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Calusa Group

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Explore, Enjoy and Protect the Planet

<http://sierraclub.org/florida/calusa>

Buck Up: Good Things Are Happening Globally

1.5 million people in the Indian state of Madhya Pradesh planted 67 million trees in 12 hours. A province in Pakistan planted a *billion* trees in the last two years. Eleven countries are planting a wall of trees from east to west across Africa in order to push back the desert, and it's working.

40 Catholic institutions from around the world made the largest ever religious divestment from fossil fuels. New York City announced it would divest \$5 billion from fossil fuel industries, and it is suing five major oil companies, seeking billions to pay for efforts to deal with climate change. Sweden's largest pension fund has divested from six companies that violate the Paris Accord, including Exxon and TransCanada. Other divestments: Norway's sovereign wealth fund has fully divested and the global insurance industry has pulled \$20 billion.

China has banned domestic ivory trade, a "gamechanger" for elephant conservation. A decrease in pollution in the Ganges River has brought back from the brink of extinction the Gangetic dolphin, one of four freshwater dolphin species in the world. Populations of large sea turtles are improving in 60 regions across the globe. 140 nations have agreed to a *Paris Agreement for the Ocean* to stop overfishing and protect sea life.



This past year, the U.K. smashed almost every record it had for renewable energy. Wind power alone now generates twice as much electricity as coal. The last time carbon emissions in the U.K. were this low was in 1894, the year the gas-powered car was invented. The global coal industry is taking a beating. There has been a 62% drop in construction starts, a 48% drop in pre-construction activity, and a 19% drop in on-going construction. Deutsche Bank with \$2 tril-

lion in assets and a big financier of coal, announced it will stop financing all new coal projects. Some industries that now employ more people than the entire coal sector in the U.S.: bowling, skiing, travel agencies, used cars, theme parks, and carwashes.

China's electricity output from solar PV plants rose 80% in the first quarter of 2017. 94% of net new electricity in the U.S. came from renewables last year and lowered its total emissions by 1%. The cost of solar plants in the here has dropped 30% in one year. In an effort to promote renewable energy, New York announced \$1.4 billion in awards for 26 large-scale renewable energy projects across the state. JPMorgan will source 100% of its energy from renewables by 2020 and will facilitate \$200 billion in clean financing through 2050. 62% of ExxonMobil shareholders defied management to require the world's largest oil and gas company to report on the impacts of climate change to its business.

There are 2 *million* organizations working worldwide for environmental sustainability and social justice.

Earth Day, April 22nd!

The 2018 legislative session was disastrous for the environment. Several bills passed that Sierra Club opposed, and the bills that we did support didn't go very far.

SB 462, a bill to ban all fracking in the State of Florida, made it further this year than in previous years by moving through two Senate committees, but ultimately it failed to get a full Senate vote. The legislation couldn't garner support from Speaker Corcoran or the State House either, as usual. The state of Florida needs to be focused on renewable sources of energy. Florida is the SUNSHINE state, NOT the LONESTAR state. It is worth noting that Lee and Collier Counties sit on the largest mineral deposit in the state, the Sunniland Trend. If you care about property values, contact your local

From the Chair

Ruth Scott

legislators and urge them to support a fracking ban!

Then came SB 1308/HB1149 which the Sierra Club vehemently opposed because it would be detrimental to Florida's aquifers and springs. The bill allows polluters and developers to pump treated sewage into our aquifers, further damaging these already compromised water sources. While our efforts and calls managed to help kill a septic tank amendment to the bill, HB1149 itself passed.

The other HOT button issue for Sierra Club was waiting for a response from the SF Water Management District to a letter regarding concessions to be made to SB10, which was voted on in the 2017 session and concerns correcting the discharge of toxic water from Lake Okeechobee. After careful consideration, Sierra Club of Florida drafted a "one club position" letter stating our position and requests regarding SB10 upholding the NEBA (net environmental benefit analyses) standards and providing real Everglades restoration by treating and conveying water south to the river of grass.

