

**CITY OF SATELLITE BEACH, FLORIDA**

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INCORPORATED 1957

# **AGENDA**

## **AD HOC GREEN COMMITTEE REGULAR MEETING**

**SATELLITE BEACH COUNCIL CHAMBERS  
565 CASSIA BOULEVARD, SATELLITE BEACH, FL 32937**

**SEPTEMBER 23, 2015  
7:00 P.M.**

- 1. CALL TO ORDER BY CHAIRMAN JEFF CHESTINE**
- 2. PLEDGE OF ALLEGIANCE**
- 3. PUBLIC COMMENT**
- 4. DISCUSS/TAKE ACTION ON INTERN AGREEMENT WITH F.I.T.**
- 5. DISCUSS/TAKE ACTION ON UPCOMING EVENTS TO PARTICIPATE**
- 6. DISCUSS/TAKE ACTION ON BRANDING ICONS AND DOMAIN NAMES**
- 7. ADOPTION OF THE MINUTES: AUGUST 26, 2015, REGULAR MEETING AND SEPTEMBER 9, 2015 SPECIAL MEETING**
- 8. AGENDA ITEMS FOR NEXT MEETING**
- 9. ADJOURNMENT**

**NEXT MEETING: OCTOBER 28, 2015**

***(One or more Council members may be present at this meeting)***

**AD HOC GREEN COMMITTEE  
(UNAPPROVED) REGULAR MEETING MINUTES  
AUGUST 26, 2015**

Pursuant to public notice, Chairman Jeff Chestine convened a regular meeting of the AD HOC Green Committee on Tuesday, July 30, 2015, at 7:00 p.m., in the Council Chamber. Committee Members present were Jeff Chestine, John Fergus, Eugene Mathews, Josh Pause and David Vigilotti. Staff Members present were City Manager Courtney Barker and Recording Secretary Julie Finch. Board Member Scott Waymire was not present.

Chairman Jeff Chestine led the Pledge of Allegiance.

**(TIME: 7:01 P.M.) PUBLIC COMMENT**

No Public Comment

**(TIME: 7:01 P.M.) DISCUSSION OF EV MEMO AND FLYER**

Vice Chairman Fergus discusses his research on pricing, location, and warranty for installing an electric vehicle charging station at Pelican Beach. City Manager Courtney Barker would like to see the charging station at Pelican Beach and that the recycling fund could pay for this project. Motion to bring this project before Council is needed to proceed. Committee Member Matthews MOVED, SECOND by Committee Member Vigilotti to approve the minutes as presented. VOTE: ALL YES. MOTION CARRIED.

Public Comments- Dale Abrams questions who will be funding the project.

Revote on the motion of bringing the EV charging station project to Council. Committee Member Matthews MOVED, SECOND by Committee Member Vigilotti to approve the minutes as presented. VOTE: ALL YES. MOTION CARRIED

**(TIME: 7:10 P.M.) DISCUSSION OF PV MEMO**

No Public Comments

Vice Chair member Fergus discusses his research on photo voltaic return on investment from FPL versus the cost of installation and use over time. He also suggests finding a cost effective company that would agree to sell and install at a good price if the City can secure a good amount of interested customers. Josh Pause says that a solar installation company provided him with information concerning a Federal Tax Credit until the end of 2016 that can lower the cost of installation. He goes on to speak about how the cost of buying and using solar power are calculated.

Eugene Mathews clarifies that the intent of the committee will be to disseminate the information on solar power may be via the website, so that residents can decide to purchase or not. City Manager Barker and Josh Pause talk about how solar energy is stored and used on a daily basis. Mrs. Barker conveys to the committee that she has spoken with FPL on their solar initiatives, in order to gain some insights on benefits. Also, she is looking to see if there is a possibility of financing the upfront costs through FLP to get the panels installed. Committee agrees that this topic will take more research before they can motion anything.

**ACTION:** Get in contact with FPL and have a meeting to discuss in more detail the initiative that they have done for the community and how we can move forward with other residential initiatives. Also possibly coordinate a tour of Satellite High School to see the solar project.

Public Comments- Dale Abrams is curious about the Satellite High School solar project, would like to know how the project came to be.

Julie Finch

Recording Secretary

**AD HOC GREEN COMMITTEE  
(UNAPPROVED) SPECIAL MEETING MINUTES  
SEPTEMBER 9, 2015**

Pursuant to public notice, Chairman Jeff Chestine convened a special meeting of the AD HOC Green Committee on Monday, September 9, 2015, at 7:00 p.m., in the Council Chamber. Committee Members present were John Fergus, Eugene Mathews, Josh Pause, and David Vigliotti. Staff present was Assistant City Manager Andy Stewart, Mayor Frank Catino, and Recording Secretary Julie Finch.

Jeff Chestine led the Pledge of Allegiance.

**(TIME 6:59 P.M.) PUBLIC COMMENT**

No public comments.

**(TIME 7:01 P.M.) DISCUSS/TAKE ACTION ON RENAMING, BRANDING IDEAS AND LOGOS**

Committee Member Josh Pause gave a brief PowerPoint presentation on branding ideas and website decisions. Committee member John Fergus recommended that the committee have the word board included in the new name. Continued discussion of branding, website and social media ideas are discussed. Assistant City Manager Andy Stewart said that the committee will have a link on the City's page, and that the committee can operate a website independent of the City as well. Committee member Josh Pause speaks about his idea of how the proposed website might be set up.

**ACTION:** Committee Eugene Mathews MOVED, SECOND by Committee Member Vigliotti to change the name of the committee to Sustainability Board. VOTE: ALL YES. MOTION CARRIED.

**(TIME 7:49 P.M.) ADJOURNMENT**

**ACTION:** Committee Member Josh Pause MOVED, SECOND by Committee Member John Fergus to adjourn. VOTE: ALL YES. MOTION CARRIED

Next meeting: September 23, 2015

Julie Finch  
Recording Secretary

# Myths And Facts About Net Metering For Solar Energy

[Research](#) September 14, 2015 12:35 PM EDT >>> DENISE ROBBINS

Net metering policies, which allow utilities' customers to send energy from solar panels on their homes into the electric grid in exchange for a credit, are being threatened by efforts in several states to roll back or dismantle the policies -- most of which are bolstered by anti-solar myths from utilities and fossil fuel interests that are being parroted in the media. Here are the facts about net metering.

