

Who says government can't innovate?

In fact, we'd be lost without it.

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The New York Times carried a story earlier this month, <u>Energy Idea for Mars Yields a Clue for</u> <u>Powering Data Centers</u>, that accidentally challenges a common private-sector saw that government can't innovate. Not only can it, we would be lost without it.

There are several lessons in the story, each of which deserves individual treatment. The first is about government and innovation, broad claims one way or the other being both wrong and purposeless.

The Times story is about how Dr. K.R. Sridhar and his company, Bloom Energy, use liquid natural gas in a chemical reaction to power up batteries that provide greener and perhaps less costly energy. The story notes that gluttonous consumers of energy known as data centres are lining up to look at the option.

Even though it is Sridhar's company innovating how to use a fossil fuel in a closer to renewable form, the technology is the product of government innovation. He developed it while at NASA, solving for how to use solar power and atmospheric chemicals to create energy on Mars. So far, it's unnecessary for the red planet, but Sridhar retasked his method to solve more pressing energy issues closer to home.

There is no doubt that Sridhar is the innovative mind and, if successful, Bloom Energy the innovating business. There should also be no doubt that none of this would exist without the problem, solution development latitude, and funding provided by NASA. It is tiring to recite all the commercial innovations that directly result from NASA's research over the decades. That escalates to exhausting when other government organizations around the world are added to the mix.

But can government innovate? If this means, can government create flashy, consumer-driven innovations such as the iPhone, the obvious answer is: No they don't. The answer, as private-sector myth, implies a much broader, unfair and misleading question.

First off, it's not government's job to commercialize. And we justifiably shouldn't want government to try. That kind of innovation is risky, with many more failures than successes. But, as this story reinforces, were it not for government sponsoring and funding technology research, a lot of such commercial innovation would not happen. Guess how much smartphone core technology would not exist without government's original demand for a "solution." (Hint: Enough to make your smartphone dumb.)

Second, speaking with bias for the present, the world today is particularly unstable, even chaotic. Humans tend to not do well with instability and change. Part of government's role is to provide the predictable continuity people and societies need. For it to do that and at the same time be commercially innovative is misaligned at best.

The private sector is the engine of commercial innovation, full-stop. Firms such as IBM have

massively invested in hard research, though there is demand from some shareholders and the business intelligentsia to focus on "commercial innovation." Because "government can't innovate," there are also broad calls for government to give money to the private sector, then step aside.

It ought to be evident based on the Bloom Energy example and any superficial historical exploration that: (a) this set of beliefs and demands is a volatile yet ineffective economic cocktail; (b) for innovation, the public and private sectors are yin and yang; and (c) what people probably mean when they say government can't innovate, is that government tends to be too good at its job of maintaining predictable stability.

For hundreds of years, the most valuable discoveries, inventions, and innovations have been the result of government leadership to solve

problems, explore new worlds, or meet opportunities/challenges. The economic benefit that flows from those innovations accrues to the private sector, which is good in many ways. We would be wise to remember that this formula for success is a lot bigger than any of us. Then we ought to stick to our own swim lanes.

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