

Sierra Club Three Lakes Group

Fall 2017 Newsletter

Three Lakes Group Officers: Roger Blanchard; Chair and Secretary, Carol Ward; Vice Chair and Forestry Chair, Jim Page; Treasurer, Mikel Classen; Conservation Chair, Dave Aho; Communications and Internet Technology, Stephanie Aho; Communications, Angela Henley; Outings Chair, Kathy English; Group Representative

U.P. Environmental Coalition Celebration in Sault Ste. Marie

You are invited to a celebration of the Sault, in the Sault!

On Saturday, September 16th there's an event being held in Sault Sainte Marie on LSSU's campus, specifically in the Walker Cisler Conference Center. The Upper Peninsula Environmental Coalition, in collaboration with the Three Lakes Group of the Sierra Club, is sponsoring a celebration. This free event, which is scheduled from 9 a.m. to 4 p.m., will showcase the Sault / EUP and provide information on the history of this area, the water, and the impacts made. A break for lunch is scheduled as well, and a meal can be purchased from the university in the Quarterdeck cafeteria.

Below is a list of topics to be presented, the full schedule should be available shortly:

The Tannery Site Clean-up: A Local Environmental Success Story – Eventually

– Greg Zimmeman, LSSU Biology Professor

The History of Bahweting from an Anishinabe Perspective

– Aaron Payment, Tribal Chairperson, Sault Ste. Marie Tribe of Chippewa Indians

Sault Sainte Marie: City of the Rapids

– Bernie Arbic, author of City of the Rapids

Invasive Species in the Eastern Upper Peninsula

– Nick Cassel, Invasive Species Program Coordinator for the Chippewa Luce Mackinac Conservation District

Lake Superior Water Trails

– Wayne Barry, retired Lansing Community College instructor and community advocate
– Joanie McGuffin, adventure photojournalist and author

Islands and Wetlands of the Saint Mary's River and the Birds that Call Them Home

– Elliot Nelson, Extension Educator with Michigan Sea Grant

Climate Change and Wildlife in the Eastern Upper Peninsula: A Case Study

– Eric Clarke, lead biologist for the Sault Ste. Marie Tribe of Chippewa Indians Inland Fish and Wildlife Department

EUP Water Trails – Collaborations and Success Stories Along the Way

– Ellen Benoit, Eastern U.P. Regional Planning and Development Commission
– Dennis Dougherty, retired Sault Area Public Schools science teacher, and community advocate

LSSU Aquatic Research Laboratory's role in Great Lakes Fisheries and habitat

- Ashley Moerke, LSSU Biological Sciences Professor
- Kevin Kapuscinski, LSSU Assistant Professor and co-director of the ARL

Cleanup and Current Status of the St. Mary's River

- Paula Antunes, Senior Research Scientist at AquaTox Testing & Consulting and BPAC member
- Lisa Derickx, Remedial Action Plan Coordinator for the St. Mary's River, Algoma University

After the day's events, there are a variety of activities planned as well, those details follow:

Lower River Island Tour

Leader: Bird's Eye Adventures

Enjoy a short, guided kayak trip through Sault Ste. Marie's lower river islands to learn about the history, commerce and ecology of the area, with an opportunity to take a short hike in the most recently developed Voyager Island Park. Please contact Bird's Eye directly to reserve a spot as they are limited, [906-259-7121](tel:906-259-7121).

Noticing Nature Walk

Leader: Val Walker, Sault Naturalists Outings Coordinator

This family-friendly walk is over easy and relatively flat terrain with a focus on some fall wildflowers. In addition, we will be watching for and discussing animal tracks and signs.

Algonquin Park Bike Adventure

Leader: LSSU ROC Staff

Ride the trails of Algonquin Park and learn about its history. The number of bikes is limited, so be sure to sign up, or bring your own bike. It'll be a lot of fun.

LSSU Aquatics Research Lab Mini Workshop

Leader: Roger Greil, LSSU ARL Manager

Experience a mini-workshop on fish culture, health, ecology and management in LSSU's Aquatic Research Laboratory.

In addition to the programs and activities, we are inviting people to participate by having a table in the Cisler Center, allowing them to share with the attendees. We are charging a nominal \$25 per table, which will help us to pay for the expenses of the event. Please contact me if you are interested in having a table reserved.

Also, if you want additional information go to our website at: tgsierraclub.org/celebrate. Please register if you are planning to attend, which will help us to be better prepared. Again, this event is free and open to the public!

Contact me to reserve a table, or with questions or concerns, and feel free to share this email with others who may be interested in participating.

Hope to see you there,

What we are working on

A Bike Friendly Sault Ste. Marie –The Sierra Club Three Lakes Group, in collaboration with a subsidiary group called Bike Friendly Soo, is advocating for making Sault Ste. Marie a Bicycle Friendly Community based upon the guidelines of the League of American Bicyclists.

The League has 5 levels for Bicycle Friendly Community status. The levels from low to high are bronze, silver, gold, platinum and diamond. Our first goal is bronze.

