EEVC NEWSLETTER

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Affiliated with EAA

KEN BARBOUR: WINNER OF THE 2015 EUGENE LEMIEUX "TOP GUN" AWARD

The Eugene Lemieux "Top Gun" Award is presented annually to the over-all best EEVC member competitor in the 21st Century Automotive Challenge.

The award is presented in memory of former EEVC member Eugene Lemieux who supported the efforts of EEVC members in the then annual Tour de Sol. Eugene provided our members funding, meals, and a place to rest during the week long TdS road trip. He was a businessman who appreciated people with savoy, enthusiasm, hustle, and a competitive spirit. He wanted his sponsored vehicle to win and he endorsed those who broke their backsides to make it happen. Eugene never scolded anyone but he quietly let them know what he expected in a "Top Gun" competitor. We didn't always win, but that didn't matter to Eugene. To him it was the effort that mattered. Eugene was more upset with the person who left greasy fingerprints on the car than a failed performance in the autocross. He expected us to look like, walk like, and perform like pros. (And yes, to remember to take off our shoes when we boarded his million dollar bus).

Ken Barbour receives his "2015 EEVC Top Gun Award" at the awards ceremony held October 14th at Plymouth Whitemarsh High School. The admonition on the classroom wall behind him, "Give the Best You've Got Today!" is most appropriate for Ken and the award.

Ken Barbour is Eugene's kind of competitor. If he were alive today Eugene would be one of Ken's greatest supporters.

In the 2015 21st CAC at Penn State, Ken tied for first place in points for the over-all competition. He also had the best time for an electric car in the autocross and is the EEVC Autocross Champion. No one can argue that point-wise Ken met the requirements of the

scoring system. Ken and his Leaf performed at a "Top Gun" level in every event.

It is an historical fact that Ken always drives the vehicles he competes with to the competition. Ken drives harder than the competition requires. Throughout the days at Penn State this past May, Ken was at the top of his game. But even in the midst of a demanding schedule Ken took time from his personal competitive efforts to help others who needed a hand now and then.

If you want to recognize someone who pushes electric cars to the limit, who tries to sell EVs even to grandmothers who no longer drive, and who finds the answer to just about any electric car question asked by the public, Ken Barbour fits the bill. Ken will always be in the running for the Top Gun of the Year in the EEVC. When the starting gun fires, all he is looking for is the finish line. And when he crosses it first, he will try to sell you an electric car.

If he were able to present the award himself, Eugene would say, "Congratulations Ken! You have made us all proud!"

Requirements for the "Eugene Lemieux EEVC Top Gun Award"

The Eugene Lemieux EEVC "Top Gun" Award does not automatically go to the highest scorer in the 21st CAC competition. In this year's event Ken Barbour happened to be at the top of the scoring, tied with Cory Rideout, a new EEVC member driving an electric motorcycle. The Award must be partially subjective because we want any EEVC member who competes with any type of vehicle to have a chance to win the Top Gun Award. The scoring system of the 21st CAC (established by Dr. Joel Anstrom from the Penn State Transportation Department) favors better performing vehicles. A large pickup truck cannot top the scoring mix. This year an electric motorcycle and a Leaf topped the scoring. And, if all drivers are equal, a Tesla has a great advantage over most vehicles. We have a wide mix of vehicles including bio-diesel ICEs and gasoline Prius models. Therefore we mutually agree to a voting process that considers, as best we can, the member who performs the best with the vehicle that he or she brings to the competition. A driver who competes with a Tesla may not necessarily meet the expectations of a Tesla performance while a driver of an F-150 Hybrid or a Prius might even exceed the performance expectations of that vehicle.

Additional 2015 EEVC Member Specialty "Top Gun Awards"

"Top Gun" represents the best of the competitors. These EEVC winners came to the 21st CAC and performed at the top. If you are going to walk away with a top gun award you are going to have to perform well enough to beat veteran competitors who are really good at their game.

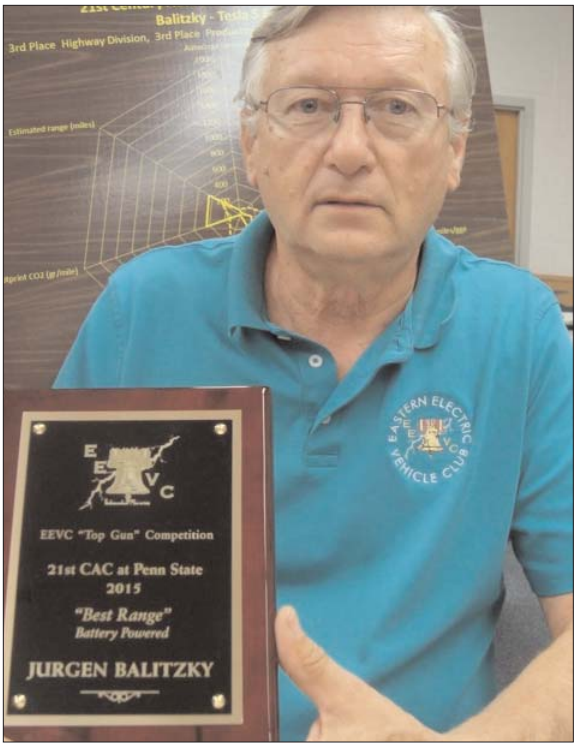
Autocross

Ken Barbour, 21st CAC EEVC "Top Gun 2015 Autocross Champion"

