

## PROPUBLICA BUSTS OPEN: The Afghanistan Mining Scam Failure

G.I. Dough

The U.S. Spent a Half Billion on Mining in Afghanistan With  
'Limited Progress'

The Special Inspector General for Afghanistan Reconstruction has labelled yet another project in danger of failing. This time its U.S. plans to develop the country's oil, gas and minerals industries.

by Megan McCloskey

ProPublica,

G.I. Dough

ProPublica is investigating how billions of U.S. tax dollars have been spent on questionable or failed projects and how those responsible for this waste are rarely held accountable.

Latest Stories in this Project

Pentagon Task Force: We Want Villas and Flat-Screen TVs in Afghanistan

Plot Thickens: Pentagon Now Facing More Scrutiny Over \$766 Million Task Force

Watchdog Accuses Pentagon of Evading Questions on \$800 Million Afghanistan Program

Taxpayers Fund Yet Another Unneeded Building in Afghanistan

The Military Built Another Multimillion-Dollar Building in Afghanistan That No One Used

The United States has spent nearly half a billion dollars and five

years developing Afghanistan's oil, gas and minerals industries — and has little to show for it, a government watchdog reported today.

The project's failings are the result of poorly planned programs, inadequate infrastructure and a challenging partnership with the Afghan government, the Special Inspector General for Afghanistan Reconstruction wrote in its newest damning assessment of U.S. efforts in the war-torn country. The finding comes after some 200 SIGAR reports have detailed inefficient, unsuccessful or downright wasteful reconstruction projects. A recent ProPublica analysis of the reports found that there has been at least \$17 billion in questionable spending.

We Blew \$17 Billion in Afghanistan. How Would You Have Spent It?

Here's just what the Special Inspector General for Afghanistan Reconstruction found. See for yourself how that money could have been used at home. Explore the app.

The United States Agency for International Development and a Pentagon task force were in charge of developing a so-called "extractive" industry in Afghanistan — basically a system for getting precious resources out of the ground and to the commercial market. SIGAR called out both USAID and the Defense Department last year for their failures to coordinate and to ascertain the ability of Afghans to sustain the project, which unsurprisingly is not promising. In fact, when international aid stopped supporting the Afghan office responsible for oversight of the petroleum and natural gas industries, two-thirds of the staff were fired.

Exploiting these resources, which are estimated to be worth as much as \$1 trillion, is pivotal to Afghanistan's economic future.

SIGAR noted that the Afghan government has shown progress under USAID's tutelage in regulating and developing the commercial export of the resources. But the report said the project was still hampered by corruption, structural problems and a lack of infrastructure for the mining industry, such as reliable roads. Many of the mines operate illegally, with some profit going to the insurgency, SIGAR said.

When it came to individual extractive projects, there was little progress made, the IG found.

The controversial Pentagon task force in charge of much of the effort, the Task Force for Business Stability Operations, spent \$215 million on 11 extractive programs, but "after operating in Afghanistan for 5 years, TFBSO left with nearly all of its extractive projects incomplete," SIGAR found. Three of the programs technically met objectives, but one of those is of questionable value at best. The task force built a gas station for an outrageously inflated cost and in the end it didn't have any customers. So while the objective to create the station was achieved, SIGAR doubted it was a worthwhile venture.

The task force, made up of mostly civilian business experts and designed to develop the Afghan economy, has come under fire from SIGAR and Congress for demanding unusual and expensive accommodations in the country, allegedly punishing a whistleblower, and lacking overall accountability. The Senate is holding a hearing on the task force next week.

In today's report, SIGAR highlighted that the task force spent \$46.5 million to try to convince companies to agree to develop the resources, but not one ended up signing a contract. About \$122 million worth of task force programs had mixed results, SIGAR said.

The Defense Department declined SIGAR's request to comment

on its findings. In its response, USAID said it has helped Afghanistan “enact investor-friendly extractive legislation, improve the ability to market, negotiate and regulate contracts, and generate geological data to identify areas of interest to attract investors.” Any conclusions and criticisms, USAID told SIGAR, “need to be substantially tempered by the reality that mining is a long-term endeavor.”

daily newsletter to get more of our best work.

Megan McCloskey

Megan McCloskey covers the military for ProPublica. Previously she was the national correspondent at Stars and Stripes.

Follow @MegMcCloskey

WHY A WEBSITE COMPANY DESPERATELY WANTS TO PUSH ELECTRIC CARS! GOOGLE'S AWFUL SECRET

Google's owners got an exclusive kickback scam between themselves and the White House over lithium ion batteries ravaged from war profiteering in Afghanistan, political rigging in Bolivia and other war incursions.

