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Wind Energy is not the path to Emissions-Free Power - Nuclear Is

Wind energy is not the path to Governor Brown's just-announced emissions targets. As my other docket entries and my 27 April 2015 citizen comments at the 15-IEPR-12 CEC hearing in Sacramento highlight, the path forward for California is nuclear power. Sadly, politics appears to be preventing the expansion of this common-sense solution. Note that the header for the California Energy Commission website includes a vista featuring impractical wind turbines.

Commission Chair Robert B. Weisenmiller, Ph.D.'s comments at the conclusion of the 27 April 2015 hearing, and his quick interruption promoting the burning of natural gas when I criticized the importation of power to California from the huge, dirty Four Corners coal-fired power plant during my citizen comments on the 27th suggest a strong bias against emissions-reduction solutions that I and many other scientists and engineers support - nuclear power such as is being produced by Diablo Canyon Power Plant. Instead, Chair Weisenmiller seems to be supporting natural gas. I neglected to mention that as a consequence of the leakage of natural gas during its extraction, transport, and distribution, the methane that is released makes natural gas produce cause essentially the same greenhouse gas increases as the burning of dirty coal per unit of energy.

Here's an article and color photographs from the UK Daily Mail. I have highlighted several passages relevant to California electricity production. As the article notes near its conclusion, "Why, they ask, should the debt-laden country be giving wind energy companies a 30 per cent tax credit, costing taxpayers nearly $3â€‰billion a year, when wind accounts for only 2.3 per cent of Americaâ€™s electricity"

Broken down and rusting, is this the future of Britain's 'wind rush'?
By Tom Leonard, UK Daily Mail 18 March 2012

Here are the first few paragraphs of this recent critique of wind energy. The bulk of the attached article focuses on the California wind energy boondoggle.

....Though itâ€™s not in any guidebook. On a 100-acre site, where cattle wander past broken â€˜Keep Outâ€™ signs, stand the rusting skeletons of scores of wind turbines

Just a short walk from where endangered monk seals and Hawksbill turtles can be found on an unspoilt sandy beach, a technology that is supposed to be about saving the environment is instead ruining it

In other parts of the U.S., working wind turbines are killing hundreds of thousands of birds and bats each year, but here the wildlife can perch on the motionless steel blades.

If any spot was tailor-made for a wind farm it would surely be here. The gales are so strong and relentless on the tip of South Point that trees grow almost horizontally.

Yet the 27-year-old Kamaoa Wind Farm remains a relic of the boom and inglorious bust of Americaâ€™s so-called â€˜wind rushâ€™, the worldâ€™s first major experiment in wind energy....

Additional submitted attachment is included below.

Broken down and rusting, is this the future of Britain's 'wind rush'?

By Tom Leonard

Published: 20:00 EST, 18 March 2012 **Via STOP Turbines on Peninsula** website http://cartmelvalleyturbines.com/stop/index.php

http://www.dailymail.co.uk/news/article-2116877/Is-future-Britains-wind-rush.html

Broken promises: The rusting wind turbines of Hawaii

A breathtaking sight awaits those who travel to the southernmost tip of Hawaii's stunningly beautiful Big Island, though it's not in any guidebook. On a 100-acre site, where cattle wander past broken 'Keep Out' signs, stand the rusting skeletons of scores of wind turbines.

Just a short walk from where endangered monk seals and Hawksbill turtles can be found on an unspoilt sandy beach, a technology that is supposed to be about saving the environment is instead ruining it.

In other parts of the U.S., working wind turbines are killing hundreds of thousands of birds and bats each year, but here the wildlife can perch on the motionless steel blades.

If any spot was tailor-made for a wind farm it would surely be here. The gales are so strong and relentless on the tip of South Point that trees grow almost horizontally.

Yet the 27-year-old Kamaoa Wind Farm remains a relic of the boom and inglorious bust of America's so-called 'wind rush', the world's first major experiment in wind energy.

