\*\*\*Flex-Fuel Case Neg

Strat

Topicality – energy infrastructure

States cp

spending

OIL DA

CASe:

A2 Warming

Flex fuel infrastructure doesn’t work

A list of the best argents you want on case. With the best at the top. A variety of arguments and this should come from a lot of research.

- every card you'll need against the case should be acceptable in the fall.

- make sure you have all the advantages covered.

1NC—Topicality

A. Interpretation: Transportation infrastructure is highways, roads, bridges, intermodal transit, inland waterways, ports, aviation, and rail systems.

**That’s Congress ‘11**

[The US House of Representatives – the 112th Congress of the United States. “HR 402 – National Infrastructure Development Bank Act of 2011” 1/24/11 <http://www.govtrack.us/congress/bills/112/hr402/text//Cal-JV>]

(25) TRANSPORTATION INFRASTRUCTURE PROJECT- The term ‘transportation infrastructure project’ means any project for the construction, maintenance, or enhancement of highways, roads, bridges, transit and intermodal systems, inland waterways, commercial ports, airports, high speed rail and freight rail systems.

**B. Violation: Your affirmative isn’t transportation infrastructure – it’s energy infrastructure**

Chapman and Cutler ‘11

(Chapman and Cutler, Attorneys at law, Client Alert, 09/29/11, The American Jobs Act and Its Impact on a National Infrastructure Bank http://www.chapman.com/media/news/media.1081.pdf)

Energy Infrastructure: includes the construction, consolidation, alteration, or repair of the following

subsectors:

o Pollution reduced energy generation

o Transmission and distribution

o Storage

o Energy efficiency enhancements for public and commercial buildings

( ) And that explodes the topic

Faulkenberry 11

(Ken, MBA – University of Southern California, “Infrastructure Investment: Energy, Transportation, Communications, & Utilities”, Arbor Asset Allocation Model Portfolio Blog, September, http://blog.arborinvestmentplanner.com/2011/09/infrastructure-investment-energy-transportation-communications-utilities/)

Energy Infrastructure Energy Infrastructure would include electricity generation and the transmission grid, oil refineries and pipelines, and natural gas pipelines. The United States has an antiquated electrical transmission grid with constraints that limit power flows. Increases in demand for oil and natural gas, and changes in where it needs to go, means a need for more investment in pipelines. Engineering and construction companies such as Flour (FLR), Shaw Group (SHAW), and Foster Wheeler AG (FWLT) are individual companies which might benefit from future energy infrastructure spending. Transportation Infrastructure Over the last several decades America’s infrastructure spending has been less than one-half other developed nations and only a quarter of emerging market countries. Civil engineers give our transport structures low marks. Our roads, railways, ports, and airports are all judged mediocre. It has become well recognized that we must invest more in upgrading our transportation infrastructure. But because of the years of neglect, substantial increases in operation and maintenance budgets will also be required. The above engineering and construction firms could also benefit from transportation infrastructure spending.

**C. Voting Issue**

**1. Limits: There are an infinite number of energy infrastructure investments that are unpredictable and unresearchable.**

**2. Ground: Affs must be a large enough increase to trigger tradeoff das and perception links. We lose any stable offense with small, obscure affs.**

1NC—States CP

TEXT: The 50 States of the United States should uniformly and cooperatively substantially increase their investment for fueling infrastructure for vehicles cable of using mixtures of ethanol, methanol, and/or gasoline.

States have the funds to implement transportation infrastructure plans

Freemark 2012 Yohah, writer for Transport Politics, 02-16-2012, http://www.thetransportpolitic.com/2012/02/16/clearing-it-up-on-federal-transportation-expenditures/

Meanwhile, states and local governments are contributing massively to transportation funding already, just as Ms. Schweitzer asks them to. I studied Oregon and Illinois a year and a half ago and found that only about a quarter of Oregon’s Department of Transportation budget comes from Washington; about a third of Illinois’ comes from the national capital. What about those profligate transit agencies that are egged on by the federal government’s wasteful spending? Their operations spending comes from local, state, and fare revenues — not Washington. And expansion projects — especially the big ones — are mostly financed by local revenues, like dedicated sales taxes that voters across the country have approved repeatedly over the past twenty years. The six largest transit expansion projects currently receiving or proposed to receive funding from the Obama Administration this year each rely on the federal government to contribute less than 43% of total costs. Perhaps Detroit would have paid for the People Mover even if it had had to use its own revenues to do so. Now, even if we were to recognize the high level of devolution of power and funds that currently does exist in the U.S., some might still argue that the federal government exercises too much power. Its distribution formula for fuel tax revenues results in certain states getting more money than their drivers contributed (“donor” states) and certain states getting less (“donee” states). Why not simply allow states to collect their own revenues and spend money as they wish? Why should Washington be engaged in this discussion at all?

2NC—States Solve

State governments are vital to alternative fuel usage

FleetOwner.com, 2011 [March 4, Heavy Duty Manufacturers Association: the voice for the heavy duty manufacturers industry, “States Promoting Natural Gas Use in Transportation”

<http://www.hdma.org/Main-Menu/HDMA-Publications/Diesel-Download/March-14-2011/States-Promoting-Natural-Gas-Use-in-Transportation.html>]

As the cost of oil, along with diesel and gasoline prices, is expected to remain high for the foreseeable future, state governments are stepping up legislative efforts to promote alternative fuel use in the U.S. – especially natural gas. Currently, 23 state legislatures are considering bills that support natural gas as a transportation fuel, with Wyoming appropriating $200,000 for its Dept. of Transportation and Dept. of Administration and Information to retrofit or acquire vehicles in their fleets capable of running on natural gas, according to the trade association NGVAmerica. “There is growing recognition of the growing importance state government’s play in promoting alternative fuel usage,” Denise McCourt, director of communications for NGVAmerica, told Fleet Owner. “What’s driving this now is the experience with oil price spikes – the realization that oil is traded as a commodity, with pricing set by the global market and subject to surges not directly related to pure supply and demand factors.” McCourt said that the current upswing in oil prices, which is pushing diesel and gasoline costs higher, is the third such upsurge in the last six years. The first came after Hurricane Katrina in 2005, based largely on fears of reduced refinery capacity along the U.S. Gulf Coast, with the second occurring during the summer in 2008. Current projections by the U.S. Energy Information Administration (EIA) indicate the current run up in oil and petroleum-based fuel prices won’t abate soon, either. The agency expects continued tightening of world oil markets over the next two years, particularly in light of the recent events in North Africa and the Middle East, the world’s largest oil producing region.

State governments have historically incentivized fueling infrastructure

APGA No Date [American Public Gas Association, “Fueling and State Incentives,

http://www.apga.org/i4a/pages/index.cfm?pageid=3653]

“The Federal Government and State governments have demonstrated a long-standing commitment to reducing our dependence on foreign energy sources and pollution emitted by light and heavy-duty vehicles. The health and national security benefits of reducing both are clear, as sending money abroad to potentially hostile regimes harms our security and reducing emission of criteria pollutants and Greenhouse Gases improves public health and helps to protect the environment. To that end both States and the Federal Government have historically offered and continue to offer various incentives for NGVs and fueling infrastructure because of the critical benefits they confer.

1NC—Spending DA

#### A. Fiscal discipline now – political pressure will lead to debt compromise

Washington Post 7/18

Washington Post 7/18/12, <http://www.columbiatribune.com/news/2012/jul/18/coalition-aims-to-head-off-debt-disaster/>

WASHINGTON — A coalition of business leaders, budget experts and former politicians launched a $25 million campaign yesterday to build political support for a far-reaching plan to raise taxes, cut popular retirement programs and tame the national debt. With anxiety rising over a major budget mess looming in January, the campaign — dubbed "Fix the Debt" — is founded on the notion that the moment is finally at hand when policymakers will be forced to compromise on an ambitious debt-reduction strategy. After nearly three years of bipartisan negotiations, the broad outlines of that strategy are clear, the group's leaders said during a news conference at the National Press Club: Raise more money through a simplified tax code and spend less on Social Security, Medicare and Medicaid, the primary drivers of future borrowing. "Everyone knows in their hearts and their minds what has to be done," said Democratic former Pennsylvania Gov. Ed Rendell, who is chairing the group with former New Hampshire Sen. Judd Gregg, a Republican. The goal of the campaign is to "create a safe environment where it's not only good policy, but good politics as well." The campaign was founded by former Clinton White House Chief of Staff Erskine Bowles and former Republican Sen. Alan Simpson of Wyoming. The two men led an independent fiscal commission that in 2010 produced a $4 trillion debt-reduction framework that has won praise from politicians across the political spectrum. But the Bowles-Simpson plan never won the explicit backing of President Barack Obama or GOP leaders and therefore never gained real traction in Congress. The campaign plans to launch a social media drive to persuade lawmakers to approve a plan similar to the Bowles-Simpson framework by July 4, 2013 — replacing $600 billion in abrupt tax hikes and sharp spending cuts that are otherwise set to take effect in January.

#### B. New infrastructure spending kills fiscal discipline – it undercuts the spirit of “shared sacrifice”

O’Hanlon 10

Michael O’Hanlon, senior fellow at the Brookings Institution, 12/22/10, “THE DEFENSE BUDGET AND AMERICAN POWER,” http://www.brookings.edu/~/media/Files/events/2010/1222\_defense\_budget/20101222\_defense\_budget.pdf

So the minute that someone says, well, defense is the top constitutional obligation of the federal government and therefore it should be protected regardless, and we should make our deficit reduction out of other accounts. If we start a conversation in those terms, then a big constituency is going to come up and say let's protect Social Security, or let's protect college loans for students because that's our future after all. Or let's protect science research or infrastructural development, and you get the idea pretty soon you've lost the spirit of shared sacrifice that I think is essential if we're going to have any hope of reducing the deficit in the coming years. So that's the basic motivation. We're not probably going to reduce the deficit effectively, and therefore strengthen our long-term economy and the foundation for our long-term military power, if we don't establish a spirit of shared sacrifice.

#### D. Loss of fiscal discipline causes a downgrade

Mark Gongloff, Wall Street Journal, 08/2/’11, [Moody’s Affirms US AAA Rating, <http://blogs.wsj.com/marketbeat/2011/08/02/moodys-affirms-us-aaa-rating/>] VN

Moody’s just came out and said, great job, USA, you get to keep your AAA rating. For now. This follows Fitch, which earlier said more or less that they were still reviewing the US rating, a process that could take through August. They didn’t promise they’d keep a AAA rating at the end of the process, but called the debt deal “a step in the right direction.” Now the big shoe dangling is S&P, which is really on the hook, having sounded the loudest warning about a downgrade. The size of the debt deal doesn’t seem to hit the $4 trillion mark S&P has said would be necessary to keep a AAA rating. My prediction? They’ll issue a similar placeholder statement soonish. Meanwhile, let’s hear what Moody’s has to say: Moody’s Investors Service has confirmed the Aaa government bond rating of the United States following the raising of the statutory debt limit on August 2. The rating outlook is now negative. Moody’s placed the rating on review for possible downgrade on July 13 due to the small but rising probability of a default on the government’s debt obligations because of a failure to increase the debt limit. The initial increase of the debt limit by $900 billion and the commitment to raise it by a further $1.2-1.5 trillion by yearend have virtually eliminated the risk of such a default, prompting the confirmation of the rating at Aaa. In confirming the Aaa rating, Moody’s also recognized that today’s agreement is a first step toward achieving the long-term fiscal consolidation needed to maintain the US government debt metrics within Aaa parameters over the long run. The legislation calls for $917 billion in specific spending cuts over the next decade and established a congressional committee charged with making recommendations for achieving a further $1.5 trillion in deficit reduction over the same time period. In the absence of the committee reaching an agreement, automatic spending cuts of $1.2 trillion would become effective. In assigning a negative outlook to the rating, Moody’s indicated, however, that there would be a risk of downgrade if (1) there is a weakening in fiscal discipline in the coming year; (2) further fiscal consolidation measures are not adopted in 2013; (3) the economic outlook deteriorates significantly; or (4) there is an appreciable rise in the US government’s funding costs over and above what is currently expected.

#### E. Further downgrades would create a debt spiral, crippling the economy

Rowley 12 Charles Rowley, Professor Emeritus of Economics at George Mason University, 6/15/12, “Renewed threats to U.S. credit rating,” Charles Rowley’s blog, http://charlesrowley.wordpress.com/2012/06/15/renewed-threats-to-u-s-credit-rating/

If Moody’s downgrades and if S & P further downgrades U.S. credit ratings, this would move the United States out of the exclusive club of AAA-rated nations, and throw into question the privileged status of U.S. Treasury securities as a safe haven for global investors. Any significant flight from Treasuries would raise Treasury bond rates, with crippling consequences for the economy. A 1-percentage point increase in rates would raise Treasury debt payments by $1 trillion over the next decade, wiping out the benefits of all the budget cuts enacted by Congress last year. The dynamics of such a process may prove to be devastating, moving the U.S. federal government onto a path of sovereign downgrades that accelerates an already worsening fiscal situation. Greece here we come.

F. Economic collapse causes global nuclear war.

Merlini, Senior Fellow – Brookings, 11

[Cesare Merlini, nonresident senior fellow at the Center on the United States and Europe and chairman of the Board of Trustees of the Italian Institute for International Affairs (IAI) in Rome. He served as IAI president from 1979 to 2001. Until 2009, he also occupied the position of executive vice chairman of the Council for the United States and Italy, which he co-founded in 1983. His areas of expertise include transatlantic relations, European integration and nuclear non-proliferation, with particular focus on nuclear science and technology. A Post-Secular World? DOI: 10.1080/00396338.2011.571015 Article Requests: Order Reprints : Request Permissions Published in: journal Survival, Volume 53, Issue 2 April 2011 , pages 117 - 130 Publication Frequency: 6 issues per year Download PDF Download PDF (~357 KB) View Related Articles To cite this Article: Merlini, Cesare 'A Post-Secular World?', Survival, 53:2, 117 – 130]

Two neatly opposed scenarios for the future of the world order illustrate the range of possibilities, albeit at the risk of oversimplification. The first scenario entails the premature crumbling of the post-Westphalian system. One or more of the acute tensions apparent today evolves into an open and traditional conflict between states, perhaps even involving the use of nuclear weapons. The crisis might be triggered by a collapse of the global economic and financial system, the vulnerability of which we have just experienced, and the prospect of a second Great Depression, with consequences for peace and democracy similar to those of the first. Whatever the trigger, the unlimited exercise of national sovereignty, exclusive self-interest and rejection of outside interference would likely be amplified, emptying, perhaps entirely, the half-full glass of multilateralism, including the UN and the European Union. Many of the more likely conflicts, such as between Israel and Iran or India and Pakistan, have potential religious dimensions. Short of war, tensions such as those related to immigration might become unbearable. Familiar issues of creed and identity could be exacerbated. One way or another, the secular rational approach would be sidestepped by a return to theocratic absolutes, competing or converging with secular absolutes such as unbridled nationalism.