Google wants to push electric cars to keep it's owners political payola scams alive.

Deadly, toxic, explosive, a risk to national security, fetus damaging...yet Google charged full speed ahead into it.. READ THE REPORT TO SEE WHY!

Obama administration to announce efforts to boost self-driving cars

By David Shepardson  
Reuters

By David Shepardson

DETROIT (Reuters) - The Obama administration will announce efforts to boost self-driving cars on Thursday, and President Barack Obama may discuss advanced transportation efforts in his final State of the Union Address on Tuesday, according to government officials.

Mark Rosekind, head of the National Highway Traffic Safety Administration, told reporters that Transportation Secretary Anthony Foxx will be in Detroit to talk about efforts by the Obama administration to speed the introduction of self-driving vehicles.

"Thursday is huge because this is the White House telling you that the secretary is going to be here to amplify stuff that is coming out of the State of the Union, and it's focused on self-driving cars," Rosekind told reporters in Detroit.

There is not yet a clear legal framework governing their presence on U.S. roads.

Automakers and technology companies such as Alphabet Inc's Google have called on regulators to clarify guidelines for introduction of autonomous driving technology, in part out of concern that a mishap involving a self-driving car could result in costly litigation.

A Google spokesman said the company will take part in

Thursday's announcement by Foxx. Detroit automakers are also likely to participate.

In December, Rosekind said he opposes a "patchwork" of state regulations on driverless cars and promised a "nimble, flexible" approach to writing new rules for self-driving vehicles.

(Reporting by David Shepardson; Editing by Bill Rigby and Dan Grebler)

Google Seeks Multiple Auto Partners for Self-Driving Car Unit

Dana Hull danahull

John Lippert johnmlippert

Share on FacebookShare on Twitter

Company wants to begin announcing some joint efforts this year

Google vehicle chief John Krafcik speaks at Detroit meeting

Share on FacebookShare on Twitter

Share on LinkedInShare on RedditShare on Google+E-mail

Google hopes to form partnerships with many automakers and suppliers as it develops self-driving cars to reduce traffic accidents and expand mobility for elderly and disabled people, the head of its vehicle project said.

The Alphabet Inc. company wants to announce some of those joint efforts during 2016, John Krafcik, the Google executive, said in Detroit at an Automotive News conference Tuesday held in conjunction with North American International Auto Show.

Almost every automaker "has been in to speak with us, if only to understand where we are," Krafcik said. "I don't know how many we'll end up having."

His comments counter speculation that Google would pick a single automaker as its exclusive partner for self-driving cars. Yahoo Autos reported last month that Ford Motor Co. would

announce a joint venture with Google on self-driving. Fiat Chrysler Automobiles NV and General Motors Co. have also said they're talking with Google about developing self-driving cars.

Google Hires Former Obama Adviser Atkinson to Lead Global Policy

Jack Clark mappingbabel

Share on FacebookShare on Twitter

Caroline Atkinson was deputy national security adviser  
Company faces probes in Europe and U.S. as influence grows

Google has hired former White House Deputy National Security Adviser Caroline Atkinson to lead its global policy team as the Internet advertising giant seeks an advocate to deal with regulators around the world.

Atkinson, 63, stepped down in December from her post in U.S. President Barack Obama's administration as an emissary to the Group of 20 economies, negotiating behind-the-scenes on agreements of international scope and significance. Google, a unit of Alphabet Inc., currently faces probes from both federal and European regulators into its businesses, as the company's increasing influence over areas like mobile phones and Web search draws scrutiny.

"Caroline's an internationally respected diplomat and adviser, and we're delighted to have such a thoughtful leader heading our global policy team," Google General Counsel Kent Walker said in a statement.

Atkinson also previously worked at the National Security Council, the International Monetary Fund, the Treasury Department, and investor consultancy Stonebridge International. She was

selected by the Obama administration in June 2013.

Articles

Afghanistan Waste Exhibit A: Kajaki Dam, More Than \$300M Spent and Still Not Done

Today, 12:30 p.m.

A Senate subcommittee is looking at waste by a Pentagon task force. It would do well to review the reasons why a major hydroelectric power plant sits unfinished.

The U.S. Spent a Half Billion on Mining in Afghanistan With 'Limited Progress'

Jan. 14, 12:49 p.m.