We have a Facebook page for Bike Friendly Soo,

<https://www.facebook.com/bikefriendlysoo/>

Posts are placed on the Facebook page Monday, Wednesday and Friday so if you want the most up-to-date information about where we are at go to the Facebook page.

In a recent meeting with the Sault Ste. Marie city manager, Oliver Turner, he stated a desire to move as quickly as possible to obtain Bicycle Friendly Community status for Sault Ste. Marie. He suggested that we have someone from the League of American Bicyclists assess what we need to do to obtain bronze status.

Easterday Ave. between Ryan and I-75 should have marked bike lanes within a week or two. We have talked with city and MDOT officials about getting bike lanes on East Portage and Ashmun St. through downtown.

Bike Friendly Soo has created a Bike Route Guide for Sault Ste. Marie, which should be available around Sept. 15. We have also been working on a Bike Route Guide for the Eastern U.P. That should be available in the next few months.

Line 5 Update - The Michigan Sierra Club Chapter continues to be very active in the fight to decommission Line 5, the 650 mile, 64-year old pipeline that traverses Michigan and carries over two million gallons of oil each day.

We participate with a coalition of groups allied against the pipeline, called Oil and Water Don't Mix (OWDM). It is this group which has carefully gathered accurate information about the pipelines and which has been consistent in its arguments to both the Governor and the Attorney General to exercise Michigan's right to enforce the 1953 easement with the pipeline owners. This group has shown consistent violations of that easement.

David Holtz, Sierra Chairman has served for two years as coordinator of the OWDM coalition. He stepped aside this September to allow new leadership. He will stay active, but has asked Anne Woiwode, Conservation Chair for Sierra, to continue the Sierra Club's leadership in the coalition.

The newest important wrinkle in the fight to end oil and gas crossing Michigan's freshwater system, is a proposal to dig a tunnel beneath the Straits as a replacement for the twin pipes laid in 1953. Sierra opposes the tunnel "fix". Sierra and others, including the Sault Tribe and CORA, argue that a tunnel project would send studies and permits out years, allowing the pipeline to be used while the process takes its time. The tunnel, ultimately, would allow the entire 650 miles pipeline to be used, and to carry heavier, tar-sands crude, which may soon be the only oil coming out of the west, where the pipeline originates.

The tunnel will become a campaign issue, promoted as a jobs project. Both the Democratic and Republican governor candidates have indicated interest in the tunnel option.

Graymont Limestone Mine Update (9/4/2017) - The American Legion continues to log off the 637+ acres of land known as the Wilwin Lodge. It has been difficult to obtain any concrete information from Graymont. One of the Trout Lake Citizens reportedly was told at the office in Rexton that Graymont is now planning on putting the processing plant on the Wilwin property and that Graymont took ownership of the property on June 1, 2017.

Trout Lake Township received information that Graymont has purchased properties in lower Kinross Township and Northern Trout Lake Township. In speaking with Robert West of the Hiawatha National Forest, East Zone, Graymont has now submitted a proposal for a land transfer/swap with those properties for property near and around the Wilwin Lodge area. Mr. West stated that a feasibility study would probably not occur until November 2017 at a minimum.

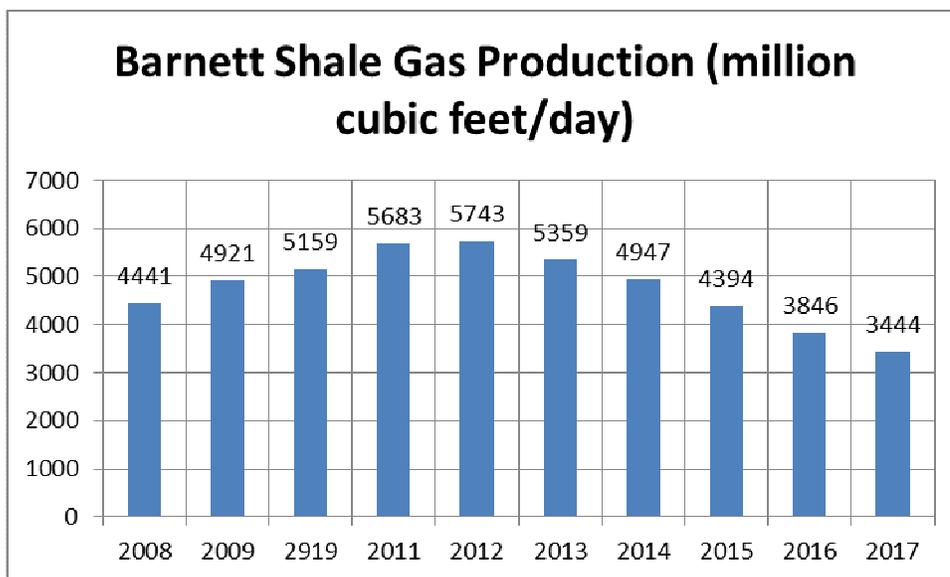
What's going on with oil and natural gas

If you only get your news from the mainstream media, you would get the idea that the shale oil and gas industry is doing great. You would get the impression that production can go up and up nearly forever.