[Net Metering Brings Significant Economic Benefits](#)

[Net Metering Does Not Significantly Shift Costs](#)

[Net Metering Has Been Adopted By, And Can Provide Benefits To, Families Of All Incomes](#)

[Net Metering Enjoys Support From Communities Of Color, Combats Disproportionate Impacts Of Pollution](#)

[Solar Net Metering Advances Free Market Principles](#)

[Net Metering Is Progressive; Utilities Are Lagging](#)

## MYTH: Net Metering Is Costly

- The *Helena Independent Record* published a letter from the executive director for governmental affairs at NorthWestern Energy, who wrote that net-metered electric generation from solar panels "is not efficient and very expensive" and "will only increase the cost of electricity to other customers on the system." [*Helena Independent Record*, [1/6/15](#)]
- The American Enterprise Institute's Benjamin Zycher wrote in a FoxNews.com op-ed that the adoption of net feeds "more expensive power" into the grid, "and prices are forced up." [FoxNews.com, [9/24/14](#)]
- The South Mississippi-based *Sun Herald* published a reader's letter that said, "Want your power bill to triple? Then support net metering." [*Sun Herald*, 6/30/15 via Nexis]
- The *Las Vegas Review-Journal* editorial board wrote: "Let homeowners who want to generate their own power pay full price for solar panels -- and subject their surplus power to market conditions. If [public utility] NV Energy's customers don't need the solar power, its customers shouldn't have to buy it. The people deserve energy policies that make power cheaper." [*Las Vegas Review-Journal*, [4/25/15](#)]

**FACT: Net Metering Brings Significant Economic Benefits**

**Environment America Study: Economic Benefits Of Net Metering Outweigh Costs.** A report from the Frontier Group for Environment America details the different benefits that arise from net metering. Net metering provides economic benefits to the electric grid, including savings from reduced electricity transmission (net metered solar energy is provided on-site), avoided capital and capacity investment, reduced financial risks, increased grid resiliency, and avoided environmental compliance costs. The report also explains benefits for "the environment and society at large," including avoided greenhouse gas emissions, reduced air pollution, and increased economic development and job creation. [Environment America, [Summer 2015](#)]

**Analyses By Multiple Utilities Found Benefits Outweigh Costs.** Several studies done by utility and non-utility groups alike found the net benefits of net metering to be approximately equal to, or greater than, its costs.

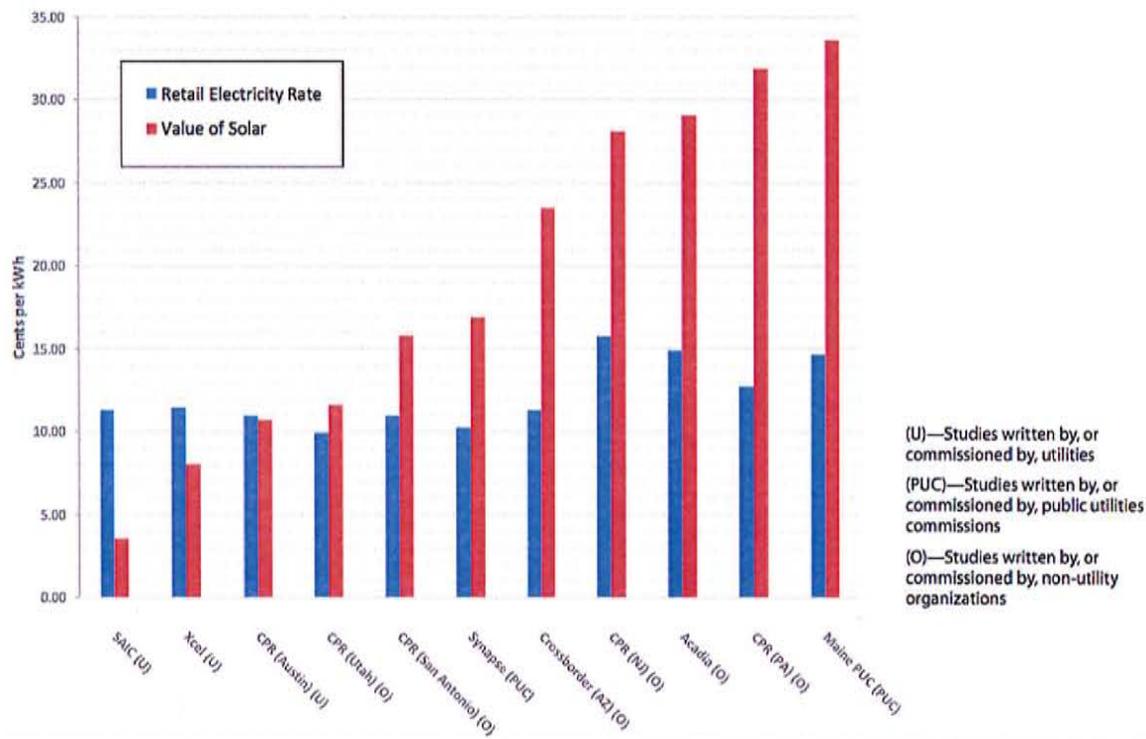
- In a report by the Massachusetts Net Metering and Solar Task Force, task force member Eric Krathwohl stated that economic benefits of solar installation exceed \$14 billion, or 20 cents/kWh – close to the residential price of electricity in Massachusetts of 19.52 cents/kWh, according to the most recent data from the Energy Information Administration. Further, a report from the Acadia Center on the "value of solar" - which factors in climate benefits -- found that the value that solar photovoltaic systems provide to the grid ranges between 22 to 28 cents/kWh, with additional societal benefits of 6.7 cents/kWh. [Mass.gov, [4/30/15](#); EIA.gov, [7/27/15](#); The Acadia Center, [April 2015](#)]
- A report carried out by Crossborder Energy for VoteSolar found California's net metering policies bring \$92.2 million in economic benefits per year [Vote Solar, accessed [7/16/15](#), Crossborder Energy, [January 2013](#)]
- A study conducted by Energy and Environmental Economics for the Nevada Public Utilities Commission found that net metering systems "benefit all ratepayers by a total of \$36 million," including non-participants in the state's net metering program. [State of Nevada Public Utilities Commission, [July 2014](#)]
- A study by Synapse Energy Economics for the Public Service Commission of Mississippi concluded: "Net metering provides net benefits (benefit-cost ratio above 1.0) under almost all of the scenarios and sensitivities analyzed." [Synapse Energy Economics, [9/19/14](#)]
- The Missouri Energy Initiative, a nonprofit association of public and private sector entities, found that "the net effect of net metering in Missouri is positive. This is because, even valuing cross-subsidization effects at their full estimates and including administrative costs as if they were a flow instead of a stock, benefits in every year (2008-2012) are greater than the costs." [Missouri Energy Initiative, [Winter 2015](#)]
- The Natural Resources Council of Maine (NRCM) reported that a study by the Maine Public Utilities Commission found that the "value of solar power produced in Maine is 33 cents/kilowatt-hour. In comparison, customers who put solar panels on their roofs only receive a credit on their bill worth about 13 cents/kilowatt-hour." NRCM concluded, "Net-metering is the policy, used in Maine and many states, that allows homes and businesses with solar arrays to be credited for power they provide to the grid at the same rate they pay for power they take from the grid. Electric utilities in

