

The contrarian

Sifting oil sands for grains of truth

Is oil from tar sands a climate crime, as activists claim? It's an argument at the heart of debate between energy security and environmental security, says **Jon Entine**

Throughout the autumn, environmental activists blockaded oil production at tar sands facilities in Alberta, Canada, owned by BP, Shell, ExxonMobil and other transnationals. They shut down operations and unfurled a huge banner, seen on TV around the world, proclaiming "Tar Sands: Climate Crime".

And they may be right. But that doesn't mean reasonable people should want them to win the battle to scuttle one of the most massive oil projects of modern times.

The question that needs to be asked: do you want to bask in the glow of soft moralism or make tough choices within the constraints of the real world, balancing a variety of stakeholder interests?

Here's the problem: conservation, shifting to wind and solar energy, and ramping up nuclear energy – the silver bullets of greenhouse gas reduction – will not put a serious dent in the growth of world energy consumption. The countries of the developing world demand the kind of energy-intensive middle class lifestyles the west takes for granted, which is why they resist the energy cutbacks now on the table. That means industrial giants, such as the US and the EU – even if they reduce energy consumption – are forced, for decades to come, to depend on fossil fuel discoveries only now coming online. Oil sands are one of the most promising – and dirty – sources.

The world's largest deposits are in Canada and Venezuela, which have reserves roughly equal to the world's known reserves of conventional crude oil. With Venezuela a political quagmire, that leaves for exploitation the Canadian tar sands, which span an area the size of Florida beneath the Boreal Forest of Alberta.

Extracting oil from tar is messy. It

takes four tonnes of tar sands to produce one barrel of oil. The first step involves clearing wilderness for open-pit mining. Plants, trees and topsoil must be extracted by the truckload. Nearly 80% of the oil lays so deep that it needs to be either injected with steam or put through a "fireflood" process. Because five barrels of water are needed to produce a single barrel of oil, surrounding rivers must be routed to the pits, with the black water rerouted to man-made toxic sludge lakes.

Heavy machinery sucks out the dirty oil slurry known as bitumen, which generates lots of greenhouse gases, though how much is contested. The National Resources Defense Council claims barrel for barrel oil sands extraction generates three times the emissions of extracting a barrel of conventional oil. "There are good sources of energy we can turn to that don't involve turning entire forests into a moonscape," says NRDC's Ann Alexander.

But two studies released last summer by consulting companies funded by the Alberta Energy Research Institute concur with US government analyses that greenhouse gas emissions of the two extraction methods are almost comparable. Scientists are also dedicated to developing ways to soften the environmental impact of tar sands, including a focus on nanotechnology, which can reduce the industry's thirst for fresh water and remove many impurities that enter the environment.

So why are these projects going forward? The potential environmental impacts must be weighed against the energy security and economic benefits offered by these reserves. It has been estimated that



OK, but what are the realistic alternatives?

the oil sands could provide upwards of \$500bn for the North American economy and generate about 5.4m person years of work between now and 2020 – an enormous economic jolt in desperate times.

Geopolitics is also at play. Secure energy resources are critical in a hostile world. Oil sands production is expected to almost double in Canada by 2015. Of the 1.25m barrels extracted daily from the sands, 1m goes directly to the US, possibly growing to 5m by 2020. Because of growth of oil sands production, Canada is already the largest supplier of oil and refined products to the US.

With those factors on the table, campaigns to scuttle the projects are hopeless. With so much at stake, neither the US nor Canada is likely to agree to curtail production, no matter what pressures come out of Denmark. The legislatures in both countries appear disinclined to embrace unrealistic – indeed disingenuous – hard targets for energy consumption cuts now being discussed.

With the political situation among Opec countries fragile, western countries are looking for secure ways to address energy needs. In that context, the Canadian reserves are strategically critical, and at least at this stage environmental concerns will take a back seat. And that's not a bad thing. ■

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**COLUMNIST:
JON ENTINE**

Jon Entine is a visiting scholar at the American Enterprise Institute and founder of ESG Media-Metrics, a sustainability consultancy.