In reality, there are serious problems in the industry. First, the industry has been losing huge sums of cash and investors are starting to question why they are funding the industry. The industry has been growing production with the expectation that at some point efficiencies would lead to huge profits (That's what they tell investors). The problem is that huge profits, or to be more accurate – any profits, have not occurred.

Second, fracked wells in shale regions rapidly decline requiring rapid drilling to maintain or increase production. At some point, the oil or gas sweet spots get saturated with wells. That is the case with two early shale developments: Barnett (in Texas around Austin and Bakken in North Dakota/Montana).

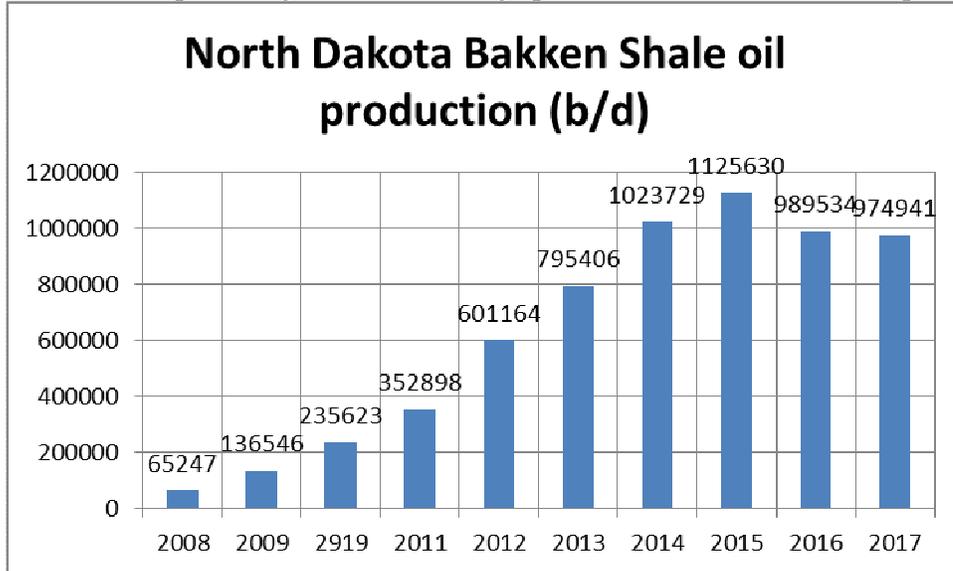
In 2008 there were 194 rigs drilling in the Barnett shale. By 2016 there were no rigs drilling in the Barnett shale because the region was saturated with wells. Further wells only lead to well interference. Here is a graph of Barnett shale gas production:



*2017 data is for Jan.-May

I see no possibility other than a continued downward trend in production.

In the Bakken region of North Dakota, the core sweet spot has now essentially been saturated with wells. Production peaked in Dec. 2014. Production is now running approximately 190,000 b/d less than in Dec. 2014 in spite of more than 2,400 more producing wells. Here is a graph of North Dakota Bakken oil production:



*2017 data for Jan.-June

What has happened in Barnett and Bakken will happen in the other shale plays of the U.S. Considering that there aren't that many oil and gas shale plays worth talking about, U.S. shale oil and gas production will decline sooner than people think.

Here is what Chris Martenson, a prominent energy analyst, thinks:

The Looming Energy Shock

The next oil crisis will arrive in 3 years or less
by Chris Martenson
Friday, June 30, 2017

There will be an extremely painful oil supply shortfall sometime between 2018 and 2020. It will be highly disruptive to our over-leveraged global financial system, given how saddled it is with record debts and unfunded IOUs.

Due to a massive reduction in capital spending in the global oil business over 2014-2016 and continuing into 2017, the world will soon find less oil coming out of the ground beginning somewhere between 2018 and 2020.

Because oil is the lifeblood of today's economy, if there's less oil to go around, price shocks are inevitable. It's very likely we'll see prices climb back over \$100 per barrel. Possibly *well* over.

The only way to avoid such a supply driven price-shock is if the world economy collapses first, dragging demand downwards.

Not exactly a great "solution" to hope for.

