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On January 28, 2016, US Army base Fort Hood, in Texas, broke ground on the Army's largest-ever hybrid solar and wind-power project. The USD 100 million project's 63,000 solar panels and 20 massive wind turbines will supply half the base's electricity needs "at a lower price than the power generated by fossil fuels," saving USD 168 million.² A week before, the US Navy, well along in its goal of 50% renewable energy by 2020, first used biofuels in its Great Green Fleet.³ These milestones came in the same month that the Pentagon, on January 14, released a new directive on "Climate Change Adaptation and Resilience."⁴

Concord was not the first venue for viewing "The Burden," nor will it be the last. The documentary was officially released on March 27 of 2015, at the Environmental Film Festival, in Washington DC.⁸ It has been watched in countless private screenings, including by special request from Republicans who want to understand reality but are wary of leaving evidence that they attended a "climate change event."⁹ The next scheduled public screening is February 11 in Sacramento, California, where it will be co-hosted by California Assembly Veterans Affairs Committee Chairwoman Jacqui Irwin and Vice Chair Devon Mathis.¹⁰

"The Burden" is in strong demand because it expertly blends brief and engaging interviews with often gripping wide-angle footage. In this dangerously distracted US Presidential election year, the film shows why the American military wants to lead a revolution in renewable energy and efficiency. It also provides a ready introduction to the enormous geopolitical and climate risks of fossil fuels, especially oil, and how they pose an immediate and rapidly worsening threat to America's national security.
The documentary's title deftly summarizes several costly problems posed by oil, still the lifeblood of military and civilian mobility. For one thing, oil-derived fuel makes up half or more of the supplies delivered to front-line troops, to be burned in transport and combat vehicles as well as generators to power an expanding array of electrified systems. An additional "burden" is the geographical and geopolitical tethering of the US military to oil-producing areas, particularly the Middle East. Ample footage from Iraq and Afghanistan underscore this incredibly expensive reality.

Yet a further burden is that the US military is uniquely focused on protecting tankers.\textsuperscript{11} Crude oil and petroleum products made up a massive 26\% share, by volume, of the nearly 10 billion tons of total seaborne trade in 2014.\textsuperscript{12} As the "Chokepoints" map shows, and as the documentary emphasizes, most of this fuel is carried through narrow straits, such as Hormuz and Malacca. These chokepoints are vulnerable to attacks by state and non-state actors, including pirates. The documentary points out that the military budget represents roughly 20\% of US federal government spending, and that the cost of patrolling chokepoints is at least USD 85 billion per year.

"The Burden" uses well-placed clips from Fox News and C-SPAN to remind us that fervent advocates of "drill, baby, drill" insist climate change is a lie and that America can be energy self-sufficient through shale. The film counters with a convincing case that more-of-the-same will not lead to energy self-reliance, but rather continued vulnerability to volatile prices and geopolitical instability. The ongoing collapse in oil prices illustrates these risks very well. The Financial Times, Citi and others point to increasing evidence that oil finance may be playing a role akin to the subprime mortgages that delivered the Lehman Shock in 2008.\textsuperscript{13}

"The Burden" shows how the military is using solar power and advanced biofuels, as well as other technologies, to reduce demand, substitute for oil, and produce power on-site. It accomplishes this with skill, through interviews with officials and veterans as well as footage of solar arrays and other projects. The film is clearly aimed at fence-sitting and conservative audiences rather than progressives. The documentary is thus careful to stress that green power increases the military's effectiveness and cuts its costs. In Afghanistan, these costs included an average of one military casualty for every 24 convoys of fuel.

Climate change makes repeated appearances in the film, as a "threat-multiplier." The documentary illustrates the threat of rising seas by showing what they are already doing to Naval Base Norfolk, the world's largest. It also highlights the fact that roughly every two weeks the American military is called on for humanitarian assistance and disaster response. The demand for this assistance will almost certainly increase. Climate change is clearly accelerating,\textsuperscript{14} and there is no agency to replace the US military's air- and sea-lift capacity for saving lives in more frequent and large-scale disasters.
The documentary is ably directed by Roger Sorkin, head of Sorkin Productions and fellow of the Truman National Security Project. Sorkin's background includes work as strategic communications advisor to the NATO Energy Security Centre and a role at the Electric Infrastructure Security Council. He specializes in the increasingly overlap among climate change, energy, and national security. At the Truman Center, Sorkin is the spokesperson for Operation Free, a coalition of military veterans and national security experts. This role clearly helped Sorkin get access to ships and bases as well as top officials who are implementing the American military's energy revolution.