The Special Inspector General for Afghanistan Reconstruction has labelled yet another project in danger of failing. This time its U.S. plans to develop the country's oil, gas and minerals industries.

We Blew \$17 Billion in Afghanistan. How Would You Have Spent It?

Dec. 17, 2015, 11:03 a.m.

The U.S. government has wasted billions of dollars in Afghanistan, and until now, no one has added it all up. Project after project blundered ahead. And Congress has barely blinked as the financial toll has mounted. Here's what the Special Inspector General for Afghanistan Reconstruction found.

Pentagon Task Force: We Want Villas and Flat-Screen TVs in Afghanistan

Dec. 3, 2015, 12:01 a.m.

In its latest salvo, the inspector general dings the controversial task force for spending \$150 million on private housing in Afghanistan, including fancy meals and round-the-clock bodyguards.

Plot Thickens: Pentagon Now Facing More Scrutiny Over \$766 Million Task Force



Nov. 25, 2015, 12:45 p.m.

Senators were already questioning why the Defense Department was restricting a government watchdog. Now there are criminal investigations and questions about retaliation against a whistleblower.

Watchdog Accuses Pentagon of Evading Questions on \$800 Million Afghanistan Program

Nov. 2, 2015, 8:35 a.m.

Despite lacking access to key documents and personnel, the inspector general determined that nearly \$43 million had been spent on a natural gas station that should have cost closer to \$300,000.

Taxpayers Fund Yet Another Unneeded Building in Afghanistan  
Sep. 3, 2015, 7 a.m.

The U.S. military shelled out millions before deciding the project was unnecessary, bringing the total for unused buildings spotted by the Inspector General for Afghanistan to nearly \$42 million.

The Military Built Another Multimillion-Dollar Building in Afghanistan That No One Used

July 19, 2015, 11:01 p.m.

In its latest report, the inspector general found that the U.S. military continued to build a \$14.7 million warehouse after it knew it wasn't needed, echoing an earlier investigation into an unused \$25 million HQ.

Behavior of Military Lawyer in Boondoggle HQ Inquiry Under Scrutiny

May 28, 2015, 11:13 a.m.

Several U.S. Senators and military lawyers say they are concerned by Col. Norm Allen's attempts to thwart an investigation into why the U.S. Military built an unneeded luxury headquarters in Afghanistan.

Boondoggle HQ

May 19, 2015, 11:01 p.m.

The \$25 Million Building in Afghanistan Nobody Needed Money as a Weapons System

May 15, 2015, 8 a.m.

How U.S. commanders spent \$2 billion of petty cash in Afghanistan

Billions Blown in Afghanistan Reconstruction Spending? (MuckReads Edition)

March 31, 2015, 2 p.m.

Pentagon Finally Identifies the Remains of a POW Lost Since 1942

Jan. 27, 2015, 5 a.m.

Long buried alongside hundreds of unknown U.S. soldiers in the Philippines, Pvt. Arthur "Bud" Kelder is on his way home after a lawsuit by his family and an investigation by ProPublica and NPR. Head of Flawed Effort to ID Missing Soldiers Loses Job

Oct. 3, 2014, 9:32 a.m.

The departure of veteran lab director Tom Holland appears to be the first leadership change in the Pentagon's overhaul of its identification process.

Pentagon Report Finds Litany of Problems with Effort to Recover MIAs

July 11, 2014, 11:17 a.m.

A draft inspector general report found that the mission lacks basic metrics for how to do the job – and when to end it.

Pentagon Finally Decides to Dig Up Remains of Long Lost Soldier

July 1, 2014, 11:25 a.m.

After a ProPublica story, the military will exhume a grave in the Philippines that may hold the remains of Bud Kelder, an American POW whose family has long been fighting the Pentagon to get him home.

## Big Revamp of Pentagon's Troubled Mission to Find Missing Soldiers Looks a Lot Like Old Revamp

April 16, 2014, 12:31 p.m.

Without change of leadership throughout, meaningful change could be elusive, critics say.

## Pentagon Overhauls Effort to Identify its Missing

March 31, 2014, 6:20 p.m.

The restructuring promises to address many of the problems laid out in a recent ProPublica and NPR investigation.

## French, Germans Return Fallen GI After Pentagon Gives Up

March 21, 2014, 4:44 a.m.

For more than 50 years, Army PFC Lawrence S. Gordon was mistakenly interred as a German soldier in a cemetery in France. Then European officials did what the U.S. military would not, exhuming him and identifying him with DNA.