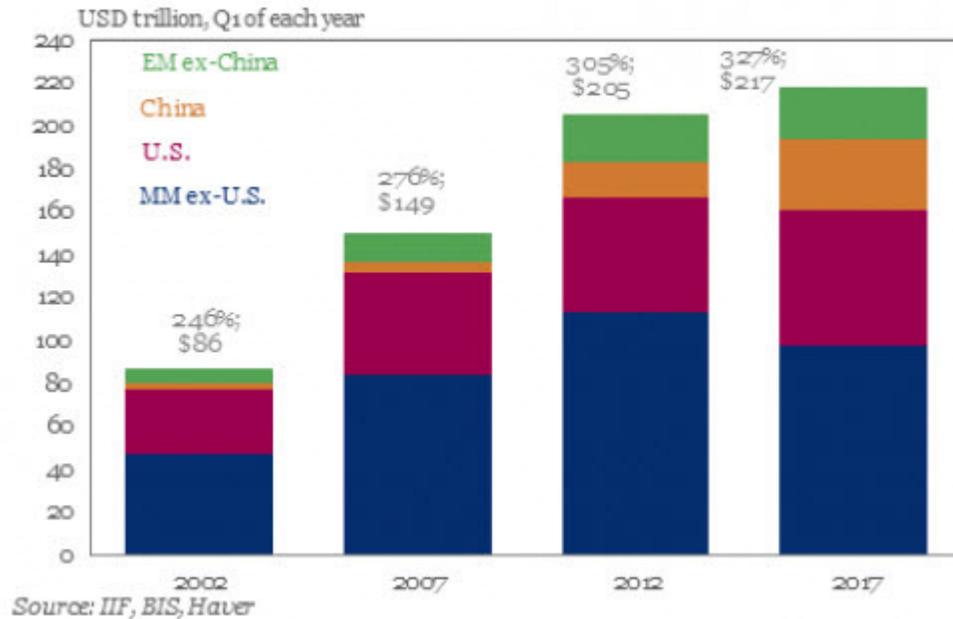
Pick Your Poison

This is why our view is that either

1. the world economy outgrows available oil somewhere in the 2018 – 2020 timeframe, or
2. the world economy collapses first, thus pushing off an oil price shock by a few years (or longer, given the severity of the collapse)

If (1) happens, the resulting oil price spike will kneecap a world economy already weighted down by the highest levels of debt ever recorded, currently totaling some 327% of GDP:

Total Global Debt (all sectors)

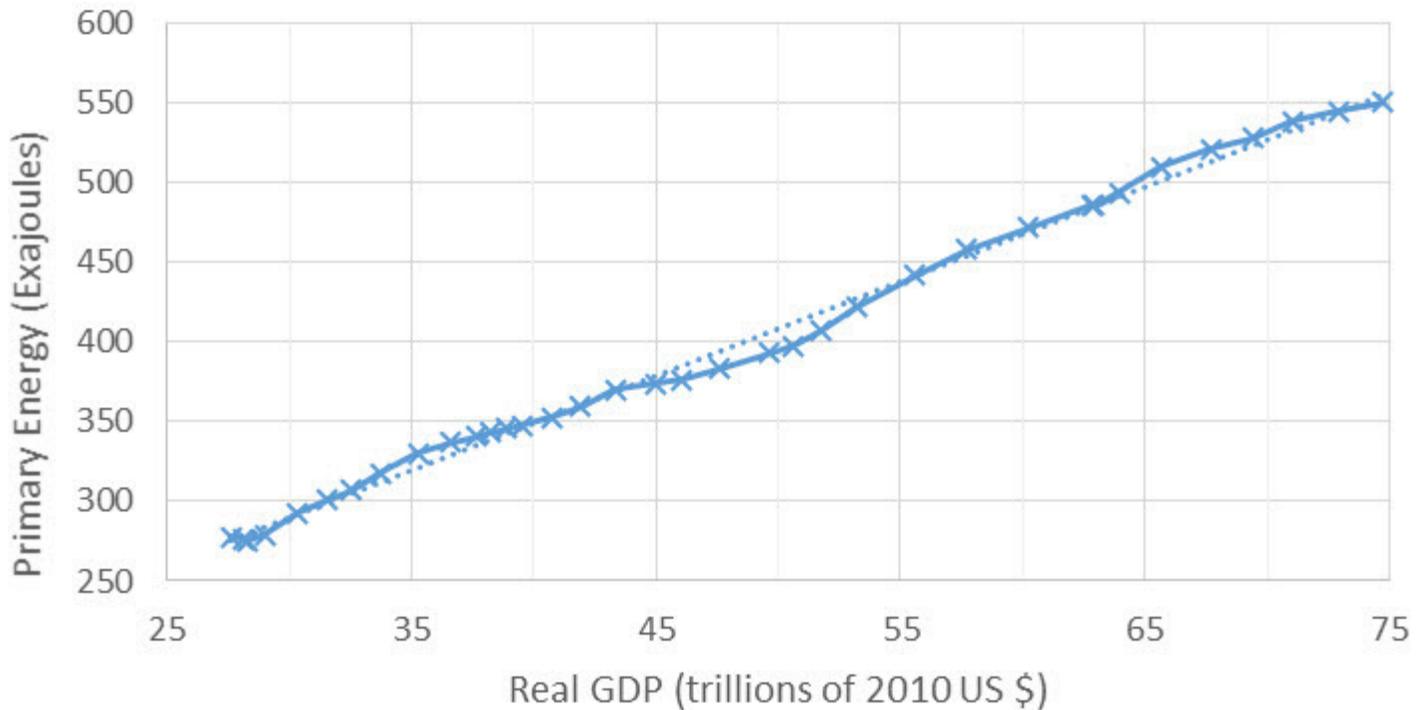


Remember, in 2008, oil spiked to \$147 a barrel. The rest is history -- a massive credit crisis ensued. While there was a mountain of dodgy debt centered around subprime loans in the US, what brought Greece to its knees wasn't US housing debt, but its own unsustainable pile of debt coupled to a 100% dependence on imported oil -- which, figuratively and literally, broke the bank.