Maine and elsewhere have attacked net-metering because they have undervalued the benefits that solar provides. The Maine study, like others conducted around the nation, provides evidence that net-metering is providing a substantial public benefit." [Natural Resources Council of Maine, [3/3/15](#)]

**Environment America: Majority Of Cost-Benefit Analyses Show Positive Benefit.** Environment America compiled 11 cost-benefit analyses that have been carried out on solar net metering and found that most show the economic benefits outweighing the costs:

- All 11 analyses reviewed here found that solar energy brought net benefits to the grid.
- Eight analyses out of 11 found that the value of solar energy was worth more than the average residential retail electricity rate in the area at the time the analysis was conducted. The three analyses that found different results were all commissioned by utilities.
- Of these 11 analyses, the median value of rooftop solar energy was 16.90 cents per kWh, compared with an average U.S. residential retail electricity rate of 11.88 cents per kWh in 2012.
- The studies that estimated lower values for solar energy consistently undervalued, or did not include, important environmental and societal benefits that come from generating electricity from the sun.

**Figure 2: Average Retail Residential Electricity Rates Compared to the Values of Solar in 11 Cost-Benefit Analyses.<sup>31</sup>**



[Environment America, accessed [9/14/15](#)]

**DOE's Lawrence Berkeley National Lab: Net Metering Impacts On Retail Rates**

**Will Be "Relatively Modest."** In a report that looked at the financial impacts of net-metered energy on utilities and ratepayers, the U.S. Department of Energy's Lawrence Berkeley National Lab found that while high use of net-metered solar generation may decrease utility shareholders' earnings, it will have a "relatively modest" impact on ratepayers. The report examined solar penetration levels that are "substantially higher than exist today" -- 10 percent compared to today's 0.2 percent -- and concluded that the "impact of customer-sited PV on average retail rates may be relatively modest (at least from the perspective of all ratepayers, in aggregate)." The report said that utilities and regulators "may have sufficient time to address concerns about the rate impacts of PV in a measured and deliberate manner." [LBNL, [September 2014](#)]

## **MYTH: Net Metering Increases Electricity Prices For Non-Solar Users**

- The *Wall Street Journal* editorial board wrote that "[s]olar's explosive growth is driving up rates for other power users." [*The Wall Street Journal*, [11/19/13](#)]
- *The Recorder's* editorial board wrote that net metering puts the cost of solar power "on the backs of electrical power consumers who aren't hooked into solar," and quotes Associated Industries of Massachusetts lobbyist Robert Rio as saying that "virtually all the savings (except for wholesale fuel costs) attributable to solar installations are basically a transfer from non-participating ratepayers to those who have solar." [*The Recorder*, [6/8/15](#)]
- *The Boston Globe* published an op-ed co-authored by utility and oil and gas company executives headlined, "Nonsolar users bear burden of net metering." The op-ed declared that net metering "leaves utility customers who do not have solar with a grossly inequitable share of the burden of Massachusetts' overpriced solar energy." [*The Boston Globe*, [6/28/15](#)]
- *Pahrump Valley Times* published an op-ed headlined, "A shocking discovery on why your power bill is higher than it should be," which stated: "Net metering is how those with rooftop solar panels are able to cut their power bills at our expense. ... In other words, your electric bill is higher than it should be because your power company is forced by the government to pay an above-market price for electricity to your neighbors who can afford the high cost of taxpayer-subsidized solar systems." [*Pahrump Valley Times*, [4/1/15](#)]
- *Bangor Daily News* reported that the public advocate for Maine's utility consumers "said net metering can create unfair costs for other power customers as more net-metered capacity comes online." [*Bangor Daily News*, [6/30/15](#)]

## **FACT: Net Metering Does Not Significantly Shift Costs**

**Net Metering Keeps Electricity Prices Low For All Customers By Reducing Need For New Plants, Lowering Transmission Costs.** Solar advocates argue that net metering helps keep electricity prices low for both solar and non-solar users by allowing utilities to avoid costs. A report by Crossborder Energy carried out for the Vote Solar Initiative explained the different ways that utility costs are kept low even with net metering systems:

The benefits are the costs that the utility avoids by using the [net metering (NEM)] exports to serve nearby loads, instead of generating or purchasing a like amount of power and moving that power down to the distribution system. These avoided costs are a benefit for non-participating ratepayers. The [California Public Utilities Commission] has approved avoided cost models with the following benefits:

- Avoided energy costs
- Avoided capacity costs for generation
- Reduced costs for ancillary services
- Lower line losses on the transmission and distribution system (T&D)
- Reduced investments in T&D facilities
- Lower costs for the utility's purchase of other renewable generation  
[Crossborder Energy, Evaluating the Benefits and Costs of Net Metering in California, [January 2013](#)]

### **Several State Analyses Have Found No Significant Cost Increase For Non-Solar Customers From Net Metering:**

- **Nevada:** Energy and Environment Economics stated in a study for the Nevada Public Utilities Commission that it "[does] not estimate a substantial cost shift to non-participants due to [net metering] going forward given the current and proposed reforms to the program." The report actually "anticipate[d] a benefit to non-participants" in 2014 and 2015 because "a) the utility incentive is relatively low, and b) the [Renewable Portfolio Standard] policy places a large value on distributed solar generation installed during this time period." (Distributed generation refers to electricity that is produced at or near the point where it is used.)  
[Energy and Environment Economics, prepared for State of Nevada Public Utilities Commission, [July 2014](#); Solar Energy Industries Association, accessed [9/10/15](#)]
- **California:** A study commissioned by the California Public Utilities Commission on the impacts of net metering on ratepayers stated, "If the customer bill savings resulting from NEM are greater than the corresponding reduction in utility costs, NEM will create a cost shift from NEM customers to other non-participating customers as utilities adjust their rates to compensate for the shortfall." However, the study found that distributed solar customers who use net metering have contributed "slightly more than their full cost of service," undercutting the notion that utilities need to raise electricity prices for non-solar customers. [California Public Utilities Commission, [October 2013](#)]
- **California:** Another study on California's net metering policy by Crossborder Energy for VoteSolar concluded that net metering "does not produce a cost shift to non-participating ratepayers; instead it creates a small net benefit on average across the [investor-owned utilities' (IOUs')] residential markets." [Crossborder Energy, [January 2013](#)]
- **Vermont:** At the behest of the state legislature, Vermont's Public Service Department published an evaluation of net metering in the state in 2014, which found that "the aggregate net cost over 20 years to non-participating ratepayers due to net metering under the current policy framework is close to zero, and there may be a net benefit." [Vermont Public Service Department, [11/7/14](#)]