## Four Ways to Really Fix the Pentagon's Effort to ID the Missing

March 14, 2014, 10:11 a.m.

Changes must go beyond bureaucracy to update the scientific approach and embrace outside help.

## Mining in Afghanistan - Wikipedia, the free encyclopedia

Mining in Afghanistan is controlled by the Ministry of Mines and Petroleum, which is headquartered in Kabul with regional offices in other parts of the country.

[en.wikipedia.org/wiki/Mining\\_in\\_Afghanistan](http://en.wikipedia.org/wiki/Mining_in_Afghanistan)

The future of Silicon Valley may lie in the mountains of ...

The future of Silicon Valley's technological prowess may well lie in the war-scarred mountains and salt flats of Western Afghanistan.

[venturebeat.com/2014/03/20/lithium-afghanistan/](http://venturebeat.com/2014/03/20/lithium-afghanistan/)

\$1 Trillion Motherlode of Lithium and Gold Discovered in ...

A recently unearthed 2007 United States Geological Service

survey appears to have discovered nearly \$1 trillion in mineral deposits in Afghanistan, far beyond

[mining.com/1-trillion-motherlode-of-lithium-and-gold...](http://mining.com/1-trillion-motherlode-of-lithium-and-gold...)

Afghanistan: The Saudi Arabia of Lithium? : Discovery News ...

Lithium, which is used to make batteries for everything from mobile phones to iPads, could transform the war-torn nation's economy. THE GIST - Nearly \$1 ...

[news.discovery.com/earth/afghanistan-minerals-lithium.htm](http://news.discovery.com/earth/afghanistan-minerals-lithium.htm)

Afghanistan the "Saudi Arabia of lithium" - Khaama Press (KP ...

The Afghanistan's natural resources are considered to be a silver lining for the economy of Afghanistan, as the NATO-led international coalition

[khaama.com/afghanistan-the-saudi-arabia-of-lithium-1747](http://khaama.com/afghanistan-the-saudi-arabia-of-lithium-1747)

Afghans Wary as Efforts Pick Up to Tap Mineral Riches - The ...

With a trillion-dollar cache of oil, gold and other resources underground, hopes of self-sufficiency in Afghanistan are tempered by worries about ...

[nytimes.com/2012/09/09/world/asia/afghans-wary-as-eff...](http://nytimes.com/2012/09/09/world/asia/afghans-wary-as-eff...)

"The War is Worth Waging": Afghanistan's Vast Reserves of ...

"The War is Worth Waging": Afghanistan's Vast Reserves of Minerals and Natural Gas The War on Afghanistan is a Profit driven "Resource War".

[globalresearch.ca/the-war-is-worth-waging-afghanistan-s-vas...](http://globalresearch.ca/the-war-is-worth-waging-afghanistan-s-vas...)

Why Afghanistan's Lithium Is a Big Deal, Even If It Never ...

Why is this significant? Because even if Afghanistan's lithium never leaves the ground, the sudden, black-swan appearance of a new and potentially massive ...

[popsci.com/science/article/2010-06/why-finding-lithi...](http://popsci.com/science/article/2010-06/why-finding-lithi...)

U.S. Identifies Vast Mineral Riches in Afghanistan - The New ...

The nearly \$1 trillion in untapped deposits are enough to fundamentally alter the Afghan economy and perhaps the

Afghan war itself, officials said.

[nytimes.com/2010/06/14/world/asia/14minerals.html](http://nytimes.com/2010/06/14/world/asia/14minerals.html)

The Spoils of the War on Afghanistan, One Trillion Dollars of ...

Above: An Italian helicopter flies over western Afghanistan during an international operation. Lithium reserves have been found in the western part of that country.

[globalresearch.ca/the-spoils-of-the-war-on-afghanistan-one-...](http://globalresearch.ca/the-spoils-of-the-war-on-afghanistan-one-...)

Conspiracy Theory- Afghanistan's Lithium Takeover

Conspiracy Theory- Afghanistan's Lithium Takeover. ... The

candidate must support the corporation's wishes, and this time it would be the Afghanistan mining ...

[illuminatiwatcher.com/conspiracy-theory-afghanistans-lithium-ta...](http://illuminatiwatcher.com/conspiracy-theory-afghanistans-lithium-ta...)

Does Us Have Control Of Lithium Mines In Afghanistan - Prijom

The War is Worth Waging Afghanistan's Vast Reserves of

Minerals : The 2001 bombing and invasion of Afghanistan has been presented to World public for lithium ...

