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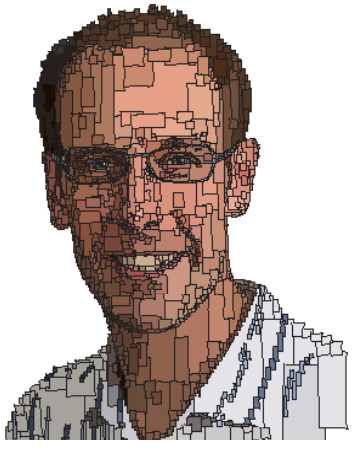

ENERGY

Dirty Distraction

Controversy over a proposed oil pipeline from Alberta to Texas is sidetracking us from bigger issues, says David Keith.

The U.S. environmental movement has devoted immense effort and political capital to blocking Keystone XL, the pipeline that would bring bitumen from Canadian oil sands to Gulf Coast refineries. James Hansen, the most visble climate scientist to turn anti-carbon campaigner, declared it "game over" for climate change if the pipeline is approved. Yet Keystone is a far from obvious focus for the limited campaign resources available to protect our climate.

Oil sands fuels emit about 10-20% percent more carbon that conventional oil over their lifecycle. Suppose Keystone is blocked; or, suppose that technical fixes (see "Alberta's Oil Sands Heat Up," p. 52) eliminated that extra carbon? Neither outcome would make a big dent in emissions. The root of the climate threat posed by fuels is the carbon emitted when they are burned for transportation. Emissions from the vehicle account for more than three quarters of the life cycle emissions of petroleum fuels. To solve the problem we must decouple transportation from petroleum.

Moreover, the oil market is adaptable, so if Keystone is blocked Canadian bitumen will still find its way to world markets, perhaps by a Pacific route, leaving emissions essentially unchanged.

For all that, there is a sound strategic reason for environmental groups to try to kill oil-sands development. Without constraints, the production of such unconventional hydrocarbon fuels will increase quickly in the coming decades as conventional supplies shrink. This will depress oil prices, meaning that efficiency improvements and alternatives such as electric vehicles will continue to have trouble competing. The oil-sands boom is the biggest unconventional-oil project yet, and Keystone is a centerpiece of that boom.

That's not what you'll hear campaigners say about Keystone, though. Tactics and strategy get confused in the heat of battle, and many of the public arguments against the pipeline are spurious. The threat of pipe leakage, to cite a recently hyped example, is minuscule compared with the environmental risks posed by other new developments in energy, from shale gas to large-scale corn ethanol.

I hope the Keystone permit is denied, because the strategic case for blocking huge capital investments in unconventional fuels is compelling. Yet I worry that the environmental movement has overinvested in a battle it seems unlikely to win—one whose tactics distract attention from the hard choices needed to decarbonize transportation and accelerate energy innovation.

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WEB

Social Intelligence

Analyzing what people do online provides a way to peer into society's collective mind, says Bernardo Huberman.

Social media have made information so ubiquitous as to be almost devoid of monetary value. What is scarce now—and therefore valuable—is the user's attention, which explains the intense efforts made to obtain it through focused advertising, short videos within news portals, and, most disheartening, spam.

Understanding how people allocate their attention, as well as steering it to specific content, has tremendous value. In the case of social media, harnessing the enormous and highly variable flow of information that propagates through large user networks can make it possible to predict specific outcomes *(see "A Social-Media Decoder," p. 44)*.

My research group recently showed that Twitter messages can be used to accurately predict box-office revenues for movies about to open in theaters across the country. The basic intuition was simple: the greater the rate at which people discuss a forthcoming movie, the more likely it is to have a large audience on opening night. Studying how feelings about a movie appear on the social network and propagate through it after opening weekend increased the accuracy of forecasts as time went on. Among other advantages, such knowledge might be used to swiftly shift advertising budgets from one movie or product to another.

This type of analysis has a wide range of potential uses. Although we focused on movies because it gave us a good way to verify our predictions, the technique can be applied to all sorts of social-media chatter, from academic discussions of technology to public debate about future products and trends.

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