- **Mississippi:** A report prepared for the Public Service Commission of Mississippi found that distributed solar generation encouraged by net metering "has the potential to result in a *downward* pressure on rates" (emphasis added). [Synapse Energy Economics, prepared for the Public Service Commission of Mississippi, Net Metering in Mississippi, [9/19/14](#)]
- **New York:** Researchers at the University at Albany, George Washington University, and Clean Power Research found that solar installations "deliver between 15 to 40 cents per kWh to ratepayers and taxpayers," which provides "economic justification for the existence of payment structures (often referred to as incentives) that transfer value from those who benefit from solar electric generation to those who invest in solar electric generation." [University at Albany, [6/27/11](#)]

A spokesperson for The Alliance for Solar Choice told Utility Dive: "The overwhelming majority of studies around the country back up the fact that retail rate reimbursement is fair and might even be low in some cases. It is also easy for the customer to understand and it fairly compensates them for the electricity they provide to the grid at peak moments." [Utility Dive, [6/1/15](#)]

## **MYTH: Net Metering Burdens Low-Income Communities**

- A *Boston Globe* op-ed co-authored by utility and oil and gas company executives claimed that "[n]onsolar users bear [the] burden of net metering," as do low-income customers, "who are shouldering the high cost of electricity produced by solar power." [*The Boston Globe*, [6/28/15](#)]
- The *Sun Herald* published a reader's letter that said "net metering is an insidious way to reverse redistribute wealth from the poor (i.e., those who can't afford to own their homes or otherwise can't afford the expense of installing rooftop solar panels on their homes) to the wealthy (i.e., those who own their homes, can afford the expense of installing rooftop solar panels and will thus reap the benefits of the current lavish subsidies handed out by the government and otherwise obtained through net metering)." [*Sun Herald*, 6/30/15 via Nexis]
- *The Hill* published an op-ed by Lance Brown, executive director of the Partnership for Affordable Clean Energy, who wrote that net metering policies result in "cost-shifting from the less affluent to the rich," and inequality, adding that the "[m]ost affected are low-income customers." [*The Hill*, [3/31/15](#)]

## **FACT: Net Metering Has Been Adopted By, And Can Provide Benefits To, Families Of All Incomes**

**CAP Analysis: Rooftop Solar Being Adopted By Families Of All Incomes.** An analysis from the Center for American Progress (CAP) found that rooftop solar installations are "overwhelmingly occurring in middle-class neighborhoods that have median incomes ranging from \$40,000 to \$90,000," and that the income-levels with the most solar growth "had median incomes ranging from \$40,000 to \$50,000 in both Arizona and California and \$30,000 to \$40,000 in New Jersey." CAP concludes: "Regulators and

policymakers should consider how net metering and other solar policies support the growth of rooftop solar among middle-class homeowners and how they can continue to expand the use of a clean, renewable energy resource." [Center for American Progress, [10/21/13](#)]

**Grist: Rather Than Burden Poorer Ratepayers, Studies About Net Metering "Have Shown The Opposite Effect."** Grist's justice editor Brentin Mock wrote:

[T]he argument that solar net metering financial[ly] burdens poorer ratepayers is actually somewhat exaggerated. Recent studies have shown the opposite effect: When structured correctly, net metering can spread economic benefits across communities, including to those who can't produce their own solar power. [Grist, [10/14/14](#)]

**Grist: Community-Wide Net Metering Solar Projects Provide Even More Access For Low-Income Customers.** Grist's Mock also wrote that community-based net metering, which allows multiple customers to purchase shares in a single net-metered system, provides "even broader distribution of solar benefits across neighborhoods," and cited several examples:

Add community-based solar projects into the mix and it allows for even broader distribution of solar benefits across neighborhoods. In D.C., the city council passed the Community Renewables Energy Act last year, which allows renters, tenants, and residents to access solar energy even if they don't have solar panels on their own houses and apartment buildings. This helps offset the monthly energy bills for anyone connected to a "community renewable energy facility." DC SUN is working with environmental justice groups and the DC utility Pepco to help improve upon the benefits of this law.

Similar community solar benefits have been created in the Lower 9th Ward of New Orleans, and California has programs in place to include low-income households in the solar explosion. The Center for Social Inclusion is keeping tabs on other community solar projects like it across the nation as examples of what energy democracy look like -- literally more power to the people. [National Conference of State Legislatures, accessed [9/9/15](#); Grist, [10/14/14](#)]

**EDF Officials: Low-Income Arguments From Industry Are "Misguided," "Distractions."** Jorge Madrid and Marilyn Marsh-Robinson of the Environmental Defense Fund (EDF) wrote that the "low income vs. clean energy" messaging used to attack net metering policies are "more about disruptions to profits than negative impacts to low-income people or other customers." They continued:

At best, these arguments from industry are misguided, and - at worst - they are something far more egregious. In either case, they are distractions that impede a dialogue addressing real challenges and solutions. Furthermore, they ignore many of the proven benefits clean energy can offer everyone, including low-income families and communities of color. We've authored and contributed to several pieces of analysis that show how policies aimed at expanding energy efficiency and clean, distributed energy resources (like

rooftop and community solar) create savings and minimize costs, drive local living-wage jobs, and improve environmental outcomes for low-income communities. [EDF, [11/17/14](#)]

## **MYTH: Net Metering Harms Communities Of Color**

- In an op-ed published in *The Philadelphia Tribune*, guest columnist Matthew C. Whitaker wrote that net metering "is an issue of social justice," stating that net metering policies are "tipping the scales against minority and underserved communities like mine in favor of those who are more fortunate." [*The Philadelphia Tribune*, [6/1/15](#)]
- The conservative news site The Daily Caller published an article claiming that net metering "has drawn criticism from minority groups that say those costs are disproportionately borne by low-income families." (The op-ed cited quotes from the National Black Chamber of Commerce and the U.S. Hispanic Chamber of Commerce, both of which have received funding from coal and oil interests.) [Daily Caller, [4/1/15](#); *Media Matters*, [5/5/15](#)]
- Jose Nino of the U.S. Hispanic Chamber of Commerce wrote in a post for Energy Biz: "While many in our community receive the benefit of reliable and affordable electricity, some Hispanics are being hit with high electricity bills that they can't afford, thanks to a little-known public policy called net metering" and adding that "[i]t's lower-income and minority communities, including Hispanics, who are forced to essentially subsidize these rooftop solar systems because they're the ones who can't afford to own them." [Energy Biz, [3/29/15](#)]

## **FACT: Net Metering Enjoys Support From Communities Of Color, Combats Disproportionate Impacts Of Pollution**

**Latino Leader: Utilities Are Exploiting A "Stigma" To Claim That Net Metering Hurts Minorities.** A *Los Angeles Times* article stated that there is "a perception in many minority communities that environmental causes are a preserve of the affluent." Arturo Carmona, executive director of Presente.org, told the *Los Angeles Times* that net metering policies "are good programs. But there is a stigma the utilities are exploiting." [*Los Angeles Times*, [2/9/15](#)]

**National NAACP Leaders Support Net Metering.** The *Los Angeles Times* reported that civil rights groups "say attacking the policy driving the boom in rooftop solar is misguided," including national and state executives at the National Association for the Advancement of Colored People (NAACP):

"The transition to solar is disproportionately to the benefit of these communities, no matter who owns the systems," said Jacqui Patterson, the national NAACP's environmental justice director. Patterson listed sobering statistics about the health problems afflicting African Americans living near power plants.