The only way Floridians will ever see meaningful change in Florida is to break the gridlock in Tallahassee. We have to stand up and prioritize our environment and natural resources above all other things to sustain any quality of life here in Florida. Get involved and VOTE THEM OUT in 2018 and 2020!

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Offshore Drilling: Not So Fast!

The Trump administration plans to open more than a billion acres off the Atlantic, Pacific and Arctic coasts to oil and gas drilling. Odds are you read that Secretary Zinke, at the urging of Rick Scott and in an act of widely criticized political theater, withdrew Florida from consideration, except it didn't. Florida's waters are still in play. But there is reasonable cause to think little, if any, drilling will get done.

For starters, more than fifteen governors of coastal states, one-third of them Republican, have publicly opposed the plan. Twenty-two senators from twelve states have requested their states be exempted. Ten senators have introduced the New England Coastal Protection Act to ban offshore drilling off New England. California, providing a blueprint for other states, will refuse to issue permits for infrastructure that drillers need to bring oil and gas from offshore fields to land. California Lt. Gov. Gavin Newsom is "resolved that not a single drop from Trump's new oil plan ever makes landfall in California."

Furthermore, the economics do not favor new offshore drilling. As the NY Times reports, "almost two-thirds of the nation's oil reserves that companies can hope to drill for while still turning a profit lie in seas already open to drilling." Also, there simply is too much cheap oil and gas onshore to make offshore drilling economically attractive.

Lastly, there is the possibility that a new administration changes offshore policy in the not-too-distant future. Given the economics, the costs involved, and the level of risk, experts don't expect oil companies to rush in any time soon.

Throw in the political and legal resistance noted earlier and there are grounds to think that much of Trump's offshore plans will never materialize.

Sierra Club Calusa Group meets 6pm every 2nd Wednesday of the month in meeting room CD at the Fort Myers Regional Library, 1651 Lee St., For Myers, FL33901. All members are encouraged to attend!

Global Warming: Possibility and Opportunity

First, get a visual on the problem of climate change. Imagine, Paul Hawken says, in *Drawdown, the Most Comprehensive Plan Ever Proposed to Reverse Global Warming*, 400,000 Olympic-sized swimming pools, a billion metric tons of water. That's a gigaton. Multiply that by 36, —14,400,000 pools—that's the amount of carbon dioxide that was emitted into the atmosphere in 2016. It's a visual that is hard to visualize due to the enormity of numbers.

But to deal effectively with climate change, Hawken says, “we require and deserve a conversation that includes possibility and opportunity, not repetitive emphasis on our undoing,” and that is the thrust of *Drawdown*, which Hawken, renowned environmentalist, entrepreneur, author, and activist edited.

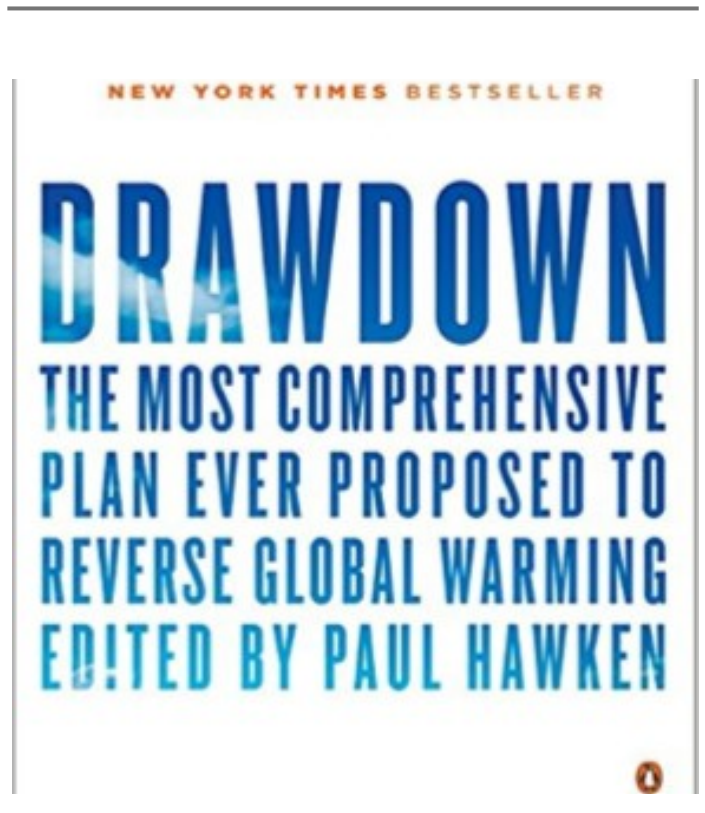
Direct in its approach, *Drawdown* focuses on possibility and opportunity by identifying the top 100 means by which mankind can turn back the clock on global warming. These means are ranked by the total amount of greenhouse gasses they can potentially avoid or remove from the atmosphere.