[prijom.com/posts/does-us-have-control-of-lithium-min...](http://prijom.com/posts/does-us-have-control-of-lithium-min...)

There are better places than Afghanistan to mine for lithium.

For years, the mining industry has known that there are vast supplies of lithium, an element that is crucial to the technology business, sitting untapped u

[slate.com/articles/news\\_and\\_politics/politics/2010/...](http://slate.com/articles/news_and_politics/politics/2010/...)

Eyes on Afghanistan as Next Lithium Motherlode | OilPrice.com

Eyes on Afghanistan as Next Lithium Motherlode. ... Lithium is

positioned to play a key role in this mining venue, as Afghanistan is said to have one of the world's ...

[oilprice.com/Energy/General/Eyes-on-Afghanistan...](http://oilprice.com/Energy/General/Eyes-on-Afghanistan...)

China, Not U.S., Likely to Benefit from Afghanistan's Mineral ...

Although the U.S. government has spent more than \$940 billion on the conflict in Afghanistan since 2001, a treasure trove of mineral deposits, including ...

[dailyfinance.com/2010/06/14/china-us-afghanistan-mineral-m...](http://dailyfinance.com/2010/06/14/china-us-afghanistan-mineral-m...)

Afghanistan grants key copper and gold permits | MINING.com  
The government of Afghanistan announced Friday its preferred bidders for three of its four current mineral tenders, with a consortium backed by City of London banker ...

[mining.com/afghanistan-grants-key-copper-and-gold-mi...](http://mining.com/afghanistan-grants-key-copper-and-gold-mi...)  
Afghanistan's lithium Eureka: A big win for China, or another ...  
Since reports emerged this weekend that Afghanistan is home to a massive deposit of useful minerals, namely lithium, the green news complex has been ...

[venturebeat.com/2010/06/14/afghanistans-lithium-eureka-a-...](http://venturebeat.com/2010/06/14/afghanistans-lithium-eureka-a-...)  
Dreams Of A Mining Future On Hold In Afghanistan : NPR  
Afghan miners in a makeshift emerald mine in the Panjshir Valley in 2010. Reports suggest that Afghanistan is sitting on significant deposits of oil, gas ...

[npr.org/2012/04/04/149611352/dreams-of-a-mining-f...](http://npr.org/2012/04/04/149611352/dreams-of-a-mining-f...)  
Massive Afghanistan Lithium Deposit (As In Batteries) Could ...  
A large mineral deposit worth an estimated \$1 trillion has been discovered in Afghanistan, Pentagon officials revealed today. The find could change the nation's ...

[gizmodo.com/5562473/massive-afghanistan-lithium-depos...](http://gizmodo.com/5562473/massive-afghanistan-lithium-depos...)  
US discovers natural desposits of gold, iron, copper and ...  
A Pentagon memo claims Afghanistan could become the 'Saudi Arabia of lithium', a key raw material in the manufacture of batteries for laptops and mobile phones.

[dailymail.co.uk/news/article-1286464/US-discovers-natural...](http://dailymail.co.uk/news/article-1286464/US-discovers-natural...)  
Afghanistan's Lithium, Pakistan's Loss - New America Media  
Anonymous Posted Oct 2 2010. The electric car projects are just a scam to get a ceratin group of VC's to control the lithium fields in Afghanistan!

[newamericamedia.org/2010/07/afghanistans-lithium-pakistans-](http://newamericamedia.org/2010/07/afghanistans-lithium-pakistans-)

lo...

Lack of regulation limits Afghan gem mining | Global Risk ...

The lack of clear industry rules is hampering the growth of Afghanistan's mining sector. Blessed with mineral wealth, Kabul remains unable to utilize it.

[globalriskinsights.com/2013/06/lack-of-regulation-limits-afghan-...](http://globalriskinsights.com/2013/06/lack-of-regulation-limits-afghan-...)

Afghanistan: War for Lithium? (Mar 11, 2013) - Truth in Media

Afghanistan: War for Lithium? How supposed "War on Terror" and "War on Opium" morphed into "War for Lithium," mineral essential for building of nuclear weapons; US ...

[truthinmedia.org/2013/AfghanWar.html](http://truthinmedia.org/2013/AfghanWar.html)

Vast \$Trillion Mineral Deposits Discovered in Afghanistan ...

'Trillion dollar' mineral deposits have been discovered in Afghanistan according to US officials. These deposits include vast quantities of iron, copper, and lithium ...

[thenewslink.com/afghanistan-lithium-trillion-dollar-miner...](http://thenewslink.com/afghanistan-lithium-trillion-dollar-miner...)

