using the same basic combustion engine to power our vehicles and getting slightly worse mileage, except now there are more than 220 million cars, SUV's, vans and light trucks on the road in America, according to the latest data compiled by the Bureau of Transportation Statistics, according to yahoo.com.

America now consumes one quarter of the total world petroleum output, an astonishing 20.5 million barrels a day. Yet even after September 11 revealed just how consequential our dependence on Middle Eastern oil has become, what sort of true sense of urgency have we gotten from the President and both parties in Congress on the issue over the last five years? The answer is 'not much' and certainly 'not enough.'

President Bush has put forth a number of initiatives over the years (a National Energy Policy in 2001, a Hydrogen Fuel Initiative in 2003, and an Advanced Energy Initiative unveiled in January) that all seem to have two things in common: they sound good and then quickly disappear into the ether. In his 2006 State of the Union Address, the President famously declared that America is "addicted to oil" and he set a national goal of replacing more than 75% of our oil imports from the Middle East by 2025. Again, Bush hit the right note with this statement, but that note has fallen flat as months have gone by without any sense of follow-up, urgency, or focus.

Congress has been no better, haggling and bickering over separate pieces of the same larger puzzle. Democrats have been intransigent about boosting domestic supply through drilling in ANWR and licensing new nuclear power plants, Republicans have been reluctant to embrace things like raising CAF?? standards and promoting conservation. The result is that it took Congress four years to pass a $14.5 billion piece of energy legislation that is at best a band-aid applied to a large, and growing wound.

The latest price crunch has highlighted the pathetic lack of leadership in Congress, with both parties scurrying about pointing fingers, calling for investigations and proposing policies that offer zero long term solutions and will actually make things worse in the short run by encouraging consumption.

According to the White House, we've spent $10 billion over the last five years "developing cleaner, cheaper, and more reliable alternative energy sources." That's not a tremendous amount of money for something so important; believe it or not it's the same amount Senate Republicans proposed for their dopey gas rebate last week.

Instead of peddling handouts, Republicans should have faith that the country will respond to real leadership on the issue of energy independence. In many ways the situation is analogous to 1942 and 1961: we have lots of smart people spread all around the country who are thinking hard about the issue, conducting exciting research, and making valuable recommendations. All that's missing is the political will to bring these people together using the resources of the U.S. government to coordinate research efforts and hammer out some of the tough decisions that must be made to help clear the way for a rapid transformation of the way we produce and consume energy in America.