If (2) happens, then the price of oil declines, if not collapses. Demand withers away, the oil business cuts back on its exploration/extraction investments even further, so that much later, when the global economy is trying to recover, it then runs into an even more severe supply shortfall. It becomes extremely hard to get sustained GDP growth back online.

If you really want to understand why I hold these views, you need to fully understand and digest this next chart. It shows the amazingly tightly-coupled linear relationship between economic growth and energy consumption:

Primary Energy vs Real GDP 1980-2015



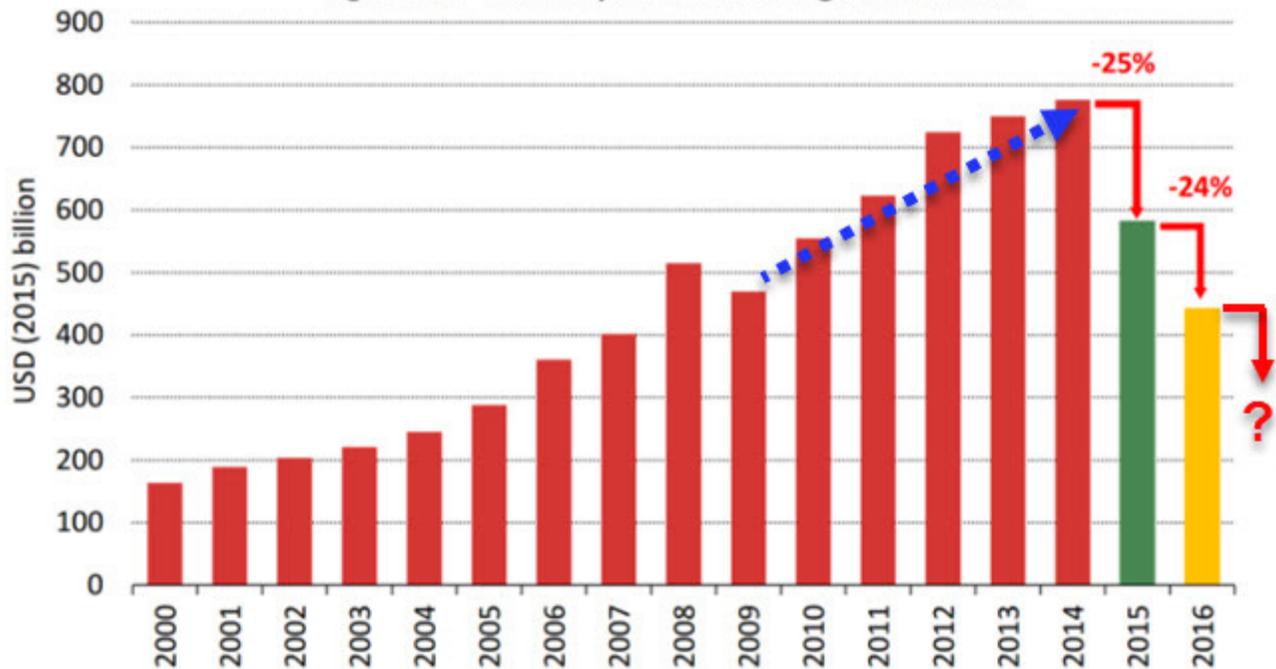
This chart above says, if you want an extra incremental unit of economic growth you're going to need to have an extra incremental unit of energy. More growth means more energy consumed.

And today, oil is still THE most important source of energy. It's the dominant energy source for transportation, by far. A global economy, after all, is nothing more than things being made and then moved, often very far distances. Despite what you might read about developments in alternative and other forms of energy, our dependency on oil is still massive.

Plunging Investment

Resulting from the start of oil's price decline in 2014, the world saw a historic plunge in oil investments (exploration, development, CAPEX, etc) as companies the world over retracted, delayed or outright canceled oil projects:

Figure 3.3 • World upstream oil and gas investment



In the chart above, note the two successive drops in oil investment from 2014-2015 and then again into 2016. So far 2017 is shaping up for another successive decline, which will mark the only three-year decline in investment in oil's entire history. So what's happening here is actually quite unusual.

This isn't just a slump. It's an *historic* slump.

We don't yet know by how much oil investment will decline in 2017, but it's probably pretty close to the rates seen in the prior two years.

Next, take note of the dotted blue arrow in the chart. See how far oil investment climbed during the years from 2009-2014? Not quite a doubling, but not far off from one either. Remember those years, I'll return to them in a moment.