In Indiana, Denise Abdul-Rahman, the environmental coordinator for that state's NAACP chapter, said her group advocated net metering, even though she doubted any of the 600 customers in Indiana's fledgling program were African American. Indiana also is among the states where the program is under attack.

Abdul-Rahman said the Indiana NAACP supported net metering for reasons not only of environmental justice but economic opportunity. "I don't see any benefit in helping the energy monopolies continue with the status quo," she said. "Our communities can benefit much more by homing in on the green-energy economic movement." [*Los Angeles Times*, [2/9/15](#)]

**NAACP Leader: Net Metering "Benefits All Communities," Including Communities Of Color.** Jeanette Williams, president of the NAACP Salt Lake Branch and the NAACP Tri-State Conference of Idaho, Nevada and Utah, authored a *Las Vegas Sun* op-ed that called for expanding Nevada's net metering cap. From her op-ed:

Segregation forced generations of blacks to live in the least desirable areas, places where pollution has shortened life spans and slowed economic growth. People who live near energy production facilities such as coal-fired power plants are more likely to have health problems. This includes prolonged exposure to smog, lead, asbestos, mercury and arsenic, which are linked to respiratory illnesses, birth defects, learning problems and more. Other effects include compromised educational outcomes and lower property values.

The costs of continuing on the fossil fuel-dependent paths are disproportionately borne by low-income communities and communities of color.

Fortunately, the development of clean energy sources, such as solar, provides an opportunity to improve the health and well-being of everyone while creating economic enterprise opportunities.

[...]

Net metering has been crucial to the growth of our state's solar industry. This industry has driven \$200 million in private investment and helped support 2,400 solar jobs. The PUCN's own study, released during the summer, found that net metering provides a \$36 million benefit to Nevadans.

Opponents of solar energy claim that solar only benefits the rich. They are wrong, as the Nevada PUC study shows. You don't have to go solar yourself to receive its benefits. [*Las Vegas Sun*, [10/12/14](#)]

**NRDC: Low-Income Communities In U.S. Helped By Clean Energy Shift.** A recent report from the Natural Resources Defense Council (NRDC) found that low-income communities in the United States face disproportionate health impacts from fossil fuel pollution, and that shifting to low carbon energy sources can lessen these impacts:

[T]he shift to clean energy offers a chance to prevent the worst impacts of climate change, while lessening the toll that dirty fossil fuels are currently wreaking on some of our most vulnerable communities.

[...]

Nationally, the Clean Power Plan's efforts to curtail carbon pollution will help prevent up to 6,600 premature deaths, 150,000 asthma attacks in children, 3,300 heart attacks, 2,800 hospital admissions, and 490,000 missed work/school days annually in the United States. A sizable impact will be felt by those with the least resources and least access to quality healthcare -- low- and fixed-income Americans; in part because low-income communities are stuck living closer to dirty power plants. [NRDC, accessed [4/29/15](#)]

**NAACP Report: African-Americans Disproportionately Exposed To Coal Pollution.** According to a report by the NAACP, nearly three-quarters of African-Americans live within 30 miles of a coal-fired power plant. The report states: "The health conditions associated with exposure to toxins coming from these plants disproportionately affect African Americans." [NAACP, [2014](#)]

**U.S. Department Of Health And Human Services: African-Americans Three Times More Likely Than Whites To Die From Asthma-Related Causes.** The U.S. Department of Health and Human Services (HHS) reported that African-Americans are three times more likely than whites to die from asthma-related causes, and African-American children are seven times more likely to die than non-Hispanic white children from asthma-related causes. [U.S. Department of Health and Human Services, updated [4/22/15](#)]

- Coal pollution is largely responsible for triggering asthma attacks. According to the assistant vice president of national policy at the American Lung Association, there is "overwhelming evidence" that ground-level ozone from coal power plants triggers asthma attacks. And medical expert Dr. Indra Frank said that someone with asthma who can control it "through reduced exposures to respiratory irritants and regular use of medications may have very few asthma attacks. If asthma in a population is well controlled, there is a lower incidence of asthma attacks." [*Media Matters*, [9/4/15](#)]

**PLOS Study: People Of Color Exposed To Three Times As Much Nitrogen Pollution.** A 2014 study published in the *Public Library Of Science* found that non-white Americans experience 38 percent higher residential outdoor nitrogen dioxide levels than white Americans. Coal plants are a larger contributor to nitrogen oxide pollution, a large contributor to smog. As reported in the Pacific Standard:

For every three gulps of nitrogen pollution that a white American inhales, a compatriot of color sucks down four.

New findings of injustices associated with nitrogen dioxide (NO<sub>2</sub>) pollution have painted racial environmental inequality in vivid statistical detail. The

research, [published Tuesday in PLoS One](#), concludes that reducing NO<sub>2</sub> pollution levels for all Americans down to those that afflict white communities could reduce the yearly death toll from coronary heart disease alone by 7,000. [PLOS One, [4/15/14](#); Union of Concerned Scientists, accessed [9/9/15](#); Pacific Standard, [4/16/14](#)]

## **MYTH: Solar Net Metering Is Anti-Free Market**

- The *Reno Gazette-Journal* published an editorial headlined, "Let Nevada's solar industry stand on its own," writing that the net metering cap should not be raised "because its purpose -- supporting a fledgling solar industry -- is no longer necessary." The board concluded: "It is time for Nevada's rooftop solar industry to prove its maturity and stand on its own, without relying on subsidies." [*Reno Gazette-Journal*, [5/19/15](#)]
- A blog post from Heartland Institute said that net metering policies are "a special carve-out solely to benefit the heavily subsidized solar/renewable power industry" which "distorts free markets and will lead to still further increases in electricity costs, preferential subsidies, and taxpayer burdens." [Heartland.org, [4/13/15](#)]
- The Institute for Energy Research stated that the "incentives provided for solar adopters ... effectively invalidate any 'free market' arguments," adding that net metering policies "only hinder the effective progress of solar options in becoming competitive in the marketplace." [Institute for Energy Research, [8/20/13](#)]
- An internal memo to members of the American Legislative Exchange Council's (ALEC) Energy, Environment and Agriculture Task Force included a resolution called "Concerning Special Markets for Direct Solar Power Sales," that declared it "antithetical to free markets when solar power alone is given the monopoly right to sell power 9 directly to consumers from on-site equipment" and "encourages state policymakers to encourage free markets and affordable energy by refraining 62 from granting special privileges to the solar power industry to sell electricity directly to 63 consumers." [ALEC.org, [6/18/15](#)]