1NC—Oil

#### Brent crude over $100 with an upward price pressure to sustain future increases

Goswami 7/20/12

(Manash, reporter, “Brent crude holds above $107; gains to eight-week highs spur selling”, 7/20/12, MSNBC, <http://www.msnbc.msn.com/id/48253785/ns/business-stocks_and_economy/#.UAlkxjFST-M>) aw

SINGAPORE (Reuters) - Brent crude held above $107 on Friday, edging lower after a surge of 20 percent in four weeks prompted some selling as worries about conflict in the Middle East eased slightly. Oil rose to an eight-week high in the previous session, gaining for seven straight days as escalating tension in the Middle East and disruptions in output in the North Sea stoked supply fears. A strengthening of the dollar <.DXY> after a recent slide is also supporting crude futures. Brent crude slipped 49 cents to $107.31 a barrel by 1.43 a.m. EDT. The contract settled up $2.64 and touched an intraday top of $108.18, the highest since May 22. U.S. oil fell 76 cents to $91.90. The August contract ended up $2.79 and touched a high of $92.94, also the highest since May 22. "Prices were getting stretched a little, getting a bit ahead of themselves," said Mark Pervan, senior commodities strategist at ANZ Bank. "This rally is supply driven, and supply-driven rallies tend to be very volatile because when prices go up, they threaten to hurt demand." Brent is set to gain for a fourth straight week, its longest winning streak since the end of February, while U.S. oil is poised to gain for three of the past four weeks. The most important supply threat to oil for now is from the Middle East, as global powers try to force Iran to halt its disputed nuclear program. Tension escalated after a bus carrying Israeli tourists was bombed in Bulgaria, for which Israel blamed Iran. Israel's allegation, based on suspicions that Iranian and Hezbollah agents have been trying for years to score a lethal strike on its interests abroad, triggered speculation in local media that the government might now hit back hard. Israel however signaled that it would not rush into any conflict. The Middle East supply worries will limit any further slide in prices. Apart these tensions, expectations that the U.S. Federal Reserve would announce another round of stimulus to boost growth may weaken the dollar, boosting oil and other dollar-denominated commodities. "Middle East tensions now mean that supply concerns are entering the crude oil equation which is creating an upward price pressure," Tim Waterer, senior trader at CMC Market, said in a report

#### A modernization and overhaul of our transportation infrastructure would dramatically decrease US oil demand

Podesta et al 11

(John Podesta, President and CEO of the Center for American Progress, Carl Pope, Chairman of Sierra Club, Gene Carpinski, President of the League of Conservation Voters, March 2011, “Cleaner Cars, Less Foreign Oil,” http://www.americanprogress.org/issues/2011/03/pdf/oilsavingsagenda.pdf)

Millions of Americans are locked into using their cars because of limited transportation choices. Their communities lack affordable, convenient buses; subways; or other means of transit. Some communities lack safe biking and walking areas. Workers must spend hours in congested driving nightmares. People must drive a car to get a gallon of milk where housing is separated from services and amenities. Seniors face the loss of their freedom when they are no longer able to drive a car. Businesses are also constrained by limited choices, which have real economic costs. Shipping goods is more expensive because current railroad bottlenecks force them onto trucks, which increases oil dependence and pollution. More truck freight adds to highway congestion and road wear and tear. Too much of our freight moves on trucks because we have invested too little in our rail system. Infrastructure and planning improvements are necessary to provide genuine transportation alternatives for both passengers and freight. Fortunately, public transit is popular among those Americans who have reasonable access to it. Public transportation experienced a significant increase in use over the past 15 years. According to the American Public Transit Association: From 1995 through 2009, public transportation ridership increased by 31 percent—a growth rate higher than the 15 percent increase in U.S. population and higher than the 21 percent growth in the use of the nation’s highways over the same period. Buses, subways, streetcars, and other forms of transit dramatically reduce oil use. The American Public Transit Association determined that Riding public transportation is a significant way to cut passenger transportation energy use. … transit reduces annual fuel use by the equivalent of 4.2 billion gallons of gasoline. This is about 100 million barrels of oil saved annually. Outlays for new and improved transit networks can also help speed our economic recovery. There is $4 in economic return for every $1 of investment. Every $1 billion provided for transit creates 36,000 jobs. Fix roads, bridges, and trains, and unclog transportation bottlenecks While we must increase our investment in transportation infrastructure, we must avoid wasting it. Boondoggles and pork-barrel earmarks have added to our present congestion. We must not build highways we don’t need. We must ensure the ones we have are in good repair. New capacity should be added strategically to increase the overall flexibility of the transportation system rather than simply adding lanes and increasing gridlock. America’s ports, for example, represent major bottlenecks in getting feed stocks to factories and goods to consumers. Shipping freight by railroad is three times more oil efficient compared to using trucks. Yet our outdated rail system suffers from bottlenecks that make it less attractive for businesses. For instance, the News Hour found that “Chicago has been a freight rail hub for the past 150 years, but an outdated layout often makes it a bottleneck for the country’s shipping network.” And demand for rail shipment is projected to nearly double over the next 25 years. Yet the American Society of Civil Engineers projects a 20 percent shortfall in rail investment over this time. To address these problems, there should be a national transportation policy with a prominent oil-savings goal. Such a program would first invest in transportation programs that decrease dependence on oil. The president’s outline for transportation program provides a good starting point, including increasing our investment in transit by 128 percent over six years. In addition, Congress should create an “Infrastructure Bank” that would lend money for large-scale infrastructure projects, including funds for the repair and rehabilitation of highways, transit, and railroads. These funds would be paid back over time by tolls or local dedicated taxes. The federal government would spur investment in these modes by putting in the first dollars and attracting private partners. Every federal dollar loaned to a project will be matched by as many as six private dollars.

#### Saudi Arabia needs more than $100 a barrel to sustain social spending

Peel and Blas 11

(Michael Peel, Javier Blas, writers, “Saudi budget could require high oil price”, 3/31/12, Financial Times, <http://www.ft.com/intl/cms/s/0/87d60044-5bbb-11e0-b8e7-00144feab49a.html#axzz20zLPp2yl>) aw

Saudi Arabia could need the oil price to average more than $100 a barrel by 2015 to sustain the big public spending rises it plans in an effort to forestall the political unrest sweeping the Middle East. The oil market is growing increasingly worried about Riyadh’s fiscal needs as it fears that they could force Saudi Arabia to pursue oil policies similar to those of Venezuela and Iran, traditionally the price hawks at the Opec oil cartel. The break-even oil price the Gulf kingdom requires to balance its budget will jump from $68 last year to $88 this and then $110 in 2015, according to new estimates by the Institute of International Finance, a leading industry group. Only a decade ago Saudi Arabia was able to balance its budget with oil prices averaging $20-$25 a barrel. The forecast shows the scale of the task facing Saudi Arabia, the world’s largest oil producer and a crucial plank of the west’s regional security strategy, as it grapples with a growing population and increasing infrastructure problems. Crude oil prices on Thursday surged higher as Libyan rebels failed to make fresh ground against forces loyal to Muammer Gaddafi, suggesting a protracted oil supply disruption in the north African country. ICE May Brent rose to a session high of $117.70 a barrel, near a 2½-year high. It closed at $117.36 a barrel, up $2.23 on the day. Nymex May West Texas Intermediate closed at $106.72, a day’s rise of $2.45. The rise in oil prices caused by the unrest in the Middle East will help Saudi Arabia and other Opec nations to pay for the increased spending. The International Energy Agency, the western countries’ oil watchdog, believes Opec revenues will surpass $1,000bn this year for the first time. The forecasts of higher oil revenue needs come after the Saudi government announced two packages of social spending totalling $129bn aimed at averting the spread of dissent that toppled the Egyptian and Tunisian leaders. The largesse failed to satisfy activists who were angry that the package did not include reforms.

#### Social spending key to buying loyalty and quelling social unrest

Knowledge Today 11

(“To Stave Off Arab Spring Revolts, Saudi Arabia and Fellow Gulf Countries Spend $150 Billion”, 9/21/12, UPenn <http://knowledgetoday.wharton.upenn.edu/2011/09/to-stave-off-arab-spring-revolts-saudi-arabia-and-fellow-gulf-countries-spend-150-billion/>) aw

Saliba and his colleagues cautioned that the outsized spending did not address the long-term nature of the problems presented by the Arab Spring, such as high unemployment. “This [social spending] has averted potential disquiet over governance in most countries, though, over a longer-term horizon, economic reforms will be needed to buoy private sector growth and job creation.” Saudi Arabia’s generosity has been criticized as a means for the Arab world’s most populous country to make political gains and spread influence. The Merrill Lynch report also does not take into account the cost incurred by Saudi Arabia to send its troops into neighboring Bahrain to help quell a Shiite uprising there — another action to prevent revolt from reaching its own borders. But in a recent analysis of the Arab Spring for Arabic Knowledge@Wharton, Wharton legal studies and business ethics professor Stuart Diamond said the spending by the Saudis demonstrated their understanding of negotiation. “They understood that for many people, it was about Maslow’s [hierarchy of] needs triangle: that is, basic life necessities such as food, shelter and health mattered most. So the stipends that the Saudi government gave helped to quell disturbances,” he noted. Diamond added that Saudi spending bought not only continued loyalty from its citizens. “What they have mostly bought was time. For now, the populace will be satisfied with their recent bonuses. But that does not amount to structural and sustainable change, the kind that would significantly improve everyone’s quality of life on a continuing basis. The Saudi government should take this opportunity to include more people in decision-making and develop new industries that give more people a chance at a better life over the long term.”

#### Youth unemployment causes massive unrest, spreads regionally

Cohen et al 12

(Ariel Cohen Ph.D., Senior Research Fellow for Russian and Eurasian Studies and International Energy Policy, The Kathryn and Shelby Cullom Davis Institute for International Studies, David W. Kreutzer, Ph.D, Research Fellow in Energy Economics and Climate Change, James Phillips, Senior Research Fellow for Middle Eastern Affairs, Michaela Bendikova, Research Associate for Strategic Issues, “Thinking the Unthinkable: Modeling a Collapse of Saudi Oil Production”, 4/9/12, Heritage Foundation <http://www.heritage.org/research/reports/2012/04/thinking-the-unthinkable-modeling-a-collapse-of-saudi-oil-production>) aw

 “Youth unemployment is a time bomb for Saudi Arabia,” says Jean-Francois Seznec, a professor at Georgetown University’s Center for Contemporary Arab Studies in Washington. King Abdullah responded by announcing in 2011 a $130 billion plan to create jobs, build subsidized housing and support the religious establishment that had backed the government’s ban on domestic protests. Labor Minister Adel Faqih in May 2011 announced a program to reduce unemployment called Nitaqat, or Ranges, that for the first time rewards companies that employ a higher percentage of Saudis. “What they’ve done to slow any reaction to the Arab Spring is to throw money at people, with some success,” Seznec says. Persistent unemployment could have broad repercussions. Though there are some informal efforts to create activities ranging from impromptu comedy clubs to a girls’ basketball league, Saudi youth have few sanctioned outlets where they can have fun, exacerbating frustrations over unemployment. Unrest? “You are talking about the risk of this frustration going into political activism,” says David Butter, regional director for the Middle East at the London-based Economist Intelligence Unit. If political unrest got out of hand, it could threaten the oil industry and its exports, Butter says. The kingdom’s proven oil reserves of 263 billion barrels are the world’s largest. In February, the country produced 9.68 million barrels a day -- about a third of the total for the Organization of Petroleum Exporting Countries, according to data compiled by Bloomberg. Any instability in Saudi Arabia would also create ripples throughout the Middle East. As the birthplace of Islam and home to its two holiest sites, in Mecca and Medina, the country wields immense sway in the Muslim and Arab world and maintains influence in countries such as Lebanon and Bahrain and in the Israeli-Palestinian conflict.

**Failure to stop political unrest in Saudi Arabia will unleash nuclear weapon use and terrorism**

Joshi, 4-13 Shashank Joshi (Doctoral student at Harvard University, and a Research Fellow of the Royal United Services Institute) April 13th, 2012 *The Hindu* <http://www.thehindu.com/opinion/op-ed/article3308145.ece>

A sectarian, geopolitical and strategic cold war is unfolding between Saudi Arabia, protector of the Sunni Arab order, and Iran, a Shia Persian revolutionary power with a mission to subvert that status quo. The battlefields are Syria and Palestine, Afghanistan and Iraq. For India, the stakes are high.¶ **Saudi-Iranian rivalry has ebbed** and flowed for decades, but two developments — **the acceleration of Iran's nuclear ambitions and the Arab Spring — have sharpened the antagonism.** In the coming years, that will likely push Saudi Arabia closer to Pakistan and exacerbate threats to India.¶ THREE STRANDS¶ First, consider **that the crisis over Iran's nuclear programme is unlikely to be resolved** by this month's talks, given the inflexible positions held by each side. **If Iran is attacked, it will respond by rushing for a bomb. If it isn't attacked, it will drift towards the threshold of weapons status** (much like India in the 1970s). Either way, the **Saudis will feel the need to hedge — and they will turn to Pakistan, whose nuclear programme they funded** and fostered for years.¶ Both Pakistan and Saudi Arabia have reasons not to flout American concerns, and each would proceed with caution. But it is plausible that Pakistan might covertly transfer nuclear technology, engineers and even fissile material to its Saudi Arabian patrons — buying itself some diplomatic clout in return.¶ Second**, Saudi Arabia remains shaken by the Arab Spring. The country's Shia-dominated Eastern Province is growing restive. Riyadh is also paranoid that Shia Iran is meddling there and in other Sunni Arab regimes** like Bahrain.¶ That's why there are reportedly 10,000 serving and retired Pakistani military personnel in Bahrain — including a battalion of the Azad Kashmir Regiment. In the 1980s, Pakistan had tens of thousands of soldiers, sailors and airmen in Saudi Arabia — including an entire division and two armoured and two artillery brigades. These reliable Sunni forces are still seen in Riyadh as a crucial instrument of repression**.¶ Saudi Arabia is not immune from the unrest that swept the Arab world last year. If oil prices fall, it'd struggle to pay for the massive public spending programmes** it introduced last year in an effort to stave off discontent. Its refusal to undertake real political reform, and the poisonous anti-Shia rhetoric it has ramped up to vilify protesters, **could further radicalise young Saudis**.¶ If this resulted in widespread disorder, **the regime would depend on Pakistan to send manpower and military expertise**.¶ In fact, it's highly likely that contingency plans are already in place.¶ Even if there's little chance of Pakistani nuclear weapons on Saudi soil, the prospect of **Pakistani access to Saudi airbases and missile facilities should be cause for Indian concern**.¶ Finally, there's a third strand to the Saudi-Pakistan nexus: religion. Whenever Saudi rulers have felt under threat they shore up their legitimacy by looking to the ulema. In 1979, the Iranian revolution and the siege of Mecca spooked the monarchy into giving more money and power to the clerics. That fuelled the growth of violent Sunni extremism over the subsequent decade — and in South Asia in particular. Last year, similarly anxious to bolster their Islamic credentials, the regime responded in the same fashion — funnelling a part of its $120 billion spending package to the religious establishment and reaching out to some of the most extreme strands of regional Islamist movements.¶ That will have profound and pernicious effects not just in the Middle East and North Africa, but also in the jihadist heartlands of Punjab and even within India. **Sunni terrorist groups**, including Pakistan-sponsored outfits like the Lashkar-e-Taiba, **will have new resources and political allies**. That throws up fiendishly difficult intelligence and counterterrorism challenges for Delhi.¶ Saudi Arabia's former intelligence chief once claimed that his country's relationship to Pakistan was “probably one of the closest relationships in the world between any two countries.” Whether or not that's hyperbole, it's going to get closer. Both are growing apart from the United States. Riyadh was alarmed over the way in which Washington dumped Egypt's Hosni Mubarak, and Islamabad is not blind to the growing exasperation with its policies.¶.

#### Nuclear terrorism causes nuclear war and extinction.

Guardian, 3-31-2008, Project Syndicate, “The Nuclear Risk,” http://www.guardian.co.uk/commentisfree/2008/mar/31/newnuclearrisk

Vital pillars of the old arms-control and anti-proliferation regime have either been destroyed - as was the case with the anti-ballistic missile (ABM) treaty - or substantially weakened, as with the nuclear non-proliferation treaty (NPT). Responsibility for this lies largely with the Bush administration, which, by terminating the ABM treaty, not only weakened the international control systems for nuclear weapons, but also sat on its hands when confronted with the NPT's imminent collapse. At the beginning of the 21st century, proliferation of military nuclear technology is one of the major threats to humanity, particularly if this technology falls into terrorists' hands. The use of nuclear weapons by terrorists would not only result in a major humanitarian tragedy, but also would most likely move the world beyond the threshold for actually waging a nuclear war. The consequences would be horrific.

\*Case\*

1NC—Oil

**The plan doesn’t cause a free-fall in oil prices.** They fund refueling stations. But it will take years and even decades before the stations and the new alternative vehicles are commonplace and causing a decrease in oil demand.

Biofuels don’t significantly decrease gasoline consumption

Biello 2008 [David, Scientific American, “Biofuels Are Bad for Feeding People and Combating Climate Change”

http://www.scientificamerican.com/article.cfm?id=biofuels-bad-for-people-and-climate&page=2]

The studies do find some benefit from biofuels but only when planted on agricultural land too dry or degraded for food production or significant tree or plant growth and only when derived from native plants, such as a mix of prairie grasses in the U.S. Midwest. Or such fuels can be made from waste: corn stalks, leftover wood from timber production or even city garbage. But that will not slake a significant portion of the growing thirst for transportation fuels. "If we convert every corn kernel grown today in the U.S. to ethanol we offset just 12 percent of our gasoline use," notes ecologist Jason Hill of the University of Minnesota. "The real benefit to these advanced biofuels may not be in displacement of fossil fuels but in the building up of carbon stores in the soil." Of course, there is another reason for biofuels: energy independence. "Biofuels like ethanol are the only tool readily available that can begin to address the challenge of energy security," Bob Dinneen, president of industry group the Renewable Fuels Association said in a statement. "The alternative is to continue to exploit increasingly costlier fossil fuels for which the environmental price tag will be great." But the environmental price tag of biofuels now joins the ranks of other, cheaper domestic fuel sources—such as coal-to-liquid fuel—as major sources of globe-warming pollution as well as unintended social consequences. As a result, 10 prominent scientists have written a letter to President Bush and other government leaders urging them to "shape policies to assure that government incentives for biofuels do not increase global warming." "We shouldn't abandon biofuels," Searchinger says. But "you don't solve global warming by going in the wrong direction."