The key question to ask about the 2009-2014 period is: *How much new oil was discovered for all that spending?*

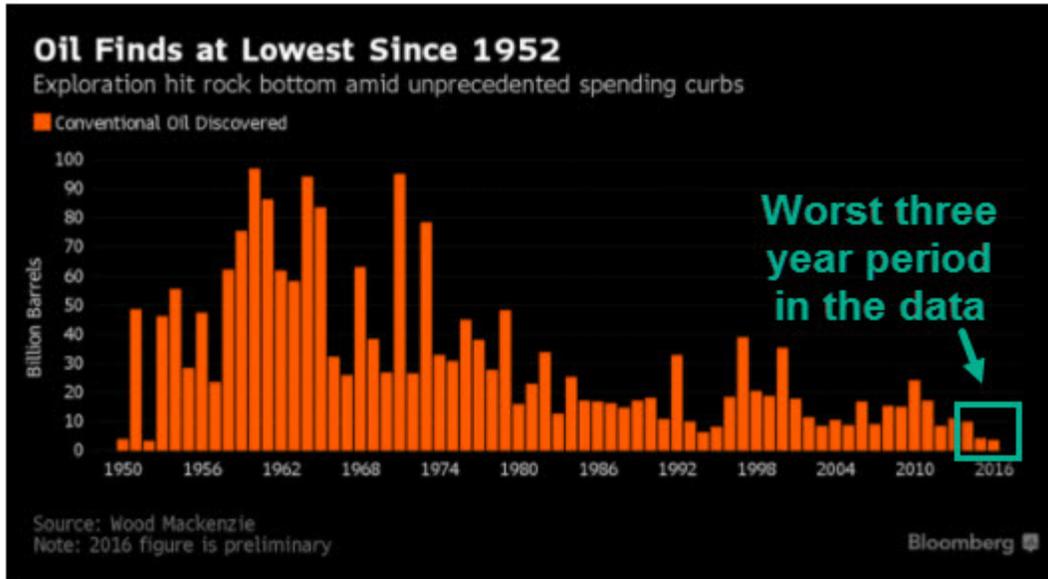
Turns out: *Not a lot.*

Practically No Discoveries

There is one hard and fast rule in the oil business: **Before you can pump it, you have to find it (We still rely heavily on oil fields discovered long ago. They are getting quite old and set to decline, many fairly rapidly.)**

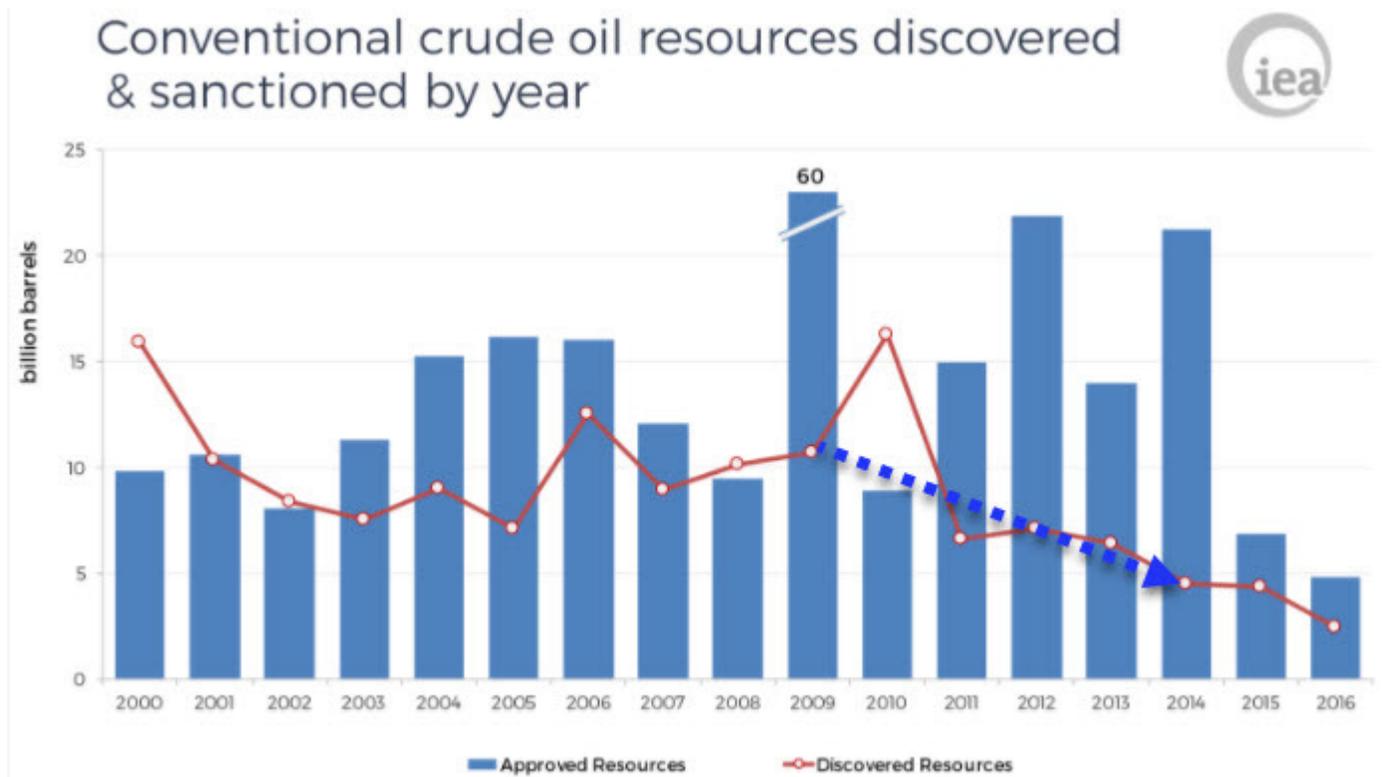
The growing problem here is that oil discoveries were horrible in 2016, really bad in 2015, and terrible in 2014.