The usual suspects are here: onshore wind (which comes in at #2), solar (farms and rooftop #8 and #10 respectively), electric vehicles (#26), LED lighting (household and industrial, #33 and #44), composting (#60), etc.. But there were some surprises.

For example, topping the list is refrigeration. The capacity of hydrofluorocarbons (HFC's) to warm the atmosphere is “one thousand to nine thousand times greater than that of carbon dioxide, depending upon their exact chemical composition,” with the greatest harm done at the end of an appliance's life. Improper appliance disposal releases HFC's into the atmosphere causing global warming; therefore refrigerant recovery has “enormous” mitigation potential. On a positive note, the problem is already being addressed. The international Kilgari Deal reached in 2016 will begin phasing out HFC's in 2019. Former Secretary of State John Kerry said the deal was “the biggest thing we can do [regarding climate change] in one giant swoop.”

Food, in terms of what we waste, ranked #3. One

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third of all food produced goes uneaten, accounting for 8% of total greenhouse gasses. If food waste were a country, it would rank only behind the U.S. and China as the greatest contributor to greenhouse gasses.

Less surprising, but very important: eating a plant-based diet is the single most effective way an individual can combat climate change. It comes in at #4. The most comprehensive assessments of direct and indirect emissions indicate raising livestock accounts for as much as 50% of GHC's. Although no one is forced to eat meat, subsidies are partially to blame. Governments worldwide provide meat producers with \$53 billion in subsidies, distorting the true price of animal protein. (Similarly, the true cost of fossil fuels, so important in industrial farming, are distorted by the \$5.3 trillion in direct and indirect subsidies to fossil fuel industries in 2015 alone, \$10 million a minute! In comparison, the U.S. wind industry has received just \$12.3 billion in direct subsidies in the last 17 years.)

Drawdown

Another non-technological issue came in at #6, right behind saving tropical forests: educating girls. That's because the "difference between a woman with no years of schooling and with 12 years of schooling is almost 4 to 5 children per woman," and "educating girls is highly cost-competitive with almost all the other existing options for carbon emissions abatement." One does not need cutting-edge technology to address this situation. The top three challenges to providing girls with education have relatively simple solutions: make education affordable, such as by providing stipends to families who keep their girls in school; help girls overcome health issues, such as providing deworming treatments; and make getting to school easier, such as by providing them with bicycles. Furthermore, education is the "*single most important factor*" (Hawken's italics) in providing women, and through them their families, with the capacity to deal with the shocks from natural disasters that climate change will bring.



Drawdown also reports on promising initiatives in the works such as ocean farming. As a source of bio-fuels, seaweed farming does not require fertilizers, forest clearing, water, or heavy use of fuel-burning machinery and as a result has a negative carbon footprint. Other inspiring initiatives include smart highways of photovoltaic pavement; an Elon Musk inspired hyperloop that will transport people at 760 miles per hour at 5% to 10% of the energy currently needed by trains, planes, and cars; and microbial farming, which utilizes microbes to "dramatically" reduce the need for synthetic fertilizers, pesticides, and herbicides, while improving crop yields, plant health, and food security, all which impact climate change.