## **FACT: Solar Net Metering Advances Free Market Principles**

**David Roberts: Utilities Are "Monopoly Providers," But There's "No Longer Any Compelling Reason" For Such Extensive Control.** David Roberts wrote at Vox that electricity has historically been provided by a "single 'vertically integrated' monopoly," but that this model no longer makes economic sense:

The root problem is simple: It's the way utilities are structured. They are monopoly providers of a whole bundle of electricity services in a given geographic area. But technology has evolved to the point that many of those services could be provided just as reliably, or better, by participants in competitive markets -- if there were any such markets. Competitors keep trying to squeeze into the electricity space, and utilities keep using their monopoly power to try to squeeze them back out. That's what all the fights are

about.

There's no longer any compelling reason for all those services to be bundled by a single "vertically integrated" monopoly. The only thing left that calls for monopoly control is the distribution grid itself, managing it and interfacing with customers. As for the rest -- electricity generation, procurement, and management -- they should be "unbundled," spun off into competitive markets to accelerate innovation.

Until regulators divest utilities of monopoly control over electricity services, there will be fights between utilities and emerging competitors. That's the root of the issue.

[...]

The opportunity cost of vertically integrated monopoly -- what you forgo when you choose that regulatory structure -- is innovation. Utilities are large organizations with enormous sunk costs and years of bureaucratic inertia, overwhelmingly focused on reliability, with returns protected by law and every move watched by regulators. That is not a recipe for entrepreneurial spirit.

Given economies of scale and high transaction costs, which held for most of the industry's history, this trade-off made sense. But technological changes can reduce both, and when they do so, the logic of vertically integrated monopoly breaks down and it begins to make sense to "unbundle" some of the integrated services. And that's just what happened in the late 20th century. [Vox, [9/9/15](#)]

**Prominent Conservative Supports Solar Net Metering As "Freedom To Make The Best Choice."** *The New York Times* reported that Barry Goldwater Jr., a former Republican congressman, formed an advocacy group to support net metering called "Tell Utilities Solar Won't Be Killed." Goldwater called proposed fees on net metering a "solar tax" and stated on his website that "Republicans want the freedom to make the best choice." [*The New York Times*, [1/26/14](#), *Mother Jones*, [7/11/13](#)]

**Tea Party: "It's A Free Market Choice."** In an interview with NPR, Tea Party spokesperson Catherine Baer defended the group's support of solar energy in Florida, saying, "it's a free market choice. The Tea Party has long been a champion of property rights. We believe that if you own the property, you should be able to do what you want with your property." Another spokesperson, Stephen Smith, added: "None of us want monopolies interfering with people's right to be able to use solar in Florida, in the Sunshine State." NPR's Greg Allen further noted that Tea Party groups in Indiana, Texas, and Georgia have also "embraced solar." [NPR.org, [2/24/15](#)]

**SunRun Vice President: Utilities Fight Against Net Metering Is Not About "Open Markets" But "Guaranteed Profits."** SunRun Vice President Bryan Miller responded to the idea that utilities are trying to advance "open markets" in an article in *Mother Jones*:

"We welcome the utilities competing in open markets, but that's not what this

is about," said Bryan Miller, a vice president of SunRun, a prominent national solar installer. "This is about guaranteed profits."

Here's what he means by that: Electricity markets are different than those for other products. In most parts of the country, electric utilities are a monopoly; they get complete control of the market in exchange for having their business heavily regulated by the government. Whereas, for most other products, competition between businesses drives prices down, utilities have always been rewarded for spending lots of money on infrastructure like power plants and transmission lines. That's because utilities are generally allowed to charge those investments back to their customers in the form of higher electric rates. In fact, that's the fundamental way utilities make money. [Mother Jones, [4/23/15](#)]

**Vivint Senior VP: Current Utilities Are "A Monopoly."** *The Las Vegas Sun* interviewed Chance Allred, senior vice president at rooftop solar company Vivant, about net metering policies. When asked if utilities ignored the net metering policies "until it was too late," Allred responded:

Look at the current utilities and they are a monopoly.

Our stance is consumer choice and energy independence. Consumers can now get electricity for cheaper than dirty power that's been used for 130-plus years. The sun can produce enough energy in a day to meet the world's demand for a year. The tech is now cheap in places like Nevada, where that could be a reality. [*Las Vegas Sun*, [9/7/15](#)]

**Tea Party Organizer Supports Net Metering "Because Of [Her] Tea Party Beliefs."** *The Guardian* published an op-ed by Debbie Dooley, who is on the board of directors for the Tea Party Patriots and helped organize the first nationwide Tea Party protest in 2009, headlined, "I support solar energy because of my Tea Party beliefs -- not despite them." In it, Dooley explained how utility monopolies, by attacking net metering, are "prohibiting competition from rooftop solar and denying consumers the freedom to choose." Dooley added:

Free-market principles are cherished by conservatives, and they don't like the unrestricted power granted to these powerful monopolies by the government. If you show conservatives that solar is the perfect vehicle to advance competition in energy, you would be surprised at just how receptive they are. [*The Guardian*, [7/24/15](#)]

## **MYTH: Net Metering Is Outdated, Impedes Solar's Progress**

- The *Arizona Daily Star* published an op-ed written by the president and chief executive officer of Tucson Electric Power, who wrote: "Preserving costly, inefficient subsidies for small, private systems will only slow our progress toward the solar-

- powered future we hope to build." [*Arizona Daily Star*, [6/30/15](#)]
- The *Portland Press Herald* reported that Central Maine Power Co. "says net metering is an outdated concept." [*Portland Press Herald*, [6/28/15](#)]

## **FACT: Net Metering Is Progressive; Utilities Are Lagging**

**Bloomberg New Energy Finance: Rooftop Solar Will Become Cheaper Than On-Grid Electricity.** A recent analysis from Bloomberg New Energy Finance (BNEF) found that by 2040, rooftop solar will be "cheaper than electricity from the grid in every major economy, and almost 13 percent of electricity worldwide will be generated from small-scale solar systems." [Bloomberg, [6/23/15](#)]

**BNEF: Utilities Should Jump Into Rooftop Solar Market First.** *Mother Jones* reported that BNEF solar analyst Nick Culver thinks the trend of utilities turning to net metering "is gaining traction":

Nick Culver, the lead US solar analyst for Bloomberg New Energy Finance, thinks the trend is gaining traction and predicts that more utilities like APS will jump into the rooftop solar market.