**The AFF can’t solve** — their Zubrin 8 evidence indicates that laws mandating flex-fuel vehicles are needed for the public to switch from gasoline.

**No war impact —** Their IBD 8 and Abelgas 8 evidence does not mention anywhere that Chavez dislikes America and will attack us.

[ON THE IRANIAN SCENARIO]

Their impactevidence doesn’t say that Iran influences a terrorist attack. Their Speice 6 evidence only says that Russia spreading nuclear knowledge would be bad.

1NC—Economy

**Economy resilient**

**Zakaria 9** [Fareed Zakaria is editor of Newsweek International “The Secrets of Stability,” 12/12 http://www.newsweek.com/id/226425/page/2]

One year ago, the world seemed as if it might be coming apart. The global financial system, which had fueled a great expansion of capitalism and trade across the world, was crumbling. All the certainties of the age of globalization—about the virtues of free markets, trade, and technology—were being called into question. Faith in the American model had collapsed. The financial industry had crumbled. Once-roaring emerging markets like China, India, and Brazil were sinking. Worldwide trade was shrinking to a degree not seen since the 1930s. Pundits whose bearishness had been vindicated predicted we were doomed to a long, painful bust, with cascading failures in sector after sector, country after country. In a widely cited essay that appeared in The Atlantic this May, Simon Johnson, former chief economist of the International Monetary Fund, wrote: "The conventional wisdom among the elite is still that the current slump 'cannot be as bad as the Great Depression.' This view is wrong. What we face now could, in fact, be worse than the Great Depression." Others predicted that these economic shocks would lead to political instability and violence in the worst-hit countries. At his confirmation hearing in February, the new U.S. director of national intelligence, Adm. Dennis Blair, cautioned the Senate that "the financial crisis and global recession are likely to produce a wave of economic crises in emerging-market nations over the next year." Hillary Clinton endorsed this grim view. And she was hardly alone. Foreign Policy ran a cover story predicting serious unrest in several emerging markets. Of one thing everyone was sure: nothing would ever be the same again. Not the financial industry, not capitalism, not globalization. One year later, how much has the world really changed? Well, Wall Street is home to two fewer investment banks (three, if you count Merrill Lynch). Some regional banks have gone bust. There was some turmoil in Moldova and (entirely unrelated to the financial crisis) in Iran. Severe problems remain, like high unemployment in the West, and we face new problems caused by responses to the crisis—soaring debt and fears of inflation. But overall, things look nothing like they did in the 1930s. The predictions of economic and political collapse have not materialized at all. A key measure of fear and fragility is the ability of poor and unstable countries to borrow money on the debt markets. So consider this: the sovereign bonds of tottering Pakistan have returned 168 percent so far this year. All this doesn't add up to a recovery yet, but it does reflect a return to some level of normalcy. And that rebound has been so rapid that even the shrewdest observers remain puzzled. "The question I have at the back of my head is 'Is that it?' " says Charles Kaye, the co-head of Warburg Pincus. "We had this huge crisis, and now we're back to business as usual?" This revival did not happen because markets managed to stabilize themselves on their own. Rather, governments, having learned the lessons of the Great Depression, were determined not to repeat the same mistakes once this crisis hit. By massively expanding state support for the economy—through central banks and national treasuries—they buffered the worst of the damage. (Whether they made new mistakes in the process remains to be seen.) The extensive social safety nets that have been established across the industrialized world also cushioned the pain felt by many. Times are still tough, but things are nowhere near as bad as in the 1930s, when governments played a tiny role in national economies. It's true that the massive state interventions of the past year may be fueling some new bubbles: the cheap cash and government guarantees provided to banks, companies, and consumers have fueled some irrational exuberance in stock and bond markets. Yet these rallies also demonstrate the return of confidence, and confidence is a very powerful economic force. When John Maynard Keynes described his own prescriptions for economic growth, he believed government action could provide only a temporary fix until the real motor of the economy started cranking again—the animal spirits of investors, consumers, and companies seeking risk and profit. Beyond all this, though, I believe there's a fundamental reason why we have not faced global collapse in the last year. It is the same reason that we weathered the stock-market crash of 1987, the recession of 1992, the Asian crisis of 1997, the Russian default of 1998, and the tech-bubble collapse of 2000. The current global economic system is inherently more resilient than we think. The world today is characterized by three major forces for stability, each reinforcing the other and each historical in nature.

2NC—Economy

The economic system is inherently resilient – the 2008 economic crisis didn’t cause a collapse – that’s Zakaria

1NC—Warming

**The plan is too little, too late – they can’t stop warming now**

Ghommem, Hajj, and Puri 12 (Mehdi Ghommem, Muhammad R. Hajj, Ishwar K. Puri, Department of Engineering Science and Mechanics, Virginia Tech, 4/26/12, “Influence of natural and anthropogenic carbon dioxide sequestration on global warming” Ecological Modelling, SciVerse Science Direct)

We have used the results of previous GCM simulations to develop a model that accounts for the couplings between the global temperature, atmospheric CO2 concentration, and the ocean and land CO2 uptakes. The good agreement between the results of the simplified model and historical records for both atmospheric CO2 and global temperature demonstrates that our reduced order analysis is able to correctly reproduce the major CO2 feedbacks between natural sinks and the atmosphere. We have also used the model to investigate the impact of anthropogenic CO2 sequestration on the increase in the global temperature. Our results suggest that an inordinately large, and perhaps unrealizable, fraction of CO2 emissions would have to be sequestered in order to prevent global warming. Undoubtedly, without referring to the environmental consequences, sequestration could be used as one among several carbon mitigation strategies to accomplish large effective μ values.

Ethanol fuel doubles greenhouse gas emissions

AP 2008 [2/7, NBC News.com, “Study: Corn ethanol worse than gasoline”

http://www.msnbc.msn.com/id/23057867/ns/us\_news-environment/t/study-corn-ethanol-worse-gasoline/#.UBNnLWg-cvE]

WASHINGTON — The widespread use of ethanol from corn could result in nearly twice the greenhouse gas emissions as the gasoline it would replace because of expected land-use changes, researchers concluded Thursday. The study challenges the rush to corn-based ethanol as a response to global warming, but says there is a future for ethanol from waste products that do not require uprooting land where carbon is already absorbed by trees and plants. The researchers said that past studies showing the benefits of ethanol in combating climate change have not taken into account almost certain changes in land use worldwide if ethanol from corn — and in the future from other feedstocks such as switchgrass — become a prized commodity. "Using good cropland to expand biofuels will probably exacerbate global warming," concludes the study published in Science magazine. The researchers said that farmers under economic pressure to produce biofuels will increasingly "plow up more forest or grasslands," releasing much of the carbon formerly stored in plants and soils through decomposition or fires. Globally, more grasslands and forests will be converted to growing the crops to replace the loss of grains when U.S. farmers convert land to biofuels, the study said. Ethanol industry responds The Renewable Fuels Association, which represents ethanol producers, called the researchers' view of land-use changes "simplistic" and said the study "fails to put the issue in context." "Assigning the blame for rainforest deforestation and grassland conversion to agriculture solely on the renewable fuels industry ignores key factors that play a greater role," said Bob Dinneen, the association's president. There has been a rush to developing biofuels, especially ethanol from corn and cellulosic feedstock such as switchgrass and wood chips, as a substitute for gasoline. President Bush signed energy legislation in December that mandates a six-fold increase in ethanol use as a fuel to 36 billion gallons a year by 2022, calling the requirement key to weaning the nation from imported oil. The new "green" fuel, whether made from corn or other feedstocks, has been widely promoted — both in Congress and by the White House — as a key to combating global warming. Burning it produces less carbon dioxide, the leading greenhouse gas, than the fossil fuels it will replace. During the recent congressional debate over energy legislation, lawmakers frequently cited estimates that corn-based ethanol produces 20 percent less greenhouse gases in production, transportation and use than gasoline, and that cellulosic ethanol has an even greater benefit of 70 percent less emissions. The study released Thursday by researchers affiliated with Princeton University and a number of other institutions maintains that these analyses "were one-sided" and counted the carbon benefits of using land for biofuels but not the carbon costs of diverting land from its existing uses. "The other studies missed a key factor that everyone agrees should have been included, the land use changes that actually are going to increase greenhouse gas emissions," said Tim Searchinger, a research scholar at Princeton University's Woodrow Wilson School of Public and International Affairs and lead author of the study. The study said that after taking into account expected worldwide land-use changes, corn-based ethanol, instead of reducing greenhouse gases by 20 percent, will increases it by 93 percent compared to using gasoline over a 30-year period. Biofuels from switchgrass, if they replace croplands and other carbon-absorbing lands, would result in 50 percent more greenhouse gas emissions, the researchers concluded. Biofuels from waste urged Not all ethanol would be affected by the land-use changes, the study said. "We should be focusing on our use of biofuels from waste products" such as garbage, which would not result in changes in agricultural land use, Searchinger said in an interview. "And you have to be careful how much you require. Use the right biofuels, but don't require too much too fast. Right now we're making almost exclusively the wrong biofuels." The study included co-authors affiliated with Iowa State University, the Woods Hole Research Center and the Agricultural Conservation Economics. It was supported by a grant from NASA's Terrestrial Ecology Program, and by the William and Flora Hewlett Foundation. Searchinger, in addition to his affiliation with Princeton, is a fellow at the Washington-based German Marshall Fund of the United States.

2NC—Warming

**Extend 1nc 1:** we’ve already passed the tipping point. We need to sequester CO2 from the atmosphere in order to prevent global warming.

**Warming is real but the plan can’t solve it**

Ghommem, Hajj, and Puri 12 (Mehdi Ghommem, Muhammad R. Hajj, Ishwar K. Puri, Department of Engineering Science and Mechanics, Virginia Tech, 4/26/12, “Influence of natural and anthropogenic carbon dioxide sequestration on global warming” Ecological Modelling, SciVerse Science Direct)

The increase in the global surface temperature is influenced by several factors including anthropogenic and natural emissions of CO2, and the ability of natural sequestration reservoirs in the Earth's oceans and land to absorb and store it. The CO2 absorption in these reservoirs is sensitive to changes in the global temperature and the atmospheric CO2 concentration, thus creating a feedback loop in the Earth's ecosystem, which complicates predictions of the overall impact of rising atmospheric CO2 levels on global warming. Here, we model this interaction through a positive feedback loop and utilize general circulation models (GCM) to quantify the coupling between the carbon-cycle and the global temperature. We validate the model by comparing its predictions with those from high fidelity simulations and historical records. Thereafter, we investigate the impact of anthropogenic CO2 sequestration on lowering the rate of increase in the global temperature and find that a reduction in global warming is more sensitive to larger sequestration fractions. Thus, an inordinately large fraction of CO2 emissions would have to be sequestered to significantly impact global warming.

**Extend 1nc 2:** Using corn ethanol for fuel would double the amount of greenhouse gas emissions. To produce the alternative fuels, farmers would plow more forests and grasslands, releasing more carbon dioxide into the atmosphere. – that’s AP 2008

2NC—Ext. Warming Inev

Warming inevitable even with a complete emissions reduction

Solomon et. al 10 (Susan Solomon, Chemical Sciences Division, Earth System Research Laboratory, National Oceanic and Atmospheric Administration, Ph.D. in Climotology University of California, Berkeley, Nobel Peace Prize Winner, Chairman of the IPCC, Gian-Kasper Plattner, Deputy Head, Director of Science, IPCC Affiliated, Climate and Environmental Physics, Physics Institute, University of Bern, Switzerland, John S. Daniel, research scientist at the National Oceanic and Atmospheric Administration (NOAA), Ph.D. Physics @ Michigan, Todd J. Sanford, Cooperative Institute for Research in Environmental Science @ Colorado, Daniel M. Murphy, Chemical Sciences Division, Earth System Research Laboratory, National Oceanic and Atmospheric Administration, Boulder Gian-Kasper Plattner, Deputy Head, Director of Science, Technical Support Unit Working Group I, Intergovernmental Panel on Climate Change, Affiliated Scientist, Climate and Environmental Physics, Physics Institute, University of Bern, Switzerland Reto Knutti, Institute for Atmospheric and Climate Science, Eidgenössiche Technische Hochschule Zurich and Pierre Friedlingstein, Chair, Mathematical Modelling of Climate Systems, member of the Science Steering Committee of the Analysis Integration and Modeling of the Earth System (AIMES) programme of IGBP and of the Global Carbon Project (GCP) of the Earth System Science Partnership (ESSP), Proceedings of the National Academy of the Sciences of the United States of America, "Persistence of climate changes due to a range of greenhouse gases", Vol 107(43))