At a time when the EU and the British Government are fully paid-up evangelists for wind power, the lesson from America — and the ghostly hulks on this far-flung coast — should be a warning of their folly.

Few people were talking about saving the planet back in the early Eighties. The wind rush was a free-for-all in which get-rich-quick companies exploited ridiculously generous tax breaks to pepper the States with thousands of wind turbines.

For anyone who has questioned Downing Street's controversial pledge — spurred on by EU green targets — to give £400 million-a-year subsidies to wind farms as well as hefty bribes to landowners in order to spur the building of an additional 4,500 turbines, the wind rush may sound eerily familiar.

Indeed, America's growing band of wind sceptics insist that what happened three decades ago in the U.S. could easily recur over the next few years in the UK if the wheels come off the wind energy gravy train once again.

So what went wrong? It started with the late Seventies oil crisis that convinced America it had to look around for other sources of power. For a time, wind power was considered to be a serious alternative to fossil fuels.

Turbines were built across several states, though there was a preponderance in California, where nearly 17,000 sprouted up from the dusty earth.

Nearly all of these were concentrated in three giant wind farms: Altamont, east of San Francisco; Tehachapi, on the edge of the Mojave desert; and San Gorgonio near Palm Springs.

In theory, conditions couldn't have been better. Each of these are passes that benefit from just the right sort of wind that turbines need — strong and almost continual.

Better still, they were crossed by under-used high voltage lines to take away the power.

But most importantly for the scrum of investors who were thrusting their snouts into the trough, there was the extraordinary generosity of the government.

Between 1981 and 1985, federal and state subsidies in California were so favourable that investors could recover 50 per cent of the cost of a wind turbine.

Even better, the amount they were paid for their electricity was tied to the price of oil, which had shot through the roof.

Turbines on the island of Hawaii which is soon to benefit from new subsides for larger wind farms

Paul GIPE, a former California wind company executive, calls what happened next a 'tax credit frenzy'.

'The lure of quick riches resulted in shoddy products that littered California with poorly operating — sometimes non-operating — turbines.'

They were expensive and badly designed. Some were far too small to make a difference, others were just clunky machines designed by the aero industry with blades the length of a rugby pitch.

But thanks to the subsidies, it hardly mattered that some of the untested turbines were so sub-standard they barely even worked.

Not to put too fine a point on it, for some wind energy investors it was simply a tax scam.

But as tends to happen with a business that is driven by financial incentives, it lasted only as long as the subsidies. In 1986, the price of oil tumbled and the subsidies started to die out. Suddenly, the wind energy sums didn't add up any more.

And just like the gold rush miners who had rushed to the same Californian passes a century earlier, the wind prospectors departed in such a hurry that they didn't even bother to take down the turbines they had littered across the state.

With so many moving parts to worry about, maintaining turbines is expensive — too expensive when the electricity they could produce was suddenly worth so little.

'So when something broke, you simply didn't send a repairman because it just didn't make financial sense,' Hawaii wind sceptic Andrew Walden told me.

With some turbine makers going out of business, there were no spare parts either.

According to the California Energy Commission, the collapse in subsidies stalled the state's huge wind energy industry for nearly two decades.

No one who has driven past one of America's mega wind farms today can fail to be struck by how few have blades that are turning, even in strong winds.

The truth is that even fewer may be producing electricity than it appears. Many are switched to a mode in which the blades continue to turn just to keep oil moving around the mechanism, but no electricity is produced.

Unfortunately, the frenzy of windmill building during the wind rush didn't just ruin the view, but also devastated the wildlife.

No one noticed until far too late that the 5,000-turbine wind farm at Altamont Pass is on a major migratory path for birds. The National Audubon Society, America's RSPB, has called it 'probably the worst site ever chosen for a wind energy project'.