"It's all about control," he said. Utilities "can justify it [to their shareholders] by saying we're going to profit from this, rather than waiting for other solar companies to take all of the market." [*Mother Jones*, [4/23/15](#)]

**Brookings Institution: Distributed Energy "The Most Recent Trend In A Decades-Old Evolution Of A Changing Electric Power Industry."** A 2013 report from the Brookings Institution's Energy Security Initiative titled, "The Electricity Revolution," said that distributed generation "represents the most recent trend in a decades-old evolution of a changing industry" and is one of several industry changes that have "chipped away at the traditional regulated, vertically-integrated industry model."

Recently, there has been considerable attention given to the threats posed to the traditional utility business model by distributed generation (DG). Dire headlines abound.

[...]

But in reality, distributed generation represents the most recent trend in a decades-old evolution of a changing industry. Since the late 1970s, utilities in the U.S. have been undergoing changes that cumulatively have chipped away at the traditional regulated, vertically-integrated industry model.

[...]

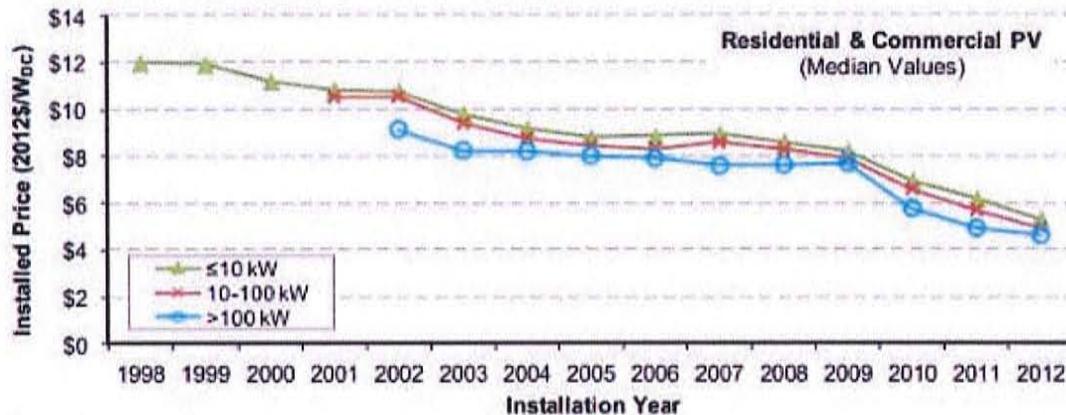
Now the last bastion of the utility's monopoly business - distribution - is under attack. Solar photovoltaic PV distributed generation is being deployed at such a fast pace that many stakeholders see a disruptive trend impacting the financial health of the utilities over the long-term.[3] In particular, utilities are

increasingly advocating an overhaul of the net metering policy originally established to incentivize distributed generation. [Brookings Institution, [11/6/13](#)]

**David Roberts: Net Metering Debates Are A Distraction Over "How Long Utilities Can Cling To Their Familiar Business Model."** David Roberts wrote at Grist:

Net metering, however, is largely a distraction, a squabble over how long utilities can cling to their familiar business model. Larger reforms are inevitable, because the threat to utilities goes far beyond solar panels and demands a response far more substantial than rate-tweaking. Sooner or later, there must be a wholesale rethinking of the utility business model. And if utilities are smart, they'll do it sooner. [Grist, [10/21/14](#)]

**Berkeley Lab: Residential Costs Of Solar Have Drastically Decreased.** The U.S. Department of Energy's Lawrence Berkeley National Lab found in 2013 that the cost of photovoltaics had decreased by 80 percent from 1998 to 2012.



[LBNL, Tracking the Sun VI, [July 2013](#)]

The values and voices of America's diverse communities are too often excluded from the news media. This needs to change.

*Los valores y las voces de las diversas comunidades americanas son muy frecuentemente excluidos de los medios noticiosos.*

*Esto necesita cambiar.*

## **Non-Recycled Plastics: A New Energy Resource**

Lindsay Hock, Editor



Over the past few decades, recycling programs have expanded both in terms of communities served and what items can be recycled. Yet, despite progress, approaches to integrated waste management have only begun to evolve.

“While production and consumption are still dominated by a linear model, where goods are manufactured from raw materials, sold, used and then discarded, the growing population of middle-class consumers has created a rise in demand for good that’s challenging the sustainability of this system,” says Jeff Wooster, Global Sustainability Leader at Dow Chemical Company.

Today, the concept of a “circular economy” is rapidly capturing attention as a way to reconcile economic growth with environmental responsibility. “In fact, circular supply chains that increase the rate of recycling, reuse and remanufacture have the potential to generate more than \$1 trillion a year by 2025,” says Wooster.

In the U.S. we create about 254 million tons of trash each year. And while recycling programs have expanded, more than half all U.S. trash—approximately 134 million tons—ends up in landfills. According to the U.S. Environmental Protection Agency (EPA), almost one-fifth is from plastic items used every day, but aren’t recycled. “One key gap is the failure to address changes in the composition of the recycling stream and find a way to capture value from many of the materials that are growing in use, such as lightweight multi-material plastic packaging,” says Wooster.

However, emerging technologies offer solutions that divert non-recycled plastics from landfills and “recycle” them into feedstocks, valuable energy resources and

## **Non-Recycled Plastics: A New Energy Resource**

Published on Research & Development (<http://www.rdmag.com>)

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other plastic products. In fact, if the U.S. took all the paper, wood, plastics, old clothes and other garbage that goes into landfills and converted them into useable energy, the U.S. could power nearly 14 million homes every year, according to the American Chemistry Council.

### **Non-recycled plastics as an energy resource**

Believe it or not, plastic is a valuable energy resource. And, through energy recovery, companies can recover the embedded energy content of this valuable resource.

Through a collaborative effort to explore an alternative for plastic waste, Dow co-sponsored a three-month pilot program in Citrus Heights, Calif., with Agilyx to convert non-recycled material and low-value plastics collected in purple bags into a high-value synthetic fuel.

And according to a recent report by the Flexible Packaging Association, if recycling programs like Dow's Energy Bag Pilot were implemented across the U.S., we could keep more than 4 million tons of plastic waste out of landfills, enough to produce one billion gallons of fuel every year. Additionally, the American Chemistry Council reported making synthetic crude oil from plastics reduces greenhouse gas emissions by 60 to 70% compared to conventional extraction of crude oil.