Carbon dioxide, methane, nitrous oxide, and other greenhouse gases increased over the course of the 20th century due to human activities. The human-caused increases in these gases are the primary forcing that accounts for much of the global warming of the past fifty years, with carbon dioxide being the most important single radiative forcing agent (1). Recent studies have shown that the human-caused warming linked to carbon dioxide is nearly irreversible for more than 1,000 y, even if emissions of the gas were to cease entirely (2–5). The importance of the ocean in taking up heat and slowing the response of the climate system to radiative forcing changes has been noted in many studies (e.g., refs. 6 and 7). The key role of the ocean’s thermal lag has also been highlighted by recent approaches to proposed metrics for comparing the warming of different greenhouse gases (8, 9). Among the observations attesting to the importance of these effects are those showing that climate changes caused by transient volcanic aerosol loading persist for more than 5 y (7, 10), and a portion can be expected to last more than a century in the ocean (11–13); clearly these signals persist far longer than the radiative forcing decay timescale of about 12–18 mo for the volcanic aerosol (14, 15). Thus the observed climate response to volcanic events suggests that some persistence of climate change should be expected even for quite short-lived radiative forcing perturbations. It follows that the climate changes induced by short-lived anthropogenic greenhouse gases such as methane or hydrofluorocarbons (HFCs) may not decrease in concert with decreases in concentration if the anthropogenic emissions of those gases were to be eliminated. In this paper, our primary goal is to show how different processes and timescales contribute to determining how long the climate changes due to various greenhouse gases could be expected to remain if anthropogenic emissions were to cease. Advances in modeling have led to improved AtmosphereOcean General Circulation Models (AOGCMs) as well as to Earth Models of Intermediate Complexity (EMICs). Although a detailed representation of the climate system changes on regional scales can only be provided by AOGCMs, the simpler EMICs have been shown to be useful, particularly to examine phenomena on a global average basis. In this work, we use the Bern 2.5CC EMIC (see Materials and Methods and SI Text), which has been extensively intercompared to other EMICs and to complex AOGCMs (3, 4). It should be noted that, although the Bern 2.5CC EMIC includes a representation of the surface and deep ocean, it does not include processes such as ice sheet losses or changes in the Earth’s albedo linked to evolution of vegetation. However, it is noteworthy that this EMIC, although parameterized and simplified, includes 14 levels in the ocean; further, its global ocean heat uptake and climate sensitivity are near the mean of available complex models, and its computed timescales for uptake of tracers into the ocean have been shown to compare well to observations (16). A recent study (17) explored the response of one AOGCM to a sudden stop of all forcing, and the Bern 2.5CC EMIC shows broad similarities in computed warming to that study (see Fig. S1), although there are also differences in detail. The climate sensitivity (which characterizes the long-term absolute warming response to a doubling of atmospheric carbon dioxide concentrations) is 3 °C for the model used here. Our results should be considered illustrative and exploratory rather than fully quantitative given the limitations of the EMIC and the uncertainties in climate sensitivity. Results One Illustrative Scenario to 2050. In the absence of mitigation policy, concentrations of the three major greenhouse gases, carbon dioxide, methane, and nitrous oxide can be expected to increase in this century. If emissions were to cease, anthropogenic CO2 would be removed from the atmosphere by a series of processes operating at different timescales (18). Over timescales of decades, both the land and upper ocean are important sinks. Over centuries to millennia, deep oceanic processes become dominant and are controlled by relatively well-understood physics and chemistry that provide broad consistency across models (see, for example, Fig. S2 showing how the removal of a pulse of carbon compares across a range of models). About 20% of the emitted anthropogenic carbon remains in the atmosphere for many thousands of years (with a range across models including the Bern 2.5CC model being about 19 4% at year 1000 after a pulse emission; see ref. 19), until much slower weathering processes affect the carbonate balance in the ocean (e.g., ref. 18). Models with stronger carbon/climate feedbacks than the one considered here could display larger and more persistent warmings due to both CO2 and non-CO2 greenhouse gases, through reduced land and ocean uptake of carbon in a warmer world. Here our focus is not on the strength of carbon/climate feedbacks that can lead to differences in the carbon concentration decay, but rather on the factors that control the climate response to a given decay. The removal processes of other anthropogenic gases including methane and nitrous oxide are much more simply described by exponential decay constants of about 10 and 114 y, respectively (1), due mainly to known chemical reactions in the atmosphere. In this illustrative study, we do not include the feedback of changes in methane upon its own lifetime (20). We also do not account for potential interactions between CO2 and other gases, such as the production of carbon dioxide from methane oxidation (21), or changes to the carbon cycle through, e.g., methane/ozone chemistry (22). Fig. 1 shows the computed future global warming contributions for carbon dioxide, methane, and nitrous oxide for a midrange scenario (23) of projected future anthropogenic emissions of these gases to 2050. Radiative forcings for all three of these gases, and their spectral overlaps, are represented in this work using the expressions assessed in ref. 24. In 2050, the anthropogenic emissions are stopped entirely for illustration purposes. The figure shows nearly irreversible warming for at least 1,000 y due to the imposed carbon dioxide increases, as in previous work. All published studies to date, which use multiple EMICs and one AOGCM, show largely irreversible warming due to future carbon dioxide increases (to within about 0.5 °C) on a timescale of at least 1,000 y (3–5, 25, 26). Fig. 1 shows that the calculated future warmings due to anthropogenic CH4 and N2O also persist notably longer than the lifetimes of these gases. The figure illustrates that emissions of key non-CO2 greenhouse gases such as CH4 or N2O could lead to warming that both temporarily exceeds a given stabilization target (e.g., 2 °C as proposed by the G8 group of nations and in the Copenhagen goals) and remains present longer than the gas lifetimes even if emissions were to cease. A number of recent studies have underscored the important point that reductions of non-CO2 greenhouse gas emissions are an approach that can indeed reverse some past climate changes (e.g., ref. 27). Understanding how quickly such reversal could happen and why is an important policy and science question. Fig. 1 implies that the use of policy measures to reduce emissions of short-lived gases will be less effective as a rapid climate mitigation strategy than would be thought if based only upon the gas lifetime. Fig. 2 illustrates the factors influencing the warming contributions of each gas for the test case in Fig. 1 in more detail, by showing normalized values (relative to one at their peaks) of the warming along with the radiative forcings and concentrations of CO2 , N2O, and CH4 . For example, about two-thirds of the calculated warming due to N2O is still present 114 y (one atmospheric lifetime) after emissions are halted, despite the fact that its excess concentration and associated radiative forcing at that time has dropped to about one-third of the peak value.

1NC—Solvency

**Not try or die for the affirmative – there are other ways to reduce consumption**

Hill et. Al 2008 [Jason, “Climate Change and health costs of air emissions from biofuels and gasoline”

<http://www.pnas.org/content/early/2009/02/02/0812835106.full.pdf>]

Our analyses show that the debate over whether substituting biofuels for fossil fuels benefits or harms the environment needs to be expanded beyond GHG emissions to include a broad array of environmental quality dimensions. PM2.5 emissions impose costs on society of similar magnitude to GHG emissions, and as such, the benefits of shifting from gasoline and the current generation of food- and feed-based biofuels to next-generation cellulosic biofuels are approximately twice as large as previously thought, as long as the carbon debt from land-use change is minimal. Other environ- mental advantages of properly produced cellulosic biofuels (e.g., lower emissions of ozone precursors and reduced pesticide and nitrate loading of surface and groundwater) may make the eco- nomic benefits to society of this transition greater still. Increasing liquid fuel production is not the only approach to meeting society’s growing transportation energy needs. Tech- nological and behavioral solutions include improved vehicle efficiency, public transportation, redesign of urban landscapes, and hybrid, plug-in electric, natural gas, and hydrogen vehicles. In total, the considerable societal costs of GHG and PM2.5 emissions, and of other effects not yet quantified, should be given full weight in policy choices among energy sources, efficiency, and conservation.

Empirically flex-fuel vehicle integration has failed – refueling stations are just one barrier to integration

Spillar 5/10 [Beia, 2012, Common Resources “ADVANCED TECHNOLOGY VEHICLES: THE CHICKEN AND EGG CONUNDRUM” <http://common-resources.org/2012/advanced-technology-vehicles-the-chicken-and-egg-conundrum/>]

Over the past 30 years, the government has spent billions of dollars in attempting to promote the adoption and utilization of advanced-technology vehicles, including those that use alternative fuels (such as the ethanol fuel blend E85 and natural gas), hybrid and battery electric vehicles, and fuel-celled vehicles. The extensive list of policies includes tax credits to ethanol producers, renewable fuel mandates, vehicle purchase tax credits, investments in R&D, allowances in efficiency standards for manufacturing these vehicles, and assistance in installing alternative refueling stations. Yet adoption is still critically low: alternative vehicles account for only approximately 10 percent of all new vehicle purchases, the majority of which are E85 vehicles that are predominantly used with gasoline. In fact, there is evidence that most flexible-fuel vehicle (FFV) owners are unaware of the fact that they own a vehicle that can run on anything other than conventional gasoline. Even if they knew, it is unlikely any FFV owner would not refuel with gasoline—it is generally the only option they face. At the beginning of April, the MIT Energy Institute (MITEI) held a symposium on prospects for flexible- and bi-fuel vehicles. One of the most important conclusions that the participants agreed upon is that these vehicles face a host of chicken-and-egg problems. With the notable exception of E85 cars, the cost of adoption of these vehicles is a clear example of these vicious cycles that plague the industry. For example, the battery in electric cars increases the cost of the vehicle between $10,000 and $30,000, and needs to be replaced over the course of the car’s life. While these costs will likely decrease once the manufacturer has reached a sufficient level of production and achieves economies of scale, how can we get to that point? As long as individuals have to shell out tens of thousands of dollars more for these vehicles, manufacturers are unlikely to ever reach economies of scale, leading to sustained high prices and low adoption. Another barrier to adoption is the lack of refueling stations. On the one hand, no producer will invest up to a million dollars to install a station unless he believes there will be enough consumers demanding the fuel to produce a profit. On the other, individuals will not purchase these vehicles unless they believe they will be able to fuel them. The government attempted to address the lack of refueling stations by providing a tax credit that would cover 30 to 50 percent of the installation price. Unfortunately, this policy was unable to break this cycle, though part of the problem was in the details. First, the tax credit’s limit was between $30,000 and $50,000: a mere fraction of the overall cost of installation. Second, the tax credit lasted for only three years, not giving the vehicle manufacturers sufficient time to adapt. Vehicle technology cycles last approximately seven years, and if a policy remains in place for only a portion of that time, it is unlikely there will be an adequate response from manufacturers. Our inability to break through these barriers may be due, in part, to the current and past administrations’ practice of “choosing green winners,” or focusing policies around certain types of technologies or fuels. This has not helped us adopt alternative vehicles in a large scale fashion and may have blocked other, perhaps better, advanced technologies from emerging. For example, the billions of dollars that we spent on promoting domestic corn ethanol production and taxing ethanol imports effectively eliminated our ability to benefit from the more environmentally friendly (and cheaper) Brazilian sugar ethanol. A couple of possible solutions to this dilemma emerged from the MITEI symposium. The first is investment in R&D: if the government can support manufacturers in their ability to advance technology, the underlying costs will decrease. This, in turn, will lower alternative vehicle prices and make them more accessible. The second is time: as gasoline prices rise over the years, alternative vehicles will become more cost-competitive throughout their life cycle. This improvement in relative operating costs will promote more adoption, leading to a natural decrease in the costs of production. Although gasoline taxes would help to accelerate this process in a technology-neutral manner, such policies are commonly considered to be political suicide and, as such, are more of an economist’s aspiration than a feasible solution. Ideally, government policies should focus on bringing down underlying costs or making the status quo more expensive. Spending billions of dollars promoting specific alternative technologies and fuels has proven to be unsuccessful and inefficient—let’s learn from that lesson.

2NC—Solvency

**1NC 1:** We could reduce fossil fuel consumption in other ways than the affirmative: by increasing public transportation, vehicle efficiency and changing our driving habits – that’s Hill et al 2008

**1NC 2:** Refueling stations are just one barrier to integration – that’s spillar 5/10

We also need to reduce the cost of natural gas vehicles, and to promote new technologies to produce the fuels cheaper. Right now, adoption of NGVs are critically low.

Misc—Methanol Is Also Bad

Methanol isn’t a good vehicle fuel

Ziv 2012 [6/6, Aaron, National Geographic, “Green Living by Demand Media” http://greenliving.nationalgeographic.com/ethanol-vs-methanol-2476.html]

Methanol and ethanol are variants of alcohol, and they have different properties and uses. Methanol is a poisonous chemical derived through synthetic processes, while commercial ethanol is produced by factory fermentation of food crops. Both substances can be used as energy sources, but methanol serves mainly as a subject of research and its use as a motor fuel in the U.S. has been largely phased out. Ethanol's role is currently larger, though its future as an automobile fuel remains uncertain. Ethanol Production The largest "feedstock" for ethanol production in the U.S. is starchy vegetable crops such as corn and sweet potatoes. After harvesting, the crops are sent for processing in either "wet-mill" or "dry-mill" plants. Both types of plants put the feedstock through grinding, reaction and distillation processes that yield pure ethanol alcohol at the end. (See References 1) Research is ongoing to produce ethanol from nonfood sources, such as wood chips, grasses and agricultural waste. As of 2011, this technology remains experimental and not commercially viable (see References 2). Methanol Production Commonly known as "wood alcohol," methanol was originally produced by the distillation of wood feedstock. Technological breakthroughs in the 1920s, and again in the 1970s, changed the process of methanol production, which today primarily requires natural gas feedstock. Natural gas is processed through several steps, including the use of catalysts, pressure and high heat, until it eventually emerges as liquid methanol. (See References 3) As of 2011, natural gas is the cheapest methanol precursor, but other high-carbon feedstocks such as coal can be employed to create liquid methanol.

Methanol comes from natural gas and is very similar to ethanol

Green Energy Investment and News, 2009 [November 19, Bionomic fuel.com

“Pros and Cons of Methanol Fuel” http://www.bionomicfuel.com/pros-and-cons-of-methanol-fuel/]

Methanol fuel can be called other names, like M85 and wood alcohol. M85 is a methanol fuel that is similar to ethanol, and can be a renewable alternative energy source for vehicles that i more environmentally friendly than fossil fuels, with far fewer carbon emissions and contributions to global warming. M85 is the name given methanol fuel that contains eighty five percent methanol and fifteen percent normal gasoline. This fuel is produced through a process that uses steam and catalysts to transform methane gas into methanol fuel. Almost all the methanol that is produced in America is done using methane that comes from natural gas, but there are other options available. Methane can also be produced using biogas or coal as well. Biogas is created from biomass, or organic matter, that ferments, such as manure and sewage. Methanol fuel has both pros and cons, but when global warming and the damage done to the environment from burning fossil fuels is added to the consideration, the pros of methanol gas far outweigh the cons. Methanol is quite like ethanol, and is a very powerful fuel that has a one hundred octane rating. This means methanol fuels allow for a compression that is higher, and more efficiency, than traditional gasoline. Methanol fuels, including M85, burn much cleaner, with far fewer carbon emissions and particulates being released. This fuel is a much better alternative to gasoline because methanol is very earth friendly, it is both renewable and sustainable, it does not harm the environment or contribute greatly to global warming and the ice caps melting, and even at eight five percent methanol blended with fifteen percent gasoline the dependence on fossil fuels and foreign countries can be greatly diminished or eliminated completely. Methanol does have some cons as well. Methanol is not volatile enough to be effective at starting an engine that is cold, but when it is mixed with gasoline this problem disappears. This fuel is very corrosive, and because of this special materials and storage equipment may be needed. Methanol does have a lower energy content than gasoline does, and there is also a higher cost ratio as well when compared to gasoline.

\*\*\*Natural Gas Case Neg

1NC—Topicality

A. Interpretation: Transportation infrastructure is highways, roads, bridges, intermodal transit, inland waterways, ports, aviation, and rail systems.

**That’s Congress ‘11**

[The US House of Representatives – the 112th Congress of the United States. “HR 402 – National Infrastructure Development Bank Act of 2011” 1/24/11 <http://www.govtrack.us/congress/bills/112/hr402/text//Cal-JV>]

(25) TRANSPORTATION INFRASTRUCTURE PROJECT- The term ‘transportation infrastructure project’ means any project for the construction, maintenance, or enhancement of highways, roads, bridges, transit and intermodal systems, inland waterways, commercial ports, airports, high speed rail and freight rail systems.

**B. Violation: Your affirmative isn’t transportation infrastructure – it’s energy infrastructure**

Chapman and Cutler ‘11

(Chapman and Cutler, Attorneys at law, Client Alert, 09/29/11, The American Jobs Act and Its Impact on a National Infrastructure Bank http://www.chapman.com/media/news/media.1081.pdf)

Energy Infrastructure: includes the construction, consolidation, alteration, or repair of the following

subsectors:

o Pollution reduced energy generation

o Transmission and distribution

o Storage

o Energy efficiency enhancements for public and commercial buildings

( ) And that explodes the topic

Faulkenberry 11

(Ken, MBA – University of Southern California, “Infrastructure Investment: Energy, Transportation, Communications, & Utilities”, Arbor Asset Allocation Model Portfolio Blog, September, http://blog.arborinvestmentplanner.com/2011/09/infrastructure-investment-energy-transportation-communications-utilities/)

Energy Infrastructure Energy Infrastructure would include electricity generation and the transmission grid, oil refineries and pipelines, and natural gas pipelines. The United States has an antiquated electrical transmission grid with constraints that limit power flows. Increases in demand for oil and natural gas, and changes in where it needs to go, means a need for more investment in pipelines. Engineering and construction companies such as Flour (FLR), Shaw Group (SHAW), and Foster Wheeler AG (FWLT) are individual companies which might benefit from future energy infrastructure spending. Transportation Infrastructure Over the last several decades America’s infrastructure spending has been less than one-half other developed nations and only a quarter of emerging market countries. Civil engineers give our transport structures low marks. Our roads, railways, ports, and airports are all judged mediocre. It has become well recognized that we must invest more in upgrading our transportation infrastructure. But because of the years of neglect, substantial increases in operation and maintenance budgets will also be required. The above engineering and construction firms could also benefit from transportation infrastructure spending.

**C. Voting Issue**

**1. Limits: There are an infinite number of energy infrastructure investments that are unpredictable and unresearchable.**

**2. Ground: Affs must be a large enough increase to trigger tradeoff das and perception links. We lose any stable offense with small, obscure affs.**

1NC—States CP

TEXT: The 50 States of the United States should substantially increase its investment for natural gas vehicle fueling infrastructure.

States have the funds to implement transportation infrastructure plans

Freemark 2012 Yohah, writer for Transport Politics, 02-16-2012, http://www.thetransportpolitic.com/2012/02/16/clearing-it-up-on-federal-transportation-expenditures/

Meanwhile, states and local governments are contributing massively to transportation funding already, just as Ms. Schweitzer asks them to. I studied Oregon and Illinois a year and a half ago and found that only about a quarter of Oregon’s Department of Transportation budget comes from Washington; about a third of Illinois’ comes from the national capital. What about those profligate transit agencies that are egged on by the federal government’s wasteful spending? Their operations spending comes from local, state, and fare revenues — not Washington. And expansion projects — especially the big ones — are mostly financed by local revenues, like dedicated sales taxes that voters across the country have approved repeatedly over the past twenty years. The six largest transit expansion projects currently receiving or proposed to receive funding from the Obama Administration this year each rely on the federal government to contribute less than 43% of total costs. Perhaps Detroit would have paid for the People Mover even if it had had to use its own revenues to do so. Now, even if we were to recognize the high level of devolution of power and funds that currently does exist in the U.S., some might still argue that the federal government exercises too much power. Its distribution formula for fuel tax revenues results in certain states getting more money than their drivers contributed (“donor” states) and certain states getting less (“donee” states). Why not simply allow states to collect their own revenues and spend money as they wish? Why should Washington be engaged in this discussion at all?