Hawken certainly recognizes there are strong agencies and mindsets working against responsible approaches to dealing with climate change. Consequently, at times an individual can feel disempowered and overwhelmed by the enormity of the task at hand. What can one individual do? Hawken's answer, which is what *Drawdown* is all about, is to help make a movement, a movement predicated upon possibility and opportunity.

"Movements," Hawken writes, "change how we think and see the world, creating more evolved social norms. What was once accepted and thought to be normal becomes unthinkable. What was marginalized or derided becomes honored and respected. What was suppressed becomes recognized as a principle. The United States was founded on the premise that there are truths that are self-evident, and one of the unmentioned truths is that we only have one home. If we are to remain here, we must together take great care. To do that means we must become a 'we,' a movement that is unstoppable and fearless. Movements," he says, "are dreams with feet and hands, hearts and voices."

The solutions exist, are economically viable and communities throughout the world are currently enacting them with skill and determination...These measures promise cascading benefits to human health, security, prosperity, and well-being—giving us every reason to see this planetary crisis as an opportunity to create a just and livable world.

Calusa Nature Center Welcomes Sierra Club

Throughout the United States and South Florida, Sierra Club memberships are important in supporting conservation efforts. Members continue to do their personal part to save water and recycle, but how often do they get out in the woods to remember the sights, sounds, and smells of a natural forest amid the chaos of a developing community?

Sierra Club members have a special opportunity Saturday, **April 14**, to experience the wonders of the **Calusa Nature Center and Planetarium** at an open house created just for them. There will be short tours and experts will outline some of the center's unique features for visitors while Sierra Club members enjoy all the benefits of a free day-pass. Sierra Club members will receive 50% off any Calusa Nature Center and Planetarium membership plan, with proof of Sierra Club membership, during this open house event only.



Reptile expert James Nippert and education instructor Casey McConnell show off a red-tailed boa at Lee District School's STEM-tastic event recently. Native to South America, this snake is one of the many tetrapod animals on exhibit at the Calusa Nature Center and Planetarium.

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Learn about special Sierra Club days at the center where members can network, enjoy the facilities including planetarium shows, or work on special projects.

Educational program director Casey McConnell, says "Southwest Florida Sierra Club members and Calusa Nature Center's 105 acres of peaceful beauty go together naturally."

What better place than the Calusa Nature Center and Planetarium for Sierra Club members to enjoy the surrounding forest, experience enriching educational programs and get to know others with common nature-related interests?

Come Saturday, April 14, and meet fellow Sierra Club members. The Center opens at 10:00am with presentations and refreshments at 11:30am and tours until 2:00 pm. Besides having a planetarium, the center has a museum, three nature trails, butterfly and bird aviaries, a gift shop, and meeting and picnic areas. Find out more about **The Calusa Nature Center and Planetarium** at calusanature.org

Wetlands Bill: Shifting Permitting from the Federal to State

Florida has more wetlands than any other state. Because they absorb flood water, filter out pollution and provide habitat for important species of wildlife, they are protected by the Clean Water Act. Under that law, passed by Congress in 1972, the Army Corps of Engineers is in charge of issuing building permits, thus controlling the impact of development upon wetlands. Should any bad permits get by the corps, the EPA has final veto power.

Currently, developers have to get permits from both their state environmental agency and the Corps. In the 45 years since the Clean Water Act passed, only two states have taken over the permitting process, New Jersey and Michigan. Florida is poised to become the third as Gov. Scott is expected to sign recently approved legislation that will shift permitting responsibility for wetland development from the Corps of Engineers to the state Department of Environmental Protection.

The Florida Chamber of Commerce, the Florida League of Cities, and the Associated Industries of Florida view the plan as a way to streamline what they see as a time consuming and at times costly process.