"Our Energy Bag Pilot used pyrolysis to convert non-recycled plastics into 512 gallons of synthetic crude oil, recovering nearly 12 barrels of oil, but other recovery technologies can also be used to capture the energy value of plastics," says Wooster.

Pyrolysis is a resource recovery technology that uses heat in the absence of oxygen to chemically transform plastic into end products, including synthetic crude oil, synthetic wax and syngas. The crude oil can be further refined and made into valuable products for everyday use such as gasoline, diesel fuel, jet fuel, fuel oil and lubricants. It can even be transformed back into plastic.

"Energy recovery technologies like pyrolysis (plastic to oil) are complementary to mechanical recycling because they allow value to be captured from additional materials," says Wooster. "Many materials that can't be easily recycled provide other lifecycle benefits which lead to their selection for use, and those materials have an embedded energy value even after they have served their primary function."

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Yet, a key challenge for any recovery process, whether energy recovery or mechanical recycling, is collecting a sufficient quantity of materials to provide the scale needed for beneficial economics. Due to plastic's light weight, it takes combining materials from many households to provide enough material to make their collection and processing worthwhile.

"Since there isn't an established infrastructure supporting the recovery of plastic for energy, new programs must fit within the constraints of existing recycling and municipal waste management systems," says Wooster.

### **The Energy Bag Pilot**

The idea of a collection pilot has been a few years in the making, according to Wooster. And Dow has been actively reviewing new energy-recovery technologies, and analyzing the quantity and quality of non-recycled plastics available for recovery.

In 2014, Dow partnered with Republic Services and they connected the City of Citrus Heights, allowing Dow to have a resource management expert and an engaged community to start the pilot. Agilyx had a pyrolysis facility located relatively close to Citrus Heights and accepted the invitation to process the materials from the pilot. The pilot was also supported by Reynolds, the Flexible Packaging Association and the American Chemistry Council. "It's extremely exciting to have organizations working together to find solutions for current challenges," says Wooster.

During the three-month pilot program in Citrus Heights, which included six collection cycles, nearly 8,000 purple Energy Bags were collected; approximately three tons of non-recycled items diverted from landfills; and 512 gallons of synthetic crude oil produced from the conversion.

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“There was a strong level of citizen participation, with 30% citizen participation in the pilot,” says Wooster. “The city’s leadership was enthusiastic in their support of the pilot program because they saw the value in the opportunity offered by this program to divert more materials from landfills, and 78% of citizens said they would be likely to participate if given another chance.”

The key result of the pilot program proved that non-recycled plastic items—like juice pouches, candy wrappers and plastic dinnerware—could be collected and converted into an energy resource.

### **The future energy benefits**

The Energy Bag Pilot Program is just a first step towards changing the way the U.S. handles waste. “We will share the success of the pilot with the industry and other communities with the hope that municipalities and industry stockholders will adopt programs like Energy Bag to move the potential for large-scale plastics-to-energy conversion forward,” says Wooster.

In an effort to achieve this, Dow recently announced ambitious 2025 Sustainability Goals.

“The Energy Bag Pilot is a story about the power of collaboration—how companies, communities, organizations and everyday people can work together to make the changes the world wants to see—and that’s what we hope the industry takes away from this,” says Wooster.

### **• CONFERENCE AGENDA ANNOUNCED:**

**The highly-anticipated educational tracks for the 2015 R&D 100 Awards & Technology Conference feature 28 sessions, plus keynote speakers Dean Kamen and Oak Ridge National Laboratory Director Thom Mason. [Learn more.](#) [1]**

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### **Links:**

[1] [http://rd100awards.com/?](http://rd100awards.com/)

# The Plastic Threat Against Sea Turtles

Greg Watry, Digital Reporter



Sea turtles are majestic creatures. Gliding through ocean waters, they beat their flippers like birds beat their wings. [Seven species](#) [1] of the creature populate the planet today; some growing to lengths of 63 in.

According to the [Univ. of Miami](#) [2], the oldest fossils of turtles date back 215 million years. These ancient turtles lived on land and in marshes. [Evidence](#) [3] of ancient sea turtles appears in the late Jurassic period, around 208 to 144 million years ago. *Archelon ischyros*, now extinct, grew between 9.8 and 13 ft.

However, sea turtles' longevity may be threatened due to the current state of waste pollution. An international study, published in *Global Change Biology*, calculated more than half the world's sea turtles, 52%, have eaten plastic or other human waste.

"Australia and North America are lucky to host a number of turtle species, but we also, therefore, have a responsibility to look after our endangered wildlife," said Qamar Schuyler, of the Univ. of Queensland's School of Biological Sciences. "One way to do that is to reduce the amount of debris entering the oceans via our rivers and coastlines."

According to [National Geographic](#) [4], some 5.25 trillion pieces of plastic debris are in the ocean. [Scientists](#) [5] estimated 275 million metric tons of plastic waste was generated by 192 countries in 2010. Between 4.8 and 12.7 million metric tons entered the ocean that year.

The threat is real, as a majority of the sea turtles species are endangered, or critically endangered, according to the World Wildlife Foundation. Schuyler's newest

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study focused on six marine turtle species.

In 2013, Schuyler, in a separate [study](#) [6], found ocean-going turtles were more likely to ingest plastic, than their coastal counterparts. But the coasts are no haven. According to Schuyler's most recent study, coasts along southeast Asia, southern Africa and Hawaii are of particular concern, in addition to Australia and North America.

*Lepidochelys olivacea*, or the olive ridley turtle, is at the highest risk, according to the researchers. The turtle is found worldwide in tropical and subtropical areas. Typically, they feed on jellyfish and other floating creatures.

"The issue is growing," co-author Chris Wilcox said. "It is only a matter of time before we see the same problems in other species, and even in the fish we eat."

Recently, Wilcox published a separate [study](#) [7] on plastic ingestion in seabird species. Pessimistic, the study found plastic was present in 80% of seabirds by 2010, up from 5% in the 1960s. An estimation shows the number rising to 99% by 2050.

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### Links:

[1] <http://www.worldwildlife.org/pages/infographic-sea-turtles>

[2] <http://www.rsmas.miami.edu/outreach/explore-and-discover/sea-turtles/history/>

[3] <http://seaworld.org/animal-info/animal-infobooks/sea-turtles/scientific-classification/>

[4] <http://news.nationalgeographic.com/news/2015/01/150109-oceans-plastic-sea-trash-science-marine-debris/>

[5] <http://www.sciencemag.org/content/347/6223/768>

[6] <https://www.uq.edu.au/news/article/2013/08/endangered-sea-turtles-eat-more-plastic-ever>

[7] <http://www.csiro.au/en/News/News-releases/2015/Marine-debris>

[8] <http://rd100awards.com/?>