Lithium in Afghanistan for electric cars: a blessing and a curse

Lithium in Afghanistan, as well as rich deposits of other precious minerals, could further complicate U.S. goals in the Afghanistan war.

[personalmoneystore.com/moneyblog/lithium-afghanistan/](http://personalmoneystore.com/moneyblog/lithium-afghanistan/)

Afghanistan's Lithium Wealth Could Remain Elusive

Afghanistan may be the Saudi Arabia of lithium—a key energy storage medium—but prosperity will not flow easily.

[news.nationalgeographic.com/news/2010/06/100616-energy-afghanistan-li...](http://news.nationalgeographic.com/news/2010/06/100616-energy-afghanistan-li...)

Lithium in Afghanistan - mom.gov.af

Lithium in Afghanistan Figure 1. Lithium occurrences in Afghanistan on a low-resolution Landsat image, with major tectonic features, intrusive

[mom.gov.af/Content/files/MoMP\\_LITHIUM\\_Midas\\_Jan\\_2014...](http://mom.gov.af/Content/files/MoMP_LITHIUM_Midas_Jan_2014...)

Afghanistan: Mining, Minerals and Fuel Resources

Afghanistan, with a total population of 30,419,928 as of July 2012, is located in Southern Asia, north and west of Pakistan, east of Iran. The country mostly has an ...

[azomining.com/Article.aspx?ArticleID=170](http://azomining.com/Article.aspx?ArticleID=170)

Afghanistan copper, lithium worth \$1 trillion | Marketplace.org

American geologists have reported that Afghanistan is sitting on \$1 trillion of copper and lithium deposits, a new-found mineral wealth that marks the country as a ...

[marketplace.org/topics/world/afghanistan-copper-lithium-w...](http://marketplace.org/topics/world/afghanistan-copper-lithium-w...)

Why Lithium Can't Save Afghanistan : Discovery News

Why Lithium Can't Save Afghanistan. Jun 16, ... After that comes mining lithium-bearing minerals right out of granites. Until recently, ...

[news.discovery.com/earth/can-lithium-really-save-afghanistan...](http://news.discovery.com/earth/can-lithium-really-save-afghanistan...)

The ASIA Miner - AFGHANISTAN - Survey of lithium deposits

Central Asian Mining Services (CAMS) has been contracted to assist in a survey of lithium deposits in Afghanistan. The country is believed to contain significant ...

[asiaminer.com/news/latest-news/5996-afghanistan-survey-...](http://asiaminer.com/news/latest-news/5996-afghanistan-survey-...)

Afghanistan's trillion dollar curse: lithium - City of Brass

Afghanistan has a national mining law, ... about Afghanistan's trillion dollar curse: ... work and your post about Afghanistan's trillion dollar curse: lithium

[beliefnet.com/columnists/cityofbrass/2010/06/afghanista...](http://beliefnet.com/columnists/cityofbrass/2010/06/afghanista...)

lithium mining in pakistan - mtmcrusher.com

Why Afghanistan's Lithium Is a Big Deal, Even If It Never Leaves the . ... Lack of Regulation Limits Afghan Gem Mining | Global Risk Insights.



[mtmcrusher.com/environment/lithium-mining-in-pakistan.html](http://mtmcrusher.com/environment/lithium-mining-in-pakistan.html)

The future of Silicon Valley may lie in the mountains of Afghanistan

Richard Byrne Reilly

Tags: Andrew Chung, Apple, Donald R. Sadoway, editor's pick, Jay Jacobs, Khosla Ventures, lithium, Lithium Exploration Group, lithium-ion batteries, Michel Chossudovsky, Tesla, Tesla Motors, top-stories

Above: An Italian helicopter flies over western Afghanistan during an international operation. Lithium reserves have been found in the western part of that country.

Image Credit: ISAF Media

The future of Silicon Valley's technological prowess may well lie in the war-scarred mountains and salt flats of Western Afghanistan.

United States Geological Survey teams discovered one of the world's largest untapped reserves of lithium there six years ago. The USGS was scouting the volatile country at the behest of the U.S. Department of Defense's Task Force for Business and Stability Operations. Lithium is a soft metal used to make the lithium-ion and lithium-polymer batteries essential for powering desktop computers, laptops, smartphones, and tablets. And increasingly, electric cars like Tesla's.