That recent three year stretch is the worst in the data series:



Again: you have to find it before you can pump it. And around the world, oil companies are just not finding as much as they used to.

Remember that blue dotted line on the oil investment chart above? Here's its counterpart, showing discoveries over the same time frame -- it's just a straight slump downwards:



Global oil discoveries fell to a record low in 2016 as companies continued to cut spending and conventional oil projects sanctioned were at the lowest level in more than 70 years, according to the International Energy Agency, which warned that both trends could continue this year.

Oil discoveries declined to 2.4 billion barrels in 2016, compared with an average of 9 billion barrels per year over the past 15 years. Meanwhile, the volume of conventional resources sanctioned for development last year fell to 4.7 billion barrels, 30% lower than the previous year as the number of projects that received a final investment decision dropped to the lowest level since the 1940s (**globally liquid hydrocarbon consumption is approximately 35 billion barrels/year**).

Now it's clear why the oil companies pulled back their investment dollars so rapidly when prices slumped:

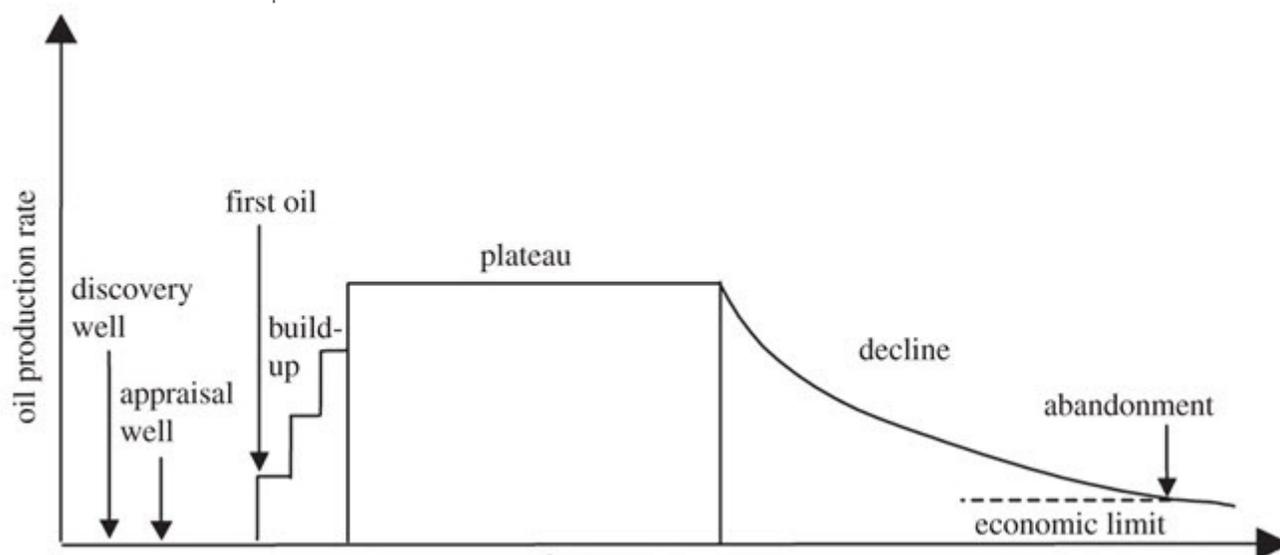
They were spending more and finding less throughout the 2009-2014 period, so they were already feeling the pain of diminishing returns. When the price of oil cracked below \$100 a barrel, they wasted no time reining in their investment dollars.

Should we be concerned about this record lowest level of oil project funding in 70 years? Why, yes, we should. Everyone should:

"Our analysis shows we are entering a period of greater oil price volatility (partly) as a result of three years in a row of global oil investments in decline: in 2015, 2016 and most likely 2017," IEA director general Fatih Birol said, speaking at an energy conference in Tokyo.

"This is the first time in the history of oil that investments are declining three years in a row," he said, adding that this would cause "difficulties" in global oil markets in a few years.

To give you a visual of the process, here's a chart to help you understand why it takes years between making an initial find and maximum production:



This bears repeating: Oil is the most important substance for our economy, we're burning more of it on a yearly basis than ever before, and we just found the lowest amount since the world economy was *several times smaller* than it is now. And all this is happening while we're reducing our efforts to find more at an unprecedented rate.

There's no way to speed up the process of oil discovery and extraction meaningfully, no matter how much money and manpower you throw at it. It simply requires many years to go from a positive test bore to a fully functioning extraction and distribution/transportation program operating at maximum.