2NC—States

State governments support natural gas vehicles more than the federal government

Lyderson, 2011 [Kari, 8/30, “Natural gas vehicle backers push for federal recognition” Midwest Energy News,

<http://www.midwestenergynews.com/2011/08/30/natural-gas-vehicle-backers-push-for-federal-recognition/>]

The federal government and many state and municipal governments have offered or currently offer significant subsidies for electric vehicles, including state and federal tax breaks for buying electric vehicles and installing charging stations. Many city governments are also installing free charging stations and purchasing electric vehicles for city agencies. Little federal support exists for natural gas vehicles. A $30,000 federal tax break for fueling stations expires at the end of the year, and given the cost of stations, proponents say it is relatively insignificant. Some state governments are heavily backing natural gas vehicles, however. Oklahoma and Louisiana offer tax breaks that cover up to 50 percent of the cost of fueling stations or the purchase or conversion of natural gas vehicles, and other state governments are considering such measures. Many state alternative fuel incentives cover natural gas and electric vehicles equally. Various municipalities have also converted part or all of their fleets of transit buses, garbage trucks and other heavy vehicles to CNG, as have private companies including United Parcel Service, AT&T and Waste Management.

State governments are vital to alternative fuel usage

FleetOwner.com, 2011 [March 4, Heavy Duty Manufacturers Association: the voice for the heavy duty manufacturers industry, “States Promoting Natural Gas Use in Transportation”

<http://www.hdma.org/Main-Menu/HDMA-Publications/Diesel-Download/March-14-2011/States-Promoting-Natural-Gas-Use-in-Transportation.html>]

As the cost of oil, along with diesel and gasoline prices, is expected to remain high for the foreseeable future, state governments are stepping up legislative efforts to promote alternative fuel use in the U.S. – especially natural gas. Currently, 23 state legislatures are considering bills that support natural gas as a transportation fuel, with Wyoming appropriating $200,000 for its Dept. of Transportation and Dept. of Administration and Information to retrofit or acquire vehicles in their fleets capable of running on natural gas, according to the trade association NGVAmerica. “There is growing recognition of the growing importance state government’s play in promoting alternative fuel usage,” Denise McCourt, director of communications for NGVAmerica, told Fleet Owner. “What’s driving this now is the experience with oil price spikes – the realization that oil is traded as a commodity, with pricing set by the global market and subject to surges not directly related to pure supply and demand factors.” McCourt said that the current upswing in oil prices, which is pushing diesel and gasoline costs higher, is the third such upsurge in the last six years. The first came after Hurricane Katrina in 2005, based largely on fears of reduced refinery capacity along the U.S. Gulf Coast, with the second occurring during the summer in 2008. Current projections by the U.S. Energy Information Administration (EIA) indicate the current run up in oil and petroleum-based fuel prices won’t abate soon, either. The agency expects continued tightening of world oil markets over the next two years, particularly in light of the recent events in North Africa and the Middle East, the world’s largest oil producing region.

State governments have historically incentivized fueling infrastructure

APGA No Date [American Public Gas Association, “Fueling and State Incentives,

http://www.apga.org/i4a/pages/index.cfm?pageid=3653]

“The Federal Government and State governments have demonstrated a long-standing commitment to reducing our dependence on foreign energy sources and pollution emitted by light and heavy-duty vehicles. The health and national security benefits of reducing both are clear, as sending money abroad to potentially hostile regimes harms our security and reducing emission of criteria pollutants and Greenhouse Gases improves public health and helps to protect the environment. To that end both States and the Federal Government have historically offered and continue to offer various incentives for NGVs and fueling infrastructure because of the critical benefits they confer.

1NC—Spending DA

#### A. Fiscal discipline now – political pressure will lead to debt compromise

Washington Post 7/18

Washington Post 7/18/12, <http://www.columbiatribune.com/news/2012/jul/18/coalition-aims-to-head-off-debt-disaster/>

WASHINGTON — A coalition of business leaders, budget experts and former politicians launched a $25 million campaign yesterday to build political support for a far-reaching plan to raise taxes, cut popular retirement programs and tame the national debt. With anxiety rising over a major budget mess looming in January, the campaign — dubbed "Fix the Debt" — is founded on the notion that the moment is finally at hand when policymakers will be forced to compromise on an ambitious debt-reduction strategy. After nearly three years of bipartisan negotiations, the broad outlines of that strategy are clear, the group's leaders said during a news conference at the National Press Club: Raise more money through a simplified tax code and spend less on Social Security, Medicare and Medicaid, the primary drivers of future borrowing. "Everyone knows in their hearts and their minds what has to be done," said Democratic former Pennsylvania Gov. Ed Rendell, who is chairing the group with former New Hampshire Sen. Judd Gregg, a Republican. The goal of the campaign is to "create a safe environment where it's not only good policy, but good politics as well." The campaign was founded by former Clinton White House Chief of Staff Erskine Bowles and former Republican Sen. Alan Simpson of Wyoming. The two men led an independent fiscal commission that in 2010 produced a $4 trillion debt-reduction framework that has won praise from politicians across the political spectrum. But the Bowles-Simpson plan never won the explicit backing of President Barack Obama or GOP leaders and therefore never gained real traction in Congress. The campaign plans to launch a social media drive to persuade lawmakers to approve a plan similar to the Bowles-Simpson framework by July 4, 2013 — replacing $600 billion in abrupt tax hikes and sharp spending cuts that are otherwise set to take effect in January.

#### B. New infrastructure spending kills fiscal discipline – it undercuts the spirit of “shared sacrifice”

O’Hanlon 10

Michael O’Hanlon, senior fellow at the Brookings Institution, 12/22/10, “THE DEFENSE BUDGET AND AMERICAN POWER,” http://www.brookings.edu/~/media/Files/events/2010/1222\_defense\_budget/20101222\_defense\_budget.pdf

So the minute that someone says, well, defense is the top constitutional obligation of the federal government and therefore it should be protected regardless, and we should make our deficit reduction out of other accounts. If we start a conversation in those terms, then a big constituency is going to come up and say let's protect Social Security, or let's protect college loans for students because that's our future after all. Or let's protect science research or infrastructural development, and you get the idea pretty soon you've lost the spirit of shared sacrifice that I think is essential if we're going to have any hope of reducing the deficit in the coming years. So that's the basic motivation. We're not probably going to reduce the deficit effectively, and therefore strengthen our long-term economy and the foundation for our long-term military power, if we don't establish a spirit of shared sacrifice.

C. Each refueling station costs millions

Giesy 2012 [Joe, 2012, July 28, The Business Journal, “Natural Gas Plentiful; Fueling Stations Are Not”

http://businessjournaldaily.com/drilling-down/natural-gas-plentiful-fueling-stations-are-not-2012-5-9]

IGS, a natural gas and electric energy commodity supplier, recently entered the market of CNG vehicle refueling appliances for public and private use. “Installation of a natural gas station can be quite expensive,” Mrowzinski said. “There are big capital cost challenges to create a station. Typically, natural gas vehicle fast-fill refueling stations can be anywhere from $500,000 to $2 million, and there are definite economies of scale with larger stations.” Although there is a large difference between the $1 million and $2 million filling stations, the daily profit from the more expensive station can be as much as five times greater. “Aggregating demand, not just on one business alone, but from an entire city or multiple businesses joining together to give demand to a station owner, can be quite advantageous to bringing down your overall cost,” Mrowzinski said. There are two types of station equipment in the natural gas vehicle industry: time-fill and fast-fill, he explained. With fast-fill stations, the gas is pre-compressed and equalizes into the vehicle tank at the same rate it takes to fill a diesel- or gasoline-powered vehicle. With time-fill, it takes longer, and the vehicle is usually left overnight. The larger the fleet, the more likely fast-fill is the better option. Time-fill could prove the better option at bus stations where the vehicles are left overnight, such as schools.

#### D. Loss of fiscal discipline causes a downgrade

Mark Gongloff, Wall Street Journal, 08/2/’11, [Moody’s Affirms US AAA Rating, <http://blogs.wsj.com/marketbeat/2011/08/02/moodys-affirms-us-aaa-rating/>] VN

Moody’s just came out and said, great job, USA, you get to keep your AAA rating. For now. This follows Fitch, which earlier said more or less that they were still reviewing the US rating, a process that could take through August. They didn’t promise they’d keep a AAA rating at the end of the process, but called the debt deal “a step in the right direction.” Now the big shoe dangling is S&P, which is really on the hook, having sounded the loudest warning about a downgrade. The size of the debt deal doesn’t seem to hit the $4 trillion mark S&P has said would be necessary to keep a AAA rating. My prediction? They’ll issue a similar placeholder statement soonish. Meanwhile, let’s hear what Moody’s has to say: Moody’s Investors Service has confirmed the Aaa government bond rating of the United States following the raising of the statutory debt limit on August 2. The rating outlook is now negative. Moody’s placed the rating on review for possible downgrade on July 13 due to the small but rising probability of a default on the government’s debt obligations because of a failure to increase the debt limit. The initial increase of the debt limit by $900 billion and the commitment to raise it by a further $1.2-1.5 trillion by yearend have virtually eliminated the risk of such a default, prompting the confirmation of the rating at Aaa. In confirming the Aaa rating, Moody’s also recognized that today’s agreement is a first step toward achieving the long-term fiscal consolidation needed to maintain the US government debt metrics within Aaa parameters over the long run. The legislation calls for $917 billion in specific spending cuts over the next decade and established a congressional committee charged with making recommendations for achieving a further $1.5 trillion in deficit reduction over the same time period. In the absence of the committee reaching an agreement, automatic spending cuts of $1.2 trillion would become effective. In assigning a negative outlook to the rating, Moody’s indicated, however, that there would be a risk of downgrade if (1) there is a weakening in fiscal discipline in the coming year; (2) further fiscal consolidation measures are not adopted in 2013; (3) the economic outlook deteriorates significantly; or (4) there is an appreciable rise in the US government’s funding costs over and above what is currently expected.

#### E. Further downgrades would create a debt spiral, crippling the economy

Rowley 12 Charles Rowley, Professor Emeritus of Economics at George Mason University, 6/15/12, “Renewed threats to U.S. credit rating,” Charles Rowley’s blog, http://charlesrowley.wordpress.com/2012/06/15/renewed-threats-to-u-s-credit-rating/

If Moody’s downgrades and if S & P further downgrades U.S. credit ratings, this would move the United States out of the exclusive club of AAA-rated nations, and throw into question the privileged status of U.S. Treasury securities as a safe haven for global investors. Any significant flight from Treasuries would raise Treasury bond rates, with crippling consequences for the economy. A 1-percentage point increase in rates would raise Treasury debt payments by $1 trillion over the next decade, wiping out the benefits of all the budget cuts enacted by Congress last year. The dynamics of such a process may prove to be devastating, moving the U.S. federal government onto a path of sovereign downgrades that accelerates an already worsening fiscal situation. Greece here we come.

F. Economic collapse causes global nuclear war.

Merlini, Senior Fellow – Brookings, 11

[Cesare Merlini, nonresident senior fellow at the Center on the United States and Europe and chairman of the Board of Trustees of the Italian Institute for International Affairs (IAI) in Rome. He served as IAI president from 1979 to 2001. Until 2009, he also occupied the position of executive vice chairman of the Council for the United States and Italy, which he co-founded in 1983. His areas of expertise include transatlantic relations, European integration and nuclear non-proliferation, with particular focus on nuclear science and technology. A Post-Secular World? DOI: 10.1080/00396338.2011.571015 Article Requests: Order Reprints : Request Permissions Published in: journal Survival, Volume 53, Issue 2 April 2011 , pages 117 - 130 Publication Frequency: 6 issues per year Download PDF Download PDF (~357 KB) View Related Articles To cite this Article: Merlini, Cesare 'A Post-Secular World?', Survival, 53:2, 117 – 130]

Two neatly opposed scenarios for the future of the world order illustrate the range of possibilities, albeit at the risk of oversimplification. The first scenario entails the premature crumbling of the post-Westphalian system. One or more of the acute tensions apparent today evolves into an open and traditional conflict between states, perhaps even involving the use of nuclear weapons. The crisis might be triggered by a collapse of the global economic and financial system, the vulnerability of which we have just experienced, and the prospect of a second Great Depression, with consequences for peace and democracy similar to those of the first. Whatever the trigger, the unlimited exercise of national sovereignty, exclusive self-interest and rejection of outside interference would likely be amplified, emptying, perhaps entirely, the half-full glass of multilateralism, including the UN and the European Union. Many of the more likely conflicts, such as between Israel and Iran or India and Pakistan, have potential religious dimensions. Short of war, tensions such as those related to immigration might become unbearable. Familiar issues of creed and identity could be exacerbated. One way or another, the secular rational approach would be sidestepped by a return to theocratic absolutes, competing or converging with secular absolutes such as unbridled nationalism.

2NC—Link Extensions

Each refueling station costs millions

Zeman, 6/25 [Nicholas“Take the Natural-Gas Highway” 2012, Engineering News Record ENR.com,

http://enr.construction.com/economics/quarterly\_cost\_reports/2012/0625-take-the-natural-gas-highway.asp]

Few companies are operating retail natural-gas fueling stations across the U.S. these days. However, the prospect of many years of cheap natural gas is spurring a small construction boom to build out the country's so-called "natural-gas highway." Most of the stations today are add-ons to existing gas and diesel filling stations. "We have about 300 stations today, mostly CNG [compressed natural gas], and are building about 70 LNG [liquified natural gas] stations in 2012 and about 80 in 2013. We are also building 50-plus CNG stations in 2012," says Bruce Russell, communications director for Seal Beach, Calif.-based Clean Energy Fuels Corp. If demand surges, the work may expand to natural-gas stations built from scratch. "It remains to be seen," Russell says. Chesapeake Energy, Oklahoma City, announced in March that it had entered into a partnership with General Electric to install 250 CNG fueling stations. Because most distribution is at the fleet and public levels—buses, taxicabs, etc.—retail availability is limited. Clean Energy and Chesapeake are betting that natural gas will gain more mainstream acceptance as a transportation fuel among consumers. G.E.'s "Station in a Box," which would be delivered and installed by Chesapeake, will provide retail fueling locations with CNG fueling services. "We want to offer a 'full-station experience' that drivers are used to, which is not common in the CNG market today," said Ujjwal Kumar, general manager of turbo machinery for G.E.'s oil-and-gas division. The G.E. station is a plug-and-play application that simply needs to be connected to gas and electrical outlets before being fully operational. G.E. says the maximum fueling rate for its product is approximately seven to eight gas gallon equivalents (GGE) per minute. Construction costs have not been disclosed. In general, the cost and scope of a natural-gas fueling-station project varies. According to a 2010 report published by Pacific Northwest Laboratory for the U.S. Dept. of Energy, costs for installing a CNG fueling station can range from $10,000 to $2 million, depending on the size and fueling rate. The U.S. Energy Information Administration (EIA) says an LNG fueling site can range from $1 million to $4 million. Clean Energy reported its LNG installations cost between $1 million and $1.5 million, depending on the cost of permitting, engineering and design services. "Much of the engineering and design is done in-house using a mix of general contractors across the country for construction," Russell says. Long-haul truckers, looking to cut fueling costs, are considering making the switch to natural gas. Currently, there is not a large volume of natural-gas trucks on the road, but Freightliner, Navistar and Volvo, among others, are building more of them. Declining price premiums to equip a truck to run on natural gas also have made suppliers such as Clean Energy optimistic about the sector, Russell says. "It's come down from $100,000 to $30,000 for one of these trucks, so there are more and more all the time," he notes. What's more, Clean Energy is consulting with trucking associations and shipping companies in an effort to install stations where they are needed the most. "Unless a truck is a part of a fleet that has arrangements with non-public LNG fueling stations, I don't believe they can make it across the country strictly on LNG," said Angelina LaRose, an EIA analyst. "And the same is true for CNG, though there might be more CNG retail stations." The large-scale use of natural gas for transportation is dependent on supplies, and there has been considerable debate on the subject. Clean Fuels was firm when asked about supplies for its fueling-station build-out: "There's a general consensus that there is about 100 years of natural gas available," Russell says. "So supplies are not a concern." EIA, however, says it ranges from 10 to 60 years.