The vast discovery could very well propel Afghanistan — a war-

ravaged land with a population of 31 million largely uneducated Pashtuns and Tajiks, and whose primary exports today are opium, hashish, and marijuana — into becoming the world's next "Saudi Arabia of lithium," according to an internal Pentagon memo cited by the New York Times.

The USGS survey report on Afghanistan that detailed the findings also noted that, in addition to lithium, the country also contains huge deposits of iron ore, gold, cobalt, copper, and potash, among many other valuable minerals.

"The mineral wealth there is astonishing," said professor Michel Chossudovsky of the Montreal-based Center for Research and Globalization, who has written extensively on Afghanistan. A conservative estimate of the riches is \$1 trillion. In some circles, it's as high as \$5 trillion.

Above: A typical lithium "button" cell found in many small electronics.

Image Credit: Rodrigo Senna

In Silicon Valley and beyond, tech companies like Apple, Google, Amazon, Microsoft, Hewlett-Packard, Samsung, Sony, and Tesla rely on continual, and uninterrupted, access to lithium, as lithium-based batteries are the primary power storage devices in their mobile hardware.

Without these batteries, MacBooks, iPads, iPhones, Kindles, Nooks, Galaxy IIIs, Chromebooks, and, yes, Tesla Model S cars would be largely worthless. If forced to use older, nonlithium batteries, their battery lives would certainly be much shorter. The world's current lithium heavyweight is Bolivia, the biggest exporter of the element. There, in the swamps and marshlands of the southern region of the country near where the borders of Chile and Argentina meet, are the biggest deposits.

Canada, China, Australia, and Serbia also have varying amounts

of lithium, but not as much as Bolivia.

Or apparently, Afghanistan.

Enough to last a lifetime

Depending on who you talk to, the current lithium global reserves are adequate for at least another generation of lithium-ion battery manufacturers to produce them.

But not everybody thinks so, and some say the light metal compound may someday run dry. That could in turn spell trouble for any company whose business depends on light and portable mobile electronics — unless someone comes up with an alternative to lithium batteries before then.

The experts VentureBeat interviewed pointed to sharp year-on-year increases in the demand for lithium. That's putting heavy pressure on existing stockpiles.

According to Lithium Americas, a Canadian lithium-mining company with significant business interests in Argentina, lithium demand will more than double in the next 10 years, while lithium prices have nearly quadrupled during the same timeframe.

Tesla, for its part, is in the process of investing up to \$5 billion to build its own lithium-ion Gigafactory in Texas, a plant capable of churning out 500,000 expensive battery packs a year by 2020 for its line of zero-emission, all-electric cars.

Above: Tesla predicts that its "Gigafactory" will produce more lithium batteries (by capacity) in 2020 than the entire global production of such batteries in 2013.

Image Credit: Tesla Motors

A Tesla spokeswoman did not return calls seeking comment.

As a potential source to feed that demand, enter Afghanistan.

"At some point, if present trends continue, demand [for lithium] will outstrip the supply. And again, at some point, the market for lithium-ion could get so big that it actually affects the supply

chain,” said Donald R. Sadoway, a professor of the Materials Chemistry Department of Materials Science and Engineering at MIT.

Looking at Afghanistan, Sadoway says the war-ravaged nation, which has no effective mining infrastructure in place, may well be attractive to the world’s mining outfits.

“In this regard,” Sadoway, one of the world’s foremost experts on energy sources, says, “the deposits in Afghanistan could be important.”

Andrew Chung, a venture capitalist with Khosla Ventures in Silicon Valley who has invested in multiple startups producing alternative batteries, says lithium-ion batteries are limited in their lifetime cycles, scalability, and cost. Despite this, Chung says, he can understand how the untapped reserves of Afghan lithium are now an increasing focus.

“It is an issue of the supply chain, whether it’s Afghanistan or other [countries]. There is a finite supply, and lithium-ion will continue to be the [power] choice for the next decade,” Chung said.

Some of the Valley’s biggest and most powerful tech companies either declined to comment for this story or never returned calls. But they didn’t deny the importance of lithium-ion batteries. For instance, an Apple spokesperson declined to comment for this story but provided VentureBeat with a 2014 “Suppliers List” of the 200-plus vendors it uses to produce its products. A related post made the Cupertino, Calif.-based company’s commitment to lithium batteries clear, at least in the short term.

“Rechargeable, lithium-based technology currently provides the best performance for your Apple notebook computer, iPod, iPhone, or iPad,” the Apple post says.