"The less we deal with the feds the better," said Joseph A. Catrambone, president and CEO of the Stuart/Martin County Chamber of Commerce. "I'm a big fan of home rule. Taking something out of the feds' hands and giving it to the state isn't exactly home rule, but it's a start."

This is exactly why the Sierra Club and other (although not all) environmental organizations oppose this plan. "There are exceptions," said Richard Baker, head of the Pelican Island Audubon chapter in Indian River County, "but I'm a fan of keeping environmental rules at the highest governmental level possible as they are less likely to be influenced by local and state political payoffs and special interest groups." According to the Tampa Bay Times, the state "doesn't protect as many types of wetlands, says yes to nearly every permit application and approves them rapidly." In short, this bill imperils the much-needed protection of wetlands from the pressures of development.

But the process of shifting responsibilities will take time and there are uncertainties. For example, the term "wetlands" brings swamps to mind, but legally the term refers to all bodies of coastal and interior water, so it is possible that the Corps may maintain jurisdiction over coastal waters and navigable waters. Furthermore, the Corps and DEP must first agree on what responsibilities the state will take over, and the state will have to develop a set of rules governing the permitting process. The existing legislation lacked such specifics.

Additionally, before changes in the permitting process get approved, the public will have "ample time to comment and provide input through DEP's rulemaking process," DEP Communications Director Lauren Engel said. Lastly, the U.S. EPA will review the state's rules to make sure they are as stringent, if not more so, than the federal government's.

The Sierra Club and other environmental groups will be watching.



Sierra Club talks wetlands protection at the Cape Coral Burrowing Owl Festival.

Wind Power for FL Residents

I don't yet have a solar panel system on my house producing clean renewable energy, so I am doing what I consider the next best thing: purchasing wind-generated electricity through Arcadia Power, whom Sierra Club partnered with in 2015.

To understand how Arcadia Power works, first understand that electricity in the nation comes from various sources—coal, natural gas, nuclear, hydroelectric, wind and solar—and it all gets fed and mixed into the national electric power grid. Once there, since all electricity is the same, there is no way of knowing where or how the electricity you use was generated. This is where renewable energy certificates (REC's) come in. Every time one megawatt-hour of renewable electricity is generated by a wind or solar farm a REC is also created, serving as proof that the electricity came from a renewable resource. Individuals and businesses can then purchase clean, renewable electricity simply by buying REC's. This is how Google powers its global operations using 100% clean energy and how you can too, with the help of Arcadia Power. Every month on your behalf, Arcadia purchases REC's to match the amount of energy you consumed through your utility company. In this way as individuals reduce their environmental impact, they also help expand clean energy in the U.S. by creating more demand for renewable energy across the country.

In some states, the homeowner's utility company forwards the homeowner's bill, based on exact electricity usage, to Arcadia, who pays the utility. Arcadia then bills the homeowner, adding an additional charge of \$0.015/kWh to cover their services. This is not how it works in Florida.

I get my bill directly from LCEC and pay them directly. Last July, when I signed up for Arcadia's Evergreen Program—the only program available to Florida residents—I computed my average electricity usage per month, 600kWh, from my LCEC bills. Arcadia charges me \$0.015/kWh rate for my 600kWh per month to perform the same services minus the consolidated billing. That means I'm spending an additional \$9.00 monthly, or \$108.00 yearly, to purchase REC's that support a green energy grid. Over 12 months I will have purchased 7,200kWh of green energy, kept 5.3 tons of CO₂ out of the atmosphere, and saved 137,500 gallons of water as well.

I'm good with that.

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Sabal Trail Pipeline Update

The Federal Energy Regulatory Commission (FERC) has rejected a ruling by a federal appeals court that it should account for the impacts to climate change from the Sabal Trail Pipeline project.