1NC—Oil

#### Brent crude over $100 with an upward price pressure to sustain future increases

Goswami 7/20/12

(Manash, reporter, “Brent crude holds above $107; gains to eight-week highs spur selling”, 7/20/12, MSNBC, <http://www.msnbc.msn.com/id/48253785/ns/business-stocks_and_economy/#.UAlkxjFST-M>) aw

SINGAPORE (Reuters) - Brent crude held above $107 on Friday, edging lower after a surge of 20 percent in four weeks prompted some selling as worries about conflict in the Middle East eased slightly. Oil rose to an eight-week high in the previous session, gaining for seven straight days as escalating tension in the Middle East and disruptions in output in the North Sea stoked supply fears. A strengthening of the dollar <.DXY> after a recent slide is also supporting crude futures. Brent crude slipped 49 cents to $107.31 a barrel by 1.43 a.m. EDT. The contract settled up $2.64 and touched an intraday top of $108.18, the highest since May 22. U.S. oil fell 76 cents to $91.90. The August contract ended up $2.79 and touched a high of $92.94, also the highest since May 22. "Prices were getting stretched a little, getting a bit ahead of themselves," said Mark Pervan, senior commodities strategist at ANZ Bank. "This rally is supply driven, and supply-driven rallies tend to be very volatile because when prices go up, they threaten to hurt demand." Brent is set to gain for a fourth straight week, its longest winning streak since the end of February, while U.S. oil is poised to gain for three of the past four weeks. The most important supply threat to oil for now is from the Middle East, as global powers try to force Iran to halt its disputed nuclear program. Tension escalated after a bus carrying Israeli tourists was bombed in Bulgaria, for which Israel blamed Iran. Israel's allegation, based on suspicions that Iranian and Hezbollah agents have been trying for years to score a lethal strike on its interests abroad, triggered speculation in local media that the government might now hit back hard. Israel however signaled that it would not rush into any conflict. The Middle East supply worries will limit any further slide in prices. Apart these tensions, expectations that the U.S. Federal Reserve would announce another round of stimulus to boost growth may weaken the dollar, boosting oil and other dollar-denominated commodities. "Middle East tensions now mean that supply concerns are entering the crude oil equation which is creating an upward price pressure," Tim Waterer, senior trader at CMC Market, said in a report

#### A modernization and overhaul of our transportation infrastructure would dramatically decrease US oil demand

Podesta et al 11

(John Podesta, President and CEO of the Center for American Progress, Carl Pope, Chairman of Sierra Club, Gene Carpinski, President of the League of Conservation Voters, March 2011, “Cleaner Cars, Less Foreign Oil,” http://www.americanprogress.org/issues/2011/03/pdf/oilsavingsagenda.pdf)

Millions of Americans are locked into using their cars because of limited transportation choices. Their communities lack affordable, convenient buses; subways; or other means of transit. Some communities lack safe biking and walking areas. Workers must spend hours in congested driving nightmares. People must drive a car to get a gallon of milk where housing is separated from services and amenities. Seniors face the loss of their freedom when they are no longer able to drive a car. Businesses are also constrained by limited choices, which have real economic costs. Shipping goods is more expensive because current railroad bottlenecks force them onto trucks, which increases oil dependence and pollution. More truck freight adds to highway congestion and road wear and tear. Too much of our freight moves on trucks because we have invested too little in our rail system. Infrastructure and planning improvements are necessary to provide genuine transportation alternatives for both passengers and freight. Fortunately, public transit is popular among those Americans who have reasonable access to it. Public transportation experienced a significant increase in use over the past 15 years. According to the American Public Transit Association: From 1995 through 2009, public transportation ridership increased by 31 percent—a growth rate higher than the 15 percent increase in U.S. population and higher than the 21 percent growth in the use of the nation’s highways over the same period. Buses, subways, streetcars, and other forms of transit dramatically reduce oil use. The American Public Transit Association determined that Riding public transportation is a significant way to cut passenger transportation energy use. … transit reduces annual fuel use by the equivalent of 4.2 billion gallons of gasoline. This is about 100 million barrels of oil saved annually. Outlays for new and improved transit networks can also help speed our economic recovery. There is $4 in economic return for every $1 of investment. Every $1 billion provided for transit creates 36,000 jobs. Fix roads, bridges, and trains, and unclog transportation bottlenecks While we must increase our investment in transportation infrastructure, we must avoid wasting it. Boondoggles and pork-barrel earmarks have added to our present congestion. We must not build highways we don’t need. We must ensure the ones we have are in good repair. New capacity should be added strategically to increase the overall flexibility of the transportation system rather than simply adding lanes and increasing gridlock. America’s ports, for example, represent major bottlenecks in getting feed stocks to factories and goods to consumers. Shipping freight by railroad is three times more oil efficient compared to using trucks. Yet our outdated rail system suffers from bottlenecks that make it less attractive for businesses. For instance, the News Hour found that “Chicago has been a freight rail hub for the past 150 years, but an outdated layout often makes it a bottleneck for the country’s shipping network.” And demand for rail shipment is projected to nearly double over the next 25 years. Yet the American Society of Civil Engineers projects a 20 percent shortfall in rail investment over this time. To address these problems, there should be a national transportation policy with a prominent oil-savings goal. Such a program would first invest in transportation programs that decrease dependence on oil. The president’s outline for transportation program provides a good starting point, including increasing our investment in transit by 128 percent over six years. In addition, Congress should create an “Infrastructure Bank” that would lend money for large-scale infrastructure projects, including funds for the repair and rehabilitation of highways, transit, and railroads. These funds would be paid back over time by tolls or local dedicated taxes. The federal government would spur investment in these modes by putting in the first dollars and attracting private partners. Every federal dollar loaned to a project will be matched by as many as six private dollars.

#### Saudi Arabia needs more than $100 a barrel to sustain social spending

Peel and Blas 11

(Michael Peel, Javier Blas, writers, “Saudi budget could require high oil price”, 3/31/12, Financial Times, <http://www.ft.com/intl/cms/s/0/87d60044-5bbb-11e0-b8e7-00144feab49a.html#axzz20zLPp2yl>) aw

Saudi Arabia could need the oil price to average more than $100 a barrel by 2015 to sustain the big public spending rises it plans in an effort to forestall the political unrest sweeping the Middle East. The oil market is growing increasingly worried about Riyadh’s fiscal needs as it fears that they could force Saudi Arabia to pursue oil policies similar to those of Venezuela and Iran, traditionally the price hawks at the Opec oil cartel. The break-even oil price the Gulf kingdom requires to balance its budget will jump from $68 last year to $88 this and then $110 in 2015, according to new estimates by the Institute of International Finance, a leading industry group. Only a decade ago Saudi Arabia was able to balance its budget with oil prices averaging $20-$25 a barrel. The forecast shows the scale of the task facing Saudi Arabia, the world’s largest oil producer and a crucial plank of the west’s regional security strategy, as it grapples with a growing population and increasing infrastructure problems. Crude oil prices on Thursday surged higher as Libyan rebels failed to make fresh ground against forces loyal to Muammer Gaddafi, suggesting a protracted oil supply disruption in the north African country. ICE May Brent rose to a session high of $117.70 a barrel, near a 2½-year high. It closed at $117.36 a barrel, up $2.23 on the day. Nymex May West Texas Intermediate closed at $106.72, a day’s rise of $2.45. The rise in oil prices caused by the unrest in the Middle East will help Saudi Arabia and other Opec nations to pay for the increased spending. The International Energy Agency, the western countries’ oil watchdog, believes Opec revenues will surpass $1,000bn this year for the first time. The forecasts of higher oil revenue needs come after the Saudi government announced two packages of social spending totalling $129bn aimed at averting the spread of dissent that toppled the Egyptian and Tunisian leaders. The largesse failed to satisfy activists who were angry that the package did not include reforms.

#### Social spending key to buying loyalty and quelling social unrest

Knowledge Today 11

(“To Stave Off Arab Spring Revolts, Saudi Arabia and Fellow Gulf Countries Spend $150 Billion”, 9/21/12, UPenn <http://knowledgetoday.wharton.upenn.edu/2011/09/to-stave-off-arab-spring-revolts-saudi-arabia-and-fellow-gulf-countries-spend-150-billion/>) aw

Saliba and his colleagues cautioned that the outsized spending did not address the long-term nature of the problems presented by the Arab Spring, such as high unemployment. “This [social spending] has averted potential disquiet over governance in most countries, though, over a longer-term horizon, economic reforms will be needed to buoy private sector growth and job creation.” Saudi Arabia’s generosity has been criticized as a means for the Arab world’s most populous country to make political gains and spread influence. The Merrill Lynch report also does not take into account the cost incurred by Saudi Arabia to send its troops into neighboring Bahrain to help quell a Shiite uprising there — another action to prevent revolt from reaching its own borders. But in a recent analysis of the Arab Spring for Arabic Knowledge@Wharton, Wharton legal studies and business ethics professor Stuart Diamond said the spending by the Saudis demonstrated their understanding of negotiation. “They understood that for many people, it was about Maslow’s [hierarchy of] needs triangle: that is, basic life necessities such as food, shelter and health mattered most. So the stipends that the Saudi government gave helped to quell disturbances,” he noted. Diamond added that Saudi spending bought not only continued loyalty from its citizens. “What they have mostly bought was time. For now, the populace will be satisfied with their recent bonuses. But that does not amount to structural and sustainable change, the kind that would significantly improve everyone’s quality of life on a continuing basis. The Saudi government should take this opportunity to include more people in decision-making and develop new industries that give more people a chance at a better life over the long term.”

#### Youth unemployment causes massive unrest, spreads regionally

Cohen et al 12

(Ariel Cohen Ph.D., Senior Research Fellow for Russian and Eurasian Studies and International Energy Policy, The Kathryn and Shelby Cullom Davis Institute for International Studies, David W. Kreutzer, Ph.D, Research Fellow in Energy Economics and Climate Change, James Phillips, Senior Research Fellow for Middle Eastern Affairs, Michaela Bendikova, Research Associate for Strategic Issues, “Thinking the Unthinkable: Modeling a Collapse of Saudi Oil Production”, 4/9/12, Heritage Foundation <http://www.heritage.org/research/reports/2012/04/thinking-the-unthinkable-modeling-a-collapse-of-saudi-oil-production>) aw

 “Youth unemployment is a time bomb for Saudi Arabia,” says Jean-Francois Seznec, a professor at Georgetown University’s Center for Contemporary Arab Studies in Washington. King Abdullah responded by announcing in 2011 a $130 billion plan to create jobs, build subsidized housing and support the religious establishment that had backed the government’s ban on domestic protests. Labor Minister Adel Faqih in May 2011 announced a program to reduce unemployment called Nitaqat, or Ranges, that for the first time rewards companies that employ a higher percentage of Saudis. “What they’ve done to slow any reaction to the Arab Spring is to throw money at people, with some success,” Seznec says. Persistent unemployment could have broad repercussions. Though there are some informal efforts to create activities ranging from impromptu comedy clubs to a girls’ basketball league, Saudi youth have few sanctioned outlets where they can have fun, exacerbating frustrations over unemployment. Unrest? “You are talking about the risk of this frustration going into political activism,” says David Butter, regional director for the Middle East at the London-based Economist Intelligence Unit. If political unrest got out of hand, it could threaten the oil industry and its exports, Butter says. The kingdom’s proven oil reserves of 263 billion barrels are the world’s largest. In February, the country produced 9.68 million barrels a day -- about a third of the total for the Organization of Petroleum Exporting Countries, according to data compiled by Bloomberg. Any instability in Saudi Arabia would also create ripples throughout the Middle East. As the birthplace of Islam and home to its two holiest sites, in Mecca and Medina, the country wields immense sway in the Muslim and Arab world and maintains influence in countries such as Lebanon and Bahrain and in the Israeli-Palestinian conflict.

**Failure to stop political unrest in Saudi Arabia will unleash nuclear weapon use and terrorism**

Joshi, 4-13 Shashank Joshi (Doctoral student at Harvard University, and a Research Fellow of the Royal United Services Institute) April 13th, 2012 *The Hindu* <http://www.thehindu.com/opinion/op-ed/article3308145.ece>

A sectarian, geopolitical and strategic cold war is unfolding between Saudi Arabia, protector of the Sunni Arab order, and Iran, a Shia Persian revolutionary power with a mission to subvert that status quo. The battlefields are Syria and Palestine, Afghanistan and Iraq. For India, the stakes are high.¶ **Saudi-Iranian rivalry has ebbed** and flowed for decades, but two developments — **the acceleration of Iran's nuclear ambitions and the Arab Spring — have sharpened the antagonism.** In the coming years, that will likely push Saudi Arabia closer to Pakistan and exacerbate threats to India.¶ THREE STRANDS¶ First, consider **that the crisis over Iran's nuclear programme is unlikely to be resolved** by this month's talks, given the inflexible positions held by each side. **If Iran is attacked, it will respond by rushing for a bomb. If it isn't attacked, it will drift towards the threshold of weapons status** (much like India in the 1970s). Either way, the **Saudis will feel the need to hedge — and they will turn to Pakistan, whose nuclear programme they funded** and fostered for years.¶ Both Pakistan and Saudi Arabia have reasons not to flout American concerns, and each would proceed with caution. But it is plausible that Pakistan might covertly transfer nuclear technology, engineers and even fissile material to its Saudi Arabian patrons — buying itself some diplomatic clout in return.¶ Second**, Saudi Arabia remains shaken by the Arab Spring. The country's Shia-dominated Eastern Province is growing restive. Riyadh is also paranoid that Shia Iran is meddling there and in other Sunni Arab regimes** like Bahrain.¶ That's why there are reportedly 10,000 serving and retired Pakistani military personnel in Bahrain — including a battalion of the Azad Kashmir Regiment. In the 1980s, Pakistan had tens of thousands of soldiers, sailors and airmen in Saudi Arabia — including an entire division and two armoured and two artillery brigades. These reliable Sunni forces are still seen in Riyadh as a crucial instrument of repression**.¶ Saudi Arabia is not immune from the unrest that swept the Arab world last year. If oil prices fall, it'd struggle to pay for the massive public spending programmes** it introduced last year in an effort to stave off discontent. Its refusal to undertake real political reform, and the poisonous anti-Shia rhetoric it has ramped up to vilify protesters, **could further radicalise young Saudis**.¶ If this resulted in widespread disorder, **the regime would depend on Pakistan to send manpower and military expertise**.¶ In fact, it's highly likely that contingency plans are already in place.¶ Even if there's little chance of Pakistani nuclear weapons on Saudi soil, the prospect of **Pakistani access to Saudi airbases and missile facilities should be cause for Indian concern**.¶ Finally, there's a third strand to the Saudi-Pakistan nexus: religion. Whenever Saudi rulers have felt under threat they shore up their legitimacy by looking to the ulema. In 1979, the Iranian revolution and the siege of Mecca spooked the monarchy into giving more money and power to the clerics. That fuelled the growth of violent Sunni extremism over the subsequent decade — and in South Asia in particular. Last year, similarly anxious to bolster their Islamic credentials, the regime responded in the same fashion — funnelling a part of its $120 billion spending package to the religious establishment and reaching out to some of the most extreme strands of regional Islamist movements.¶ That will have profound and pernicious effects not just in the Middle East and North Africa, but also in the jihadist heartlands of Punjab and even within India. **Sunni terrorist groups**, including Pakistan-sponsored outfits like the Lashkar-e-Taiba, **will have new resources and political allies**. That throws up fiendishly difficult intelligence and counterterrorism challenges for Delhi.¶ Saudi Arabia's former intelligence chief once claimed that his country's relationship to Pakistan was “probably one of the closest relationships in the world between any two countries.” Whether or not that's hyperbole, it's going to get closer. Both are growing apart from the United States. Riyadh was alarmed over the way in which Washington dumped Egypt's Hosni Mubarak, and Islamabad is not blind to the growing exasperation with its policies.¶.