Sony Energy Devices Corp. invented the lithium-ion battery in 1994. It was hailed as a breakthrough, providing longer battery

life and without the “memory effect” that gradually reduced the effective capacity of previous types of batteries.

Since then, companies have gradually refined lithium battery technology but have not succeeded in moving beyond it. Indeed, early Tesla cars are actually powered by large packs of industry-standard lithium-ion battery cells — the same type of cells found in many laptop batteries.

And here is where it gets interesting.

Sharply increasing demand

Above: The custom battery pack Tesla uses for its Tesla Model S. Inside are hundreds of lithium cells.

Image Credit: Tesla Motors

If electric car manufacturers begin ramping up production of lithium-ion battery-powered cars, the global demand for lithium will skyrocket. This could potentially come about at the same time for increasing demand for handheld consumer goods like tablets and laptops, Chung said, thus creating a perfect storm. “So you want to start looking at other sources producing it with current supplies being called into question, if we move more toward production of electric cars,” Chung said.

Which is why, increasingly, eyes are turning to Afghanistan and its new purported lithium reserves, a country long referred to as the “graveyard of empires.” The U.S. invaded Afghanistan after the terror attacks of Sept. 11, 2001, and according to iCasualties, 2,315 American servicemen and women have been killed there. Analyst Jay Jacobs of Global X Funds in New York, which has interests in lithium mining, said demand for the compound is growing, and that “there are two regions that have been revealed to contain huge lithium reserves: Afghanistan and Bolivia.”

William Tahil, a respected lithium expert who lives in France and

is the general director for Material International Research, argues that lithium deposits in Bolivia will at some point be depleted.

Jacobs was sanguine about safely extracting lithium from Afghanistan. He said political risks there were considerable. "With that being said, should there be a substantial and sustained increase in demand for lithium, lithium miners may become increasingly interested in the country as it has an abundance of the resource," Jacobs said.

It was the Soviets who first discovered the country's deposits when they invaded in 1979. Soviet geologists began mapping Afghanistan's lithium, gold, and potash fields but abandoned their efforts after the former communist superpower pulled out of the country in 1989.

But with a weak and corruption-plagued "central government," Afghanistan is now ripe for the picking, Chossudovsky said. Indeed, the country is still very much divided into fiefdoms, with the Muslim fundamentalist Taliban, warlords, and drug traffickers controlling large swaths of the country — and using violence to advance their interests.

"There's no question the mining companies will go in there. No question. There's no real functioning government there to reap the foreign investment of the mineral deposits. This makes it all the more enticing to the mining companies because nobody in the government of [President] Hamid Karzai will be regulating the bonanza of lithium, so they can do what they want," he said.

Jockeying for position

Above: A lithium processing plant in Chile. Lithium is typically refined from vast piles of mineral salts.

Image Credit: Reduse.org

For its part, the U.S. government, which helped locate the lithium

deposits using flyovers with a sensor-filled Lockheed P-3 Orion and teams of geologists fielding soil samples, knows a potential gold rush when it sees one. And it has no intention of being left on the sidelines. Especially since the Chinese are now — and quickly — making deals with Afghan pols for mineral rights to copper deposits.

The USGS did return multiple calls seeking comment. Nor did the Pentagon.

Despite what some say are the shortcomings of lithium-ion batteries, venture capitalists and investors continue pouring money into them. Amprius, a lithium battery maker based in Sunnyvale, Calif., snared a \$30 million infusion round of investor cash in January.

Over at the Afghan embassy in Washington, D.C., the Afghans are licking their lips at the potential lithium and mineral windfall despite the country's continued conflict with a resurgent Taliban. What this may portend for the impoverished and war-torn nation is anybody's guess. But the Afghans are playing up the finds — or they were, until recently.

"In recent years, headlines from the Afghan mineral sector have competed to outdo each other in scale: from the landmark \$3 billion Chinese investment in the Aynak copper concession to the astounding survey work of the U.S., Afghan, and British Geological Services estimating anywhere between \$1 trillion and \$3 trillion in mineral potential, to the historic \$11 billion deal now being finalized with an Indian consortium for the Hajigak iron ore concession," said a posting on the Afghani Washington DC website.

Afghanistan's ambassador to the U.S., Eklil Hakimi, presided over a press conference at the Afghan embassy in Washington, D.C., on March 10, where he talked about the untapped deposits, along with reps from the USGS and other U.S. politicians.

But Hakimi, through a spokesman, told me he simply didn't have the time to talk.

More information:

Apple

Tesla Motors

Lithium Exploration Group

Khosla Ventures

by VBProfiles