One of these people is Ray Mabus, Secretary of the Navy and the major force behind the Navy's ambitious goal to achieve 50% renewables by 2020 as well as sail the Great Green Fleet. Mabus served as an officer aboard a Navy cruiser, was Governor of Mississippi (1988-92), and former ambassador to Saudi Arabia (1994-96). He has been Secretary since May of 2009, the longest tenure in that position in a century. Mabus thus speaks with immense credibility when he argues the need for an energy transition and that the Navy can help lead it. He emphasizes that military demand has been a key factor in past technological revolutions, and that the Navy itself has already led previous energy transitions.

Other interviewees include Sharon Burke and Dennis McGinn. Burke is interviewed as Assistant secretary of defense for operational energy plans and programs. That position was created by Congress in 2009, and Burke became its first-ever appointee in 2010, serving until May of 2014. She was also the author of the 2008 report, A Strategy for American Power: Energy, Climate, and National Security, released by the Center for a New American Security. She speaks with the authority of an expert on the role of energy in military operations.
Dennis McGinn was interviewed as Assistant Secretary of the Navy (Energy, Installations & Environment), a position to which he was appointed on September 3, 2013. Prior to that appointment, McGinn was President of the American Council On Renewable Energy, an important organization that links the renewable energy industry, the states, and the US military. In the documentary, McGinn persuasively depicts alternative energy as an important economic opportunity in addition to being an avenue for alleviating risks.

Former United States Marine Corp General Anthony Zinni also makes an appearance. Zinni's outspoken opposition to the Iraq War,
prior to the 2003 invasion, was strikingly perspicacious concerning the risks of that neocon gambit. In the film, Zinni makes clear the perils posed by conventional energy as well as conventional thinking. Among other points, he argues that disasters exacerbated by climate change will increase the burden on the US military "as they are forced to respond because they are the best first-responders in the world." Zinni continues to speak truth to complacency, warning for example in an October 24, 2014 OpEd that "we run the risk of being too late on climate change, endlessly debating causes at the expense of sensible actions."

The US military's role in renewables, portrayed so well in the documentary, has drawn the ire of conservative critics. As noted in the introduction, many insist the military has been browbeaten by Barack Obama. The argument is absurd. The film does not take up the point, but in 2004 former US Secretary of Defense Donald Rumsfeld (1975-77 and 2001-06) became a first-mover in the US military's drive to deploy renewable energy and efficiency. The Rumsfeld-authored "DOD FY 2004: Annual Report to the President and the Congress" notes that "[we] also are pursuing renewable energy technologies, such as fuel cells and geothermal, wind and solar power; we intend to purchase electricity from these environmentally friendly sources when cost-effective."

On the other hand, some progressive critics claim that the US military is the biggest climate culprit. But this author's calculations show that the US military's total fuel use of roughly 87 million barrels (13.8 billion liters) in 2014 was just 5% of global airlines' consumption of 276 billion liters of fuel in the same year. Fuel consumption by global marine transport was roughly the same as that for aviation, at least according to data from 2010. Moreover, the US military's fuel use was under 7 days' worth of US consumption by light-duty vehicles in 2012, which was roughly 13 million barrels of oil equivalent per day.

It also pays to keep in mind - as the film illustrates - that a significant portion of US military fuel use is devoted to protecting the flow of oil for use in cars, aircraft, maritime shipping and a myriad other purposes across the globe. Without the US military's force projection assuring security of oil supply, there would be havoc in the global economy. But now the US military itself is warning that business-as-usual is leading to even more existential mayhem. That alarm, and the sobering realities that give rise to it, should transcend all slogans.

Both the right and the left share a tendency to ignore inconvenient truths, even as climate and energy threats accelerate. Meanwhile, on February 9, the Supreme Court's 5 conservative justices made the "stunning" and "unprecedented" decision to block Obama's "Clean Power Plan" to regulate CO2 emissions from power plants. Against the perilously polarized backdrop of American politics, "The Burden" makes an invaluable contribution. It delivers conservatives a powerful message from the military on the urgent need for a paradigm change in energy.


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Notes


3 On the Great Green Fleet, see the US Navy website (http://greenfleet.dodlive.mil/energy/great-green-fleet/).


6 A short clip from the documentary as well as a summary of its content is available here (http://www.theburdenfilm.com).


9 The film's director, Roger Sorkin, makes this point at 39:00 minutes during the December 17, 2015 Reinvent roundtable (with Carl Pope, Bill McKibben, and others) on "Confronting the Full Foreign Policy Implications of Climate Change" (https://www.youtube.com/watch?v=CU0Y7KgkEVk).