More economic growth requires more energy. Always has and it always will. Oil is the most important form of energy of them all. But everyone assumes -- especially today when it appears as if we're "awash" in it given the current supply glut -- that we will always have access to as much as we need

Diminishing Resources

Below is an essay by George Monbiot in which he relates consumer consumption with the diminishment of the earth. Consumption is also directly relatable to CO₂ emissions.

The Gift of Death

George Monbiot, The Guardian

Pathological consumption has become so normalised that we scarcely notice it.

There's nothing they need, nothing they don't own already, nothing they even want. So you buy them a solar-powered waving queen; a belly button brush; a silver-plated ice cream tub holder; a "hilarious" inflatable zimmer frame; a confection of plastic and electronics called Terry the Swearing Turtle; or – and somehow I find this significant – a Scratch Off World wall map.

They seem amusing on the first day of Christmas, daft on the second, embarrassing on the third. By the twelfth they're in landfill. For thirty seconds of dubious entertainment, or a hedonic stimulus that lasts no longer than a nicotine hit, we commission the use of materials whose impacts will ramify for generations.

Researching her film *The Story of Stuff*, Annie Leonard discovered that of the materials flowing through the consumer economy, only 1% remain in use six months after sale(1). Even the goods we might have expected to hold onto are soon condemned to destruction through either planned obsolescence (breaking quickly) or perceived obsolescence (becoming unfashionable).

But many of the products we buy, especially for Christmas, cannot become obsolescent. The term implies a loss of utility, but they had no utility in the first place. An electronic drum-machine t-shirt; a Darth Vader talking piggy bank; an ear-shaped i-phone case; an individual beer can chiller; an electronic wine breather; a sonic screwdriver remote control; bacon toothpaste; a dancing dog: no one is expected to use them, or even look at them, after Christmas Day. They are designed to elicit thanks, perhaps a snigger or two, and then be thrown away.

The fatuity of the products is matched by the profundity of the impacts. Rare materials, complex electronics, the energy needed for manufacture and transport are extracted and refined and combined into compounds of utter pointlessness. When you take account of the fossil fuels whose use we commission in other countries, manufacturing and consumption are responsible for more than half of our carbon dioxide production(2). We are screwing the planet to make solar-powered bath thermometers and desktop crazy golfers.

People in eastern Congo are massacred to facilitate smart phone upgrades of ever diminishing marginal utility(3). Forests are felled to make "personalised heart-shaped wooden cheese board sets". Rivers are poisoned to manufacture talking fish. This is pathological

consumption: a world-consuming epidemic of collective madness, rendered so normal by advertising and the media that we scarcely notice what has happened to us.

In 2007, the journalist Adam Welz records, 13 rhinos were killed by poachers in South Africa. This year, so far, 585 have been shot(4). No one is entirely sure why. But one answer is that very rich people in Vietnam are now sprinkling ground rhino horn on their food or snorting it like cocaine to display their wealth. It's grotesque, but it scarcely differs from what almost everyone in industrialised nations is doing: trashing the living world through pointless consumption.

This boom has not happened by accident. Our lives have been corralled and shaped in order to encourage it. World trade rules force countries to participate in the festival of junk. Governments cut taxes, deregulate business, and manipulate interest rates to stimulate spending. But seldom do the engineers of these policies stop and ask "spending on what?". When every conceivable want and need has been met (among those who have disposable money), growth depends on selling the utterly useless. The solemnity of the state, its might and majesty, are harnessed to the task of delivering Terry the Swearing Turtle to our doors.

Grown men and women devote their lives to manufacturing and marketing this rubbish, and dissing the idea of living without it. "I always knit my gifts", says a woman in a television ad for an electronics outlet. "Well you shouldn't," replies the narrator(5). An advertisement for Google's latest tablet shows a father and son camping in the woods. Their enjoyment depends on the Nexus 7's special features(6). The best things in life are free, but we've found a way of selling them to you.

The growth of inequality that has accompanied the consumer boom ensures that the rising economic tide no longer lifts all boats. In the US in 2010 a remarkable 93% of the growth in incomes accrued to the top 1% of the population(7). The old excuse, that we must trash the planet to help the poor, simply does not wash. For a few decades of extra enrichment for those who already possess more money than they know how to spend, the prospects of everyone else who will live on this earth are diminished.

So effectively have governments, the media and advertisers associated consumption with prosperity and happiness that to say these things is to expose yourself to opprobrium and ridicule. Witness last week's Moral Maze programme, in which most of the panel lined up to decry the idea of consuming less, and to associate it, somehow, with authoritarianism(8). When the world goes mad, those who resist are denounced as lunatics.

Bake them a cake, write them a poem, give them a kiss, tell them a joke, but for god's sake stop trashing the planet to tell someone you care. All it shows is that you don't.

Web Page and Facebook

We're on the Web and Facebook. The addresses are:

<http://tlgsierraclub.org/> <https://www.facebook.com/ThreeLakesGroupOfSierraClub?ref=bookmarks>

Please take a look at what we have online. We'll try to supply material regularly to these sites. Feel free to contact us with questions, concerns and suggestions.