#### Nuclear terrorism causes nuclear war and extinction.

Guardian, 3-31-2008, Project Syndicate, “The Nuclear Risk,” http://www.guardian.co.uk/commentisfree/2008/mar/31/newnuclearrisk

Vital pillars of the old arms-control and anti-proliferation regime have either been destroyed - as was the case with the anti-ballistic missile (ABM) treaty - or substantially weakened, as with the nuclear non-proliferation treaty (NPT). Responsibility for this lies largely with the Bush administration, which, by terminating the ABM treaty, not only weakened the international control systems for nuclear weapons, but also sat on its hands when confronted with the NPT's imminent collapse. At the beginning of the 21st century, proliferation of military nuclear technology is one of the major threats to humanity, particularly if this technology falls into terrorists' hands. The use of nuclear weapons by terrorists would not only result in a major humanitarian tragedy, but also would most likely move the world beyond the threshold for actually waging a nuclear war. The consequences would be horrific.

\*Case\*

1NC—Oil

**The plan doesn’t cause a free-fall in oil prices.** They fund refueling stations. But it will take years and even decades before the stations and the new alternative vehicles are commonplace and causing a decrease in oil demand.

**The AFF can’t solve** — their Zubrin 8 evidence indicates that laws mandating flex-fuel vehicles are needed for the public to switch from gasoline.

**No war impact —** Their IBD 8 and Abelgas 8 evidence does not mention anywhere that Chavez dislikes America and will attack us.

**No nuclearization impact –** the plan doesn’t prevent Venezuela from acquiring nuclear weapons.

1NC—Economy

**Economy resilient**

**Zakaria 9** [Fareed Zakaria is editor of Newsweek International “The Secrets of Stability,” 12/12 http://www.newsweek.com/id/226425/page/2]

One year ago, the world seemed as if it might be coming apart. The global financial system, which had fueled a great expansion of capitalism and trade across the world, was crumbling. All the certainties of the age of globalization—about the virtues of free markets, trade, and technology—were being called into question. Faith in the American model had collapsed. The financial industry had crumbled. Once-roaring emerging markets like China, India, and Brazil were sinking. Worldwide trade was shrinking to a degree not seen since the 1930s. Pundits whose bearishness had been vindicated predicted we were doomed to a long, painful bust, with cascading failures in sector after sector, country after country. In a widely cited essay that appeared in The Atlantic this May, Simon Johnson, former chief economist of the International Monetary Fund, wrote: "The conventional wisdom among the elite is still that the current slump 'cannot be as bad as the Great Depression.' This view is wrong. What we face now could, in fact, be worse than the Great Depression." Others predicted that these economic shocks would lead to political instability and violence in the worst-hit countries. At his confirmation hearing in February, the new U.S. director of national intelligence, Adm. Dennis Blair, cautioned the Senate that "the financial crisis and global recession are likely to produce a wave of economic crises in emerging-market nations over the next year." Hillary Clinton endorsed this grim view. And she was hardly alone. Foreign Policy ran a cover story predicting serious unrest in several emerging markets. Of one thing everyone was sure: nothing would ever be the same again. Not the financial industry, not capitalism, not globalization. One year later, how much has the world really changed? Well, Wall Street is home to two fewer investment banks (three, if you count Merrill Lynch). Some regional banks have gone bust. There was some turmoil in Moldova and (entirely unrelated to the financial crisis) in Iran. Severe problems remain, like high unemployment in the West, and we face new problems caused by responses to the crisis—soaring debt and fears of inflation. But overall, things look nothing like they did in the 1930s. The predictions of economic and political collapse have not materialized at all. A key measure of fear and fragility is the ability of poor and unstable countries to borrow money on the debt markets. So consider this: the sovereign bonds of tottering Pakistan have returned 168 percent so far this year. All this doesn't add up to a recovery yet, but it does reflect a return to some level of normalcy. And that rebound has been so rapid that even the shrewdest observers remain puzzled. "The question I have at the back of my head is 'Is that it?' " says Charles Kaye, the co-head of Warburg Pincus. "We had this huge crisis, and now we're back to business as usual?" This revival did not happen because markets managed to stabilize themselves on their own. Rather, governments, having learned the lessons of the Great Depression, were determined not to repeat the same mistakes once this crisis hit. By massively expanding state support for the economy—through central banks and national treasuries—they buffered the worst of the damage. (Whether they made new mistakes in the process remains to be seen.) The extensive social safety nets that have been established across the industrialized world also cushioned the pain felt by many. Times are still tough, but things are nowhere near as bad as in the 1930s, when governments played a tiny role in national economies. It's true that the massive state interventions of the past year may be fueling some new bubbles: the cheap cash and government guarantees provided to banks, companies, and consumers have fueled some irrational exuberance in stock and bond markets. Yet these rallies also demonstrate the return of confidence, and confidence is a very powerful economic force. When John Maynard Keynes described his own prescriptions for economic growth, he believed government action could provide only a temporary fix until the real motor of the economy started cranking again—the animal spirits of investors, consumers, and companies seeking risk and profit. Beyond all this, though, I believe there's a fundamental reason why we have not faced global collapse in the last year. It is the same reason that we weathered the stock-market crash of 1987, the recession of 1992, the Asian crisis of 1997, the Russian default of 1998, and the tech-bubble collapse of 2000. The current global economic system is inherently more resilient than we think. The world today is characterized by three major forces for stability, each reinforcing the other and each historical in nature.

2NC—Economy

The economic system is inherently resilient – the 2008 economic crisis didn’t cause a collapse – that’s Zakaria

1NC—Warming

**The plan is too little, too late – they can’t stop warming now**

Ghommem, Hajj, and Puri 12 (Mehdi Ghommem, Muhammad R. Hajj, Ishwar K. Puri, Department of Engineering Science and Mechanics, Virginia Tech, 4/26/12, “Influence of natural and anthropogenic carbon dioxide sequestration on global warming” Ecological Modelling, SciVerse Science Direct)

We have used the results of previous GCM simulations to develop a model that accounts for the couplings between the global temperature, atmospheric CO2 concentration, and the ocean and land CO2 uptakes. The good agreement between the results of the simplified model and historical records for both atmospheric CO2 and global temperature demonstrates that our reduced order analysis is able to correctly reproduce the major CO2 feedbacks between natural sinks and the atmosphere. We have also used the model to investigate the impact of anthropogenic CO2 sequestration on the increase in the global temperature. Our results suggest that an inordinately large, and perhaps unrealizable, fraction of CO2 emissions would have to be sequestered in order to prevent global warming. Undoubtedly, without referring to the environmental consequences, sequestration could be used as one among several carbon mitigation strategies to accomplish large effective μ values.

NGV vehicles increase warming

**Alvarez et al. 2012** [April 9, Ramon, “Greater focus needed on methane leakage from natural gas infrastructure” Proceedings of the National Academy of Sciences of the United States of America

[http://www.pnas.org/content/early/2012/04/02/1202407109.full.pdf+html](http://www.pnas.org/content/early/2012/04/02/1202407109.full.pdf%2Bhtml)]

Results and Discussion We focus on the TWPs of real-world choices faced by individuals, corporations, and policymakers about fuel-switching in the trans- port and power sectors. Each of the three curves within the panels of Fig. 1 represents a distinct choice and its associated emission duration: for example, whether to rent a CNG or a gasoline car for a day (Pulse TWP); whether to purchase and operate a CNG or gasoline car for a 15-yr service life (Service-Life TWP); and whether a nation should adopt a policy to convert the gasoline fleet of cars to CNG (Fleet Conversion TWP). In each of these cases, a TWP greater than 1 means that the cumulative radiative forcing from choosing natural gas today is higher than a current fuel option after t yr. Our results for pulse TWP at 20 and 100 yr are identical to fuel-cycle analyses using 20-year or 100-year GWPs for CH4. Given EPA’s current estimates of CH4 leakage from natural gas production and delivery infrastructure, in addition to a modest CH4 contribution from the vehicle itself (for which few empirical data are available), CNG-fueled vehicles are not a viable mitiga- tion strategy for climate change.§ Converting a fleet of gasoline cars to CNG increases radiative forcing for 80 yr before any net climate benefits are achieved; the comparable cross-over point for heavy-duty diesel vehicles is nearly 300 yr. Stated differently, converting a fleet of cars from gasoline to CNG would result in numerous decades of more rapid climate change because of greater radiative forcing in the early years after the conversion. This is eventually offset by a modest benefit. After 150 yr, a CNG fleet would have produced about 10% less cumulative radiative forcing than a gasoline fleet—a benefit equivalent to a fuel economy improvement of 3 mpg in a 30 mpg fleet. CNG vehicles fare even less favorably in comparison to heavy-duty diesel vehicles. In contrast to the transportation cases, a fleet of new, com- bined-cycle natural gas power plants reduces radiative forcing on all time frames, relative to new coal plants burning low-CH4 coal—assuming current estimates of leakage rates (Fig. 1C). The conclusions differ primarily because of coal’s higher carbon con- tent relative to petroleum fuels; however, fuel-cycle CH4 leakage can also affect results. (As discussed elsewhere in this paper, our analysis considered only the emissions of CH4 and CO2. In SI Text, we examine the effect of different CH4 leak rates in the coal and natural gas fuel cycles for the electric power scenario.)

2NC—Warming

**Extend 1nc 1:** we’ve already passed the tipping point. We need to sequester CO2 from the atmosphere in order to prevent global warming.

**Warming is real but the plan can’t solve it**

Ghommem, Hajj, and Puri 12 (Mehdi Ghommem, Muhammad R. Hajj, Ishwar K. Puri, Department of Engineering Science and Mechanics, Virginia Tech, 4/26/12, “Influence of natural and anthropogenic carbon dioxide sequestration on global warming” Ecological Modelling, SciVerse Science Direct)

The increase in the global surface temperature is influenced by several factors including anthropogenic and natural emissions of CO2, and the ability of natural sequestration reservoirs in the Earth's oceans and land to absorb and store it. The CO2 absorption in these reservoirs is sensitive to changes in the global temperature and the atmospheric CO2 concentration, thus creating a feedback loop in the Earth's ecosystem, which complicates predictions of the overall impact of rising atmospheric CO2 levels on global warming. Here, we model this interaction through a positive feedback loop and utilize general circulation models (GCM) to quantify the coupling between the carbon-cycle and the global temperature. We validate the model by comparing its predictions with those from high fidelity simulations and historical records. Thereafter, we investigate the impact of anthropogenic CO2 sequestration on lowering the rate of increase in the global temperature and find that a reduction in global warming is more sensitive to larger sequestration fractions. Thus, an inordinately large fraction of CO2 emissions would have to be sequestered to significantly impact global warming.

**Extend 1nc 2:** Converting gasoline cars to CNG would result in numerous decades of more rapid climate change before any climate benefits are achieved – that’s alvarez et al 2012

Natural gas vehicles cause global warming

Romm 2012 [Joe, April 9, “Natural Gas Is A Bridge To Nowhere Absent A Carbon Price AND Strong Standards To Reduce Methane Leakage” Think Progress Climate Progress <http://thinkprogress.org/climate/2012/04/09/460384/natural-gas-is-a-bridge-to-nowhere-absent-a-carbon-price-and-strong-standards-to-reduce-methane-leakage/?mobile=nc>]

A new journal article finds that methane leakage greatly undercuts or eliminates entirely the climate benefit of a switch to natural gas. The authors of “Greater Focus Needed on Methane Leakage from Natural Gas Infrastructure“ conclude that “it appears that current leakage rates are higher than previously thought” and “Reductions in CH4 Leakage Are Needed to Maximize the Climate Benefits of Natural Gas.” Natural gas is mostly methane – a very potent greenhouse gas, though with a much shorter lifetime in the atmosphere than CO2, which is emitted by burning fossil fuels like natural gas. Recent studies suggest a very high global warming potential (GWP) for CH4 vs CO2, particularly over a 20-year time frame. The new Proceedings of the National Academy of Sciences study introduces the idea of “technology warming potentials” (TWPs) to reveal “reveal time-dependent tradeoffs inherent in a choice between alternative technologies.” In this new approach the potent warming effect of methane emissions undercuts the value of fuel switching in the next few decades, exactly the timeframe we need to reverse the warming trend if we are to have any chance at triggering amplifying feedbacks and preventing multiple catastrophes. For instance, the new study finds that a big switch from coal to gas would only reduce TWP by about 25% over the first three decades — far different than the typical statement that you get a 50% drop in CO2 emissions from the switch. Note that the conclusion above is based on “EPA’s latest estimate of the amount of CH4 released because of leaks and venting in the natural gas network between production wells and the local distribution network” of 2.4%. Many experts believe the leakage rate is higher than 2.4%, particularly for the fastest growing new source of gas — hydraulic fracturing. Also, recent air sampling by NOAA over Colorado found 4% methane leakage, more than double industry claims. The study notes: We emphasize that our calculations assume an average leakage rate for the entire U.S. natural gas supply (as well for coal mining). Much work needs to be done to determine actual emis- sions with certainty and to accurately characterize the site-to-site variability in emissions. However, given limited current evidence, it is likely that leakage at individual natural gas well sites is high enough, when combined with leakage from downstream operations, to make the total leakage exceed the 3.2% threshold beyond which gas becomes worse for the climate than coal for at least some period of time. In short until we have far more actual data showing low leakage rates — or regulations to ensure low leakage rates — it is hard to claim that switching from coal to gas plants has a substantial warming benefit in the near-term (that is especially true for reasons I’ll touch on below). It’s even harder to claim that simply shoving massive amounts of natural gas into the energy supply system is a good idea at all, given that some of it would inevitably replace new renewables — and if even a small fraction of new gas plants replace renewables, that eliminates any warming benefit that switching from coal to gas might have. I had previously argued that you need a rising carbon price to ensure that any new natural gas plants replace coal and not renewables (see here). Indeed, I first made that argument three years ago — see “Why unconventional natural gas makes the 2020 Waxman-Markey target so damn easy and cheap to meet.” But now it’s increasingly clear that a carbon price alone doesn’t address the full problem. You are going to need enforceable national standards to bring the leakage rate way down. Such standards could in fact be a very quick way to reduce the rate of global warming. Indeed, the other shocker in this study is how bad natural gas vehicles (NGVs) are for the climate. In particular, many are trying to pass legislation for switching heavy duty diesel vehicles to natural gas. The study concludes that such a switch sharply increases Technology Warming Potential for many decades, and no one alive today would ever see a climate benefit from that switch. This new research, coauthored by two EDF scientists as well as other leading scientists, appears to have led EDF to strongly oppose NGVs. As the National Journal reported last month: “The president has proposed we switch trucks to natural gas, and I’m here to tell you today that every truck we switch to natural gas damages the atmosphere,” Fred Krupp, president of the Environmental Defense Fund, said at the IHS Cambridge Energy Research Associates annual conference here. Krupp said the little data available about how much methane — a greenhouse gas 20 times more potent than carbon dioxide — escapes during the production of shale natural gas compels him to refuse to support a shift toward more natural-gas vehicles. “We’re against what the president called for in the State of the Union until they [the natural-gas industry] can demonstrate they can get the leak rate down below 1 percent,” Krupp added. The Environmental Defense Fund’s opposition to the proposal is notable; it is one of the only environmental groups willing to work with industry on the concerns surrounding shale natural gas, which has been discovered in vast amounts all over the country in the past few years. The problem for NGVs, as study coauthor and EDF chief scientist Steven Hamburg explained to me, is that the extra steps involved in using natural gas as a transport fuel — including fueling and onboard storage, increases the system leakage rate significantly. And these leaks are probably much harder to address. So the possibility that, say, the entire leakage rate for the heavy-duty vehicle infrastructure, from fracking to fueling, could ever be brought down to below 1% is pretty darn small.