By its own review, FERC estimates the pipeline would result in 3.6 to 9.9 percent increase over Florida's 2015 emissions. But it could not, it said, determine the significance of these emissions, contending there is no widely accepted definition of what levels are considered significant. In the absence of such a definition, they concluded the project was environmentally safe.

Although Commissioner Chery LaFleur, a democrat, supported approval of the project, deeming its benefits outweighed its risks, she was pointed in her criticism of the order, which "fails," she said, "to even concede that GHG emissions are an indirect impact that must be quantified in NEPA [the National Environmental Policy Act]. More broadly, the order asserts that GHG emissions quantifications cannot 'meaningfully inform' our public interest determination. I fundamentally disagree. I reject the contention that the commission is unable to discern the significance of GHG emissions."

Commissioner Richard Glick, also a democrat, voted against approval, criticizing the commission for refusing to apply the Social Cost of Carbon Tool, which calculates the cost of added emissions. "Willful ignorance of readily available analytical tools to support an enhanced qualitative assessment for the single largest environmental threat in our lifetime will undermine informed public comments and informed decision-making."

FERC approves and regulates the interstate transmission of electricity, natural gas, and crude oil. Historically, when considering pipeline projects, FERC did not concern itself with GHG emissions and their effect on climate change, only more narrowly the environmental effects of building pipelines, but this may soon change. The commission is currently reviewing its 20-year-old approval policies and LaFleur said she is hopeful a broader policy that better incorporates climate change considerations will be approved.

Do not be surprised if this issue is revisited by the courts in the not too distant future.

100% Renewables: Cities Lead the Way

Cities are home to half the world's population and are expanding rapidly. In the U.S. alone, over 80 percent of the population lives in urban areas, and cities worldwide are responsible for over 70 percent of energy-related carbon emissions. Obviously, metropolitan areas are crucial to the transition to a low-carbon economy, a transition already underway. Worldwide, cities are implementing policies that recognize investment in sustainable energies as essential to new markets, jobs, and creating attractive places to live and work.

More than 100 cities report they are currently getting at least 70 percent of their electricity from renewable sources. This is twice the total in 2015. Although they haven't committed to 100 percent, the 7,000+ mayors who comprise the Global Covenant of Mayors for Climate and Energy have pledged to act on climate change. Renewable energies will play a key role in their efforts.

U.S. cities are definitely part of this ballooning trend. Atlanta and San Diego, Orlando, St. Petersburg, and Sarasota here in Florida: these are but 5 of the 58 cities and towns that have now committed to transition to 100 percent clean, renewable energy. Last June, the U.S. Conference of Mayors representing 250 U.S. mayors, resolved to go 100 percent by 2035.

Burlington, Vermont, was ahead of the curve. Burlington isn't transitioning to 100 percent renewables; it's already there, having started in 1978 when it replaced its coal plant with one powered on biomass. Then came a 10-MW wind farm and rooftop solar on high schools, the airport and the electric department. In 2014, when the city purchased a 7.4-MW hydroelectric plant, the transition was complete. And going green has resulted in electricity rates that have not risen in eight years, and the city estimates it will save \$20 million over the next two decades.

As of 2015, Aspen, Colorado is also at 100 percent, having pledged to do so in 2007. Mayor Steve Skadron says environmental mission was part of the driving force, and his rationale will certainly register with SW Floridians. "Put aside crazy climate zealots telling everybody to sell their cars and eat tofu," he says. "It makes economic sense for us to support these values because our economy's based on the natural environment." Aspen has had 2 hydroelectric plants provide clean energy since the 1980's. Concerned about costs and harmful streamflows, residents decided against building a third plant and opted instead to purchase electricity from hydropower, wind, and biogas produced in other regions and other states. (See *Wind Power for FL Residents*.)

It will take time and effort for cities to transition to 100% renewable energies, but because renewables, even subsidy-free renewables, will soon be cheaper than fossil fuels, more cities and towns will inevitably make the transition. As they expand, cities need to ensure that the new infrastructure they put in place is fit for the low-carbon economy that is inevitably coming.