Hawaiian Island of Maui, utilizes an array of 1.5 megawatt wind turbines to produce electricity

An estimated 10,000 birds including up to 80 protected golden eagles, 380 burrowing owls, 300 red-tailed hawks and 330 falcons were being shredded each year in Altamont's massed banks of turbine blades — to say nothing of thousands of bats — until outraged conservationists sued America's 'deadliest' wind farm four years ago.

As a result, it has agreed to grind to a halt for four months every year to avoid causing more carnage during the migration season. Go further south to the Tehachapi pass on the edge of the Mojave desert and you'll find golden eagle carcasses under the wind turbines, too.

Tragically, the size of these majestic creatures makes it difficult for them to manoeuvre through forests of wind turbine blades spinning at speeds of up to 200mph, especially when they are concentrating on looking for prey. The problem is so serious that in Minnesota and Oregon, wind farms have drawn national condemnation by applying for an eagle hunting licence.

In the U.S., one of the great ironies about wind energy is that the people you might expect to cheer for it most — wildlife conservationists who care about the planet — are its most vociferous critics.
It's not hard to see why when you glance at the statistics. The American Bird Conservancy estimates wind turbines kill between 75,000 and 275,000 birds each year.

The conservation cause is not the only issue. There are horror stories about turbines falling over, catching fire after being struck by lightning, lethal shards of ice being hurled from the blades, the nerve-racking low frequency noise (like a pulsing disco) and the disorientating strobe effect in sunlight.

While Hawaii has six abandoned wind farms, most of California's derelict turbines are only now being removed — decades late — after disgusted local authorities threatened to sue.

In Palm Springs, those who campaigned against the turbines included the late singer Sonny Bono, former husband of Cher.

But if a turbine's owner had walked away from his investment or gone bankrupt, it was sometimes the hapless farmer or rancher who owned the land who had to foot the $1,000-a-tower clean-up bill.
So how many windmills have been abandoned across the U.S.? It is an intensely sensitive subject for wind enthusiasts, who will quibble that it depends on how you define 'abandoned'.

They wouldn't, for instance, count ones that are working again today, even if they were switched off for years. They also argue that many of those that were left to rust were technologically outdated and set for the scrapheap anyway.

Wind power sceptics estimate 14,000 turbines across the U.S. have become derelict since the Eighties, while there are around 38,000 in operation across the country.

Paul Gipe claims the number abandoned in his state of California is around 4,500, of which 500 are still standing.

In Hawaii, which is soon to get a new subsidised wind farm, Andrew Walden argues that whatever turbine makers boast about their machines' impressive kilowatt per hour output, there remains an intractable problem with any industry that can survive only with government help.

'The key lesson from history is that when the subsidies go, the wind farms go,' he told me. 'It costs too much to maintain them and they just get abandoned.'

How ironic that the British government is pushing through permissions for thousands of new turbines just as the Americans are going cool on the idea.

The latest figures show U.S. investment in wind energy plunged 38 per cent last year. Experts say there are simply too many turbines out there and not enough people buying the electricity.

Republicans in Congress want to cut wind energy's 20-year-old subsidy at the end of the year.

Why, they ask, should the debt-laden country be giving wind energy companies a 30 per cent tax credit, costing taxpayers nearly $3 billion a year, when wind accounts for only 2.3 per cent of America's electricity and 8 per cent of its pollution-free electricity?

Wind energy companies claim the move will 'kill 37,000 jobs, shut plants and cancel billions of dollars in private investment'.

They don't mention more abandoned windmills, but it hardly seems impossible.

Nicolas Loris, an energy analyst at the Heritage Foundation, a conservative think tank in Washington, told me it just goes to prove 'you can build anything if you subsidise it enough'.

What if the green subsidies that have made many landowners in Britain millions of pounds dry up, too, in the not-too-distant future?

Who in their right mind would want any of the new generation of turbines — under EU plans, the turbines will be nearly 1,000ft tall (that's six times the height of Nelson's Column) — rusting away in their backyard?