2NC—Ext. Warming Inev

Warming inevitable even with a complete emissions reduction

Solomon et. al 10 (Susan Solomon, Chemical Sciences Division, Earth System Research Laboratory, National Oceanic and Atmospheric Administration, Ph.D. in Climotology University of California, Berkeley, Nobel Peace Prize Winner, Chairman of the IPCC, Gian-Kasper Plattner, Deputy Head, Director of Science, IPCC Affiliated, Climate and Environmental Physics, Physics Institute, University of Bern, Switzerland, John S. Daniel, research scientist at the National Oceanic and Atmospheric Administration (NOAA), Ph.D. Physics @ Michigan, Todd J. Sanford, Cooperative Institute for Research in Environmental Science @ Colorado, Daniel M. Murphy, Chemical Sciences Division, Earth System Research Laboratory, National Oceanic and Atmospheric Administration, Boulder Gian-Kasper Plattner, Deputy Head, Director of Science, Technical Support Unit Working Group I, Intergovernmental Panel on Climate Change, Affiliated Scientist, Climate and Environmental Physics, Physics Institute, University of Bern, Switzerland Reto Knutti, Institute for Atmospheric and Climate Science, Eidgenössiche Technische Hochschule Zurich and Pierre Friedlingstein, Chair, Mathematical Modelling of Climate Systems, member of the Science Steering Committee of the Analysis Integration and Modeling of the Earth System (AIMES) programme of IGBP and of the Global Carbon Project (GCP) of the Earth System Science Partnership (ESSP), Proceedings of the National Academy of the Sciences of the United States of America, "Persistence of climate changes due to a range of greenhouse gases", Vol 107(43))

Carbon dioxide, methane, nitrous oxide, and other greenhouse gases increased over the course of the 20th century due to human activities. The human-caused increases in these gases are the primary forcing that accounts for much of the global warming of the past fifty years, with carbon dioxide being the most important single radiative forcing agent (1). Recent studies have shown that the human-caused warming linked to carbon dioxide is nearly irreversible for more than 1,000 y, even if emissions of the gas were to cease entirely (2–5). The importance of the ocean in taking up heat and slowing the response of the climate system to radiative forcing changes has been noted in many studies (e.g., refs. 6 and 7). The key role of the ocean’s thermal lag has also been highlighted by recent approaches to proposed metrics for comparing the warming of different greenhouse gases (8, 9). Among the observations attesting to the importance of these effects are those showing that climate changes caused by transient volcanic aerosol loading persist for more than 5 y (7, 10), and a portion can be expected to last more than a century in the ocean (11–13); clearly these signals persist far longer than the radiative forcing decay timescale of about 12–18 mo for the volcanic aerosol (14, 15). Thus the observed climate response to volcanic events suggests that some persistence of climate change should be expected even for quite short-lived radiative forcing perturbations. It follows that the climate changes induced by short-lived anthropogenic greenhouse gases such as methane or hydrofluorocarbons (HFCs) may not decrease in concert with decreases in concentration if the anthropogenic emissions of those gases were to be eliminated. In this paper, our primary goal is to show how different processes and timescales contribute to determining how long the climate changes due to various greenhouse gases could be expected to remain if anthropogenic emissions were to cease. Advances in modeling have led to improved AtmosphereOcean General Circulation Models (AOGCMs) as well as to Earth Models of Intermediate Complexity (EMICs). Although a detailed representation of the climate system changes on regional scales can only be provided by AOGCMs, the simpler EMICs have been shown to be useful, particularly to examine phenomena on a global average basis. In this work, we use the Bern 2.5CC EMIC (see Materials and Methods and SI Text), which has been extensively intercompared to other EMICs and to complex AOGCMs (3, 4). It should be noted that, although the Bern 2.5CC EMIC includes a representation of the surface and deep ocean, it does not include processes such as ice sheet losses or changes in the Earth’s albedo linked to evolution of vegetation. However, it is noteworthy that this EMIC, although parameterized and simplified, includes 14 levels in the ocean; further, its global ocean heat uptake and climate sensitivity are near the mean of available complex models, and its computed timescales for uptake of tracers into the ocean have been shown to compare well to observations (16). A recent study (17) explored the response of one AOGCM to a sudden stop of all forcing, and the Bern 2.5CC EMIC shows broad similarities in computed warming to that study (see Fig. S1), although there are also differences in detail. The climate sensitivity (which characterizes the long-term absolute warming response to a doubling of atmospheric carbon dioxide concentrations) is 3 °C for the model used here. Our results should be considered illustrative and exploratory rather than fully quantitative given the limitations of the EMIC and the uncertainties in climate sensitivity. Results One Illustrative Scenario to 2050. In the absence of mitigation policy, concentrations of the three major greenhouse gases, carbon dioxide, methane, and nitrous oxide can be expected to increase in this century. If emissions were to cease, anthropogenic CO2 would be removed from the atmosphere by a series of processes operating at different timescales (18). Over timescales of decades, both the land and upper ocean are important sinks. Over centuries to millennia, deep oceanic processes become dominant and are controlled by relatively well-understood physics and chemistry that provide broad consistency across models (see, for example, Fig. S2 showing how the removal of a pulse of carbon compares across a range of models). About 20% of the emitted anthropogenic carbon remains in the atmosphere for many thousands of years (with a range across models including the Bern 2.5CC model being about 19 4% at year 1000 after a pulse emission; see ref. 19), until much slower weathering processes affect the carbonate balance in the ocean (e.g., ref. 18). Models with stronger carbon/climate feedbacks than the one considered here could display larger and more persistent warmings due to both CO2 and non-CO2 greenhouse gases, through reduced land and ocean uptake of carbon in a warmer world. Here our focus is not on the strength of carbon/climate feedbacks that can lead to differences in the carbon concentration decay, but rather on the factors that control the climate response to a given decay. The removal processes of other anthropogenic gases including methane and nitrous oxide are much more simply described by exponential decay constants of about 10 and 114 y, respectively (1), due mainly to known chemical reactions in the atmosphere. In this illustrative study, we do not include the feedback of changes in methane upon its own lifetime (20). We also do not account for potential interactions between CO2 and other gases, such as the production of carbon dioxide from methane oxidation (21), or changes to the carbon cycle through, e.g., methane/ozone chemistry (22). Fig. 1 shows the computed future global warming contributions for carbon dioxide, methane, and nitrous oxide for a midrange scenario (23) of projected future anthropogenic emissions of these gases to 2050. Radiative forcings for all three of these gases, and their spectral overlaps, are represented in this work using the expressions assessed in ref. 24. In 2050, the anthropogenic emissions are stopped entirely for illustration purposes. The figure shows nearly irreversible warming for at least 1,000 y due to the imposed carbon dioxide increases, as in previous work. All published studies to date, which use multiple EMICs and one AOGCM, show largely irreversible warming due to future carbon dioxide increases (to within about 0.5 °C) on a timescale of at least 1,000 y (3–5, 25, 26). Fig. 1 shows that the calculated future warmings due to anthropogenic CH4 and N2O also persist notably longer than the lifetimes of these gases. The figure illustrates that emissions of key non-CO2 greenhouse gases such as CH4 or N2O could lead to warming that both temporarily exceeds a given stabilization target (e.g., 2 °C as proposed by the G8 group of nations and in the Copenhagen goals) and remains present longer than the gas lifetimes even if emissions were to cease. A number of recent studies have underscored the important point that reductions of non-CO2 greenhouse gas emissions are an approach that can indeed reverse some past climate changes (e.g., ref. 27). Understanding how quickly such reversal could happen and why is an important policy and science question. Fig. 1 implies that the use of policy measures to reduce emissions of short-lived gases will be less effective as a rapid climate mitigation strategy than would be thought if based only upon the gas lifetime. Fig. 2 illustrates the factors influencing the warming contributions of each gas for the test case in Fig. 1 in more detail, by showing normalized values (relative to one at their peaks) of the warming along with the radiative forcings and concentrations of CO2 , N2O, and CH4 . For example, about two-thirds of the calculated warming due to N2O is still present 114 y (one atmospheric lifetime) after emissions are halted, despite the fact that its excess concentration and associated radiative forcing at that time has dropped to about one-third of the peak value.

1NC—Solvency

**Not try or die for the affirmative – there are other ways to reduce consumption**

Hill et. Al 3008 [Jason, “Climate Change and health costs of air emissions from biofuels and gasoline”

<http://www.pnas.org/content/early/2009/02/02/0812835106.full.pdf>]

Our analyses show that the debate over whether substituting biofuels for fossil fuels benefits or harms the environment needs to be expanded beyond GHG emissions to include a broad array of environmental quality dimensions. PM2.5 emissions impose costs on society of similar magnitude to GHG emissions, and as such, the benefits of shifting from gasoline and the current generation of food- and feed-based biofuels to next-generation cellulosic biofuels are approximately twice as large as previously thought, as long as the carbon debt from land-use change is minimal. Other environ- mental advantages of properly produced cellulosic biofuels (e.g., lower emissions of ozone precursors and reduced pesticide and nitrate loading of surface and groundwater) may make the eco- nomic benefits to society of this transition greater still. Increasing liquid fuel production is not the only approach to meeting society’s growing transportation energy needs. Tech- nological and behavioral solutions include improved vehicle efficiency, public transportation, redesign of urban landscapes, and hybrid, plug-in electric, natural gas, and hydrogen vehicles. In total, the considerable societal costs of GHG and PM2.5 emissions, and of other effects not yet quantified, should be given full weight in policy choices among energy sources, efficiency, and conservation.

Empirically flex-fuel vehicle integration has failed – refueling stations are just one barrier to integration

Spillar 5/10 [Beia, 2012, Common Resources “ADVANCED TECHNOLOGY VEHICLES: THE CHICKEN AND EGG CONUNDRUM” <http://common-resources.org/2012/advanced-technology-vehicles-the-chicken-and-egg-conundrum/>]

Over the past 30 years, the government has spent billions of dollars in attempting to promote the adoption and utilization of advanced-technology vehicles, including those that use alternative fuels (such as the ethanol fuel blend E85 and natural gas), hybrid and battery electric vehicles, and fuel-celled vehicles. The extensive list of policies includes tax credits to ethanol producers, renewable fuel mandates, vehicle purchase tax credits, investments in R&D, allowances in efficiency standards for manufacturing these vehicles, and assistance in installing alternative refueling stations. Yet adoption is still critically low: alternative vehicles account for only approximately 10 percent of all new vehicle purchases, the majority of which are E85 vehicles that are predominantly used with gasoline. In fact, there is evidence that most flexible-fuel vehicle (FFV) owners are unaware of the fact that they own a vehicle that can run on anything other than conventional gasoline. Even if they knew, it is unlikely any FFV owner would not refuel with gasoline—it is generally the only option they face. At the beginning of April, the MIT Energy Institute (MITEI) held a symposium on prospects for flexible- and bi-fuel vehicles. One of the most important conclusions that the participants agreed upon is that these vehicles face a host of chicken-and-egg problems. With the notable exception of E85 cars, the cost of adoption of these vehicles is a clear example of these vicious cycles that plague the industry. For example, the battery in electric cars increases the cost of the vehicle between $10,000 and $30,000, and needs to be replaced over the course of the car’s life. While these costs will likely decrease once the manufacturer has reached a sufficient level of production and achieves economies of scale, how can we get to that point? As long as individuals have to shell out tens of thousands of dollars more for these vehicles, manufacturers are unlikely to ever reach economies of scale, leading to sustained high prices and low adoption. Another barrier to adoption is the lack of refueling stations. On the one hand, no producer will invest up to a million dollars to install a station unless he believes there will be enough consumers demanding the fuel to produce a profit. On the other, individuals will not purchase these vehicles unless they believe they will be able to fuel them. The government attempted to address the lack of refueling stations by providing a tax credit that would cover 30 to 50 percent of the installation price. Unfortunately, this policy was unable to break this cycle, though part of the problem was in the details. First, the tax credit’s limit was between $30,000 and $50,000: a mere fraction of the overall cost of installation. Second, the tax credit lasted for only three years, not giving the vehicle manufacturers sufficient time to adapt. Vehicle technology cycles last approximately seven years, and if a policy remains in place for only a portion of that time, it is unlikely there will be an adequate response from manufacturers. Our inability to break through these barriers may be due, in part, to the current and past administrations’ practice of “choosing green winners,” or focusing policies around certain types of technologies or fuels. This has not helped us adopt alternative vehicles in a large scale fashion and may have blocked other, perhaps better, advanced technologies from emerging. For example, the billions of dollars that we spent on promoting domestic corn ethanol production and taxing ethanol imports effectively eliminated our ability to benefit from the more environmentally friendly (and cheaper) Brazilian sugar ethanol. A couple of possible solutions to this dilemma emerged from the MITEI symposium. The first is investment in R&D: if the government can support manufacturers in their ability to advance technology, the underlying costs will decrease. This, in turn, will lower alternative vehicle prices and make them more accessible. The second is time: as gasoline prices rise over the years, alternative vehicles will become more cost-competitive throughout their life cycle. This improvement in relative operating costs will promote more adoption, leading to a natural decrease in the costs of production. Although gasoline taxes would help to accelerate this process in a technology-neutral manner, such policies are commonly considered to be political suicide and, as such, are more of an economist’s aspiration than a feasible solution. Ideally, government policies should focus on bringing down underlying costs or making the status quo more expensive. Spending billions of dollars promoting specific alternative technologies and fuels has proven to be unsuccessful and inefficient—let’s learn from that lesson.

**Plan fails: 3 reasons**

1. **Few NGV vehicles**
2. **NGV refueling stations cost almost 11 times more than traditional ones**
3. **Cant’ solve their advantages because takes decades before natural gas vehicles are cheap enough for the average consumer**

Vaughan and Shauk, 3/22 [2012, Vicki and Zain, “Valero, Chesapeake look to build natural gas stations” My San Antonio,

<http://www.mysanantonio.com/business/article/Valero-Chesapeake-look-to-build-natural-gas-3428155.php>]

Despite the budding interest by some major players, IHS Cambridge Energy Research Associates projects that no more than 3 percent of America's vehicles will run on natural gas in the foreseeable future, despite the nation's enormous supply. Other options, like electric vehicles and increasingly efficient hybrid cars, will give consumers rival choices for alternative fuel vehicles that could be more attractive because of the potential infrastructure limitations of natural gas, said Tiffany Groode, director of the automotive scenarios service for IHS CERA. A compressed natural gas refueling station can cost $500,000 to $750,000 to install, while an electric car fast-recharging station costs about $70,000 for a two-plug unit, she said. Already, San Antonio has more than 120 public electric car charging stations spread across the city, putting it on par with places like Austin, Seattle and San Francisco in welcoming the new electric vehicles. Chesapeake is among the nation's natural gas producers most aggressively attempting to improve infrastructure and to make the fuel more attractive to consumers. The Oklahoma City-based company believes that, while gas will be a key resource for electricity and chemical manufacturing in the future, it's also possible to boost consumer demand for natural gas in vehicles. “You want to prove it to Detroit ... that there's a viable consumer market,” said Norman Herrera, Chesapeake's director of market development. The way to start, he said, is to set up an infrastructure for fleets. The company has succeeded in promoting compressed natural gas use within Oklahoma City, which now has 20 compressed natural gas refueling stations within the metropolitan area, Herrera said. Still, even the biggest advocates of natural gas admit that it may be more than a while before it can be an option for most Americans as a primary transportation fuel. “It's going to be a long time before they percolate down to the used car market, and so you're probably talking about people who already have a car or two,” Kolodziejsaid.

Natural gas vehicles will never be used by the masses

King, 7/26 [Tim, 2012, “Natural-gas vehicles have own problems” RGJ.com

http://www.rgj.com/article/20120727/OPED02/307270034/Natural-gas-vehicles-own-problems]

I agree with James Chase regarding no need to subsidize alternative-powered vehicles — whether they’re natural gas vehicles or electric vehicles [One View, July 24]. If you look at the direction the auto industry is taking currently, EV-recharging stations will naturally develop as these vehicles become more prevalent in the years to come. And both alternatives do have current issues. One that hasn’t been mentioned with NGVs is the concern with fuel leaks. Using a flammable gas at 2,200 psi, it’s very difficult to ensure there are no leaks (ever). As a result, users of NGVs never park one of these vehicles in a closed space for fear of a potential explosion. Unlike propane, natural gas is lighter than air, so it permeates the atmosphere, creating a volatile mixture. Some previous users of NGVs, like PG&E, a major electric utility in California, no longer use them for this very reason — having experienced this hazard first-hand. If you park your car or truck in a garage, you won’t want an NGV.

2NC—Solvency

**1NC 1:** We could reduce fossil fuel consumption in other ways than the affirmative: by increasing public transportation, vehicle efficiency and changing our driving habits – that’s Hill et al 2008

**1NC 2:** Refueling stations are just one barrier to integration – that’s spillar 5/10

We also need to reduce the cost of natural gas vehicles, and to promote new technologies to produce the fuels cheaper. Right now, adoption of NGVs are critically low.

**1nc 3:** subpoint 1) there are too few natural gas vehicles for the plan to solve their advantages. Subpoint 2) Natural gas stations will cost billions of dollars to implement throughout the country. Subpoint 3) The natural gas vehicles cost soo much that the average consumer won’t be able to afford them for decades.

**1NC 4:** natural gas vehicles will never be used by the masses because you can’t park it in a garage. There is too much concern over fuel leaks because it is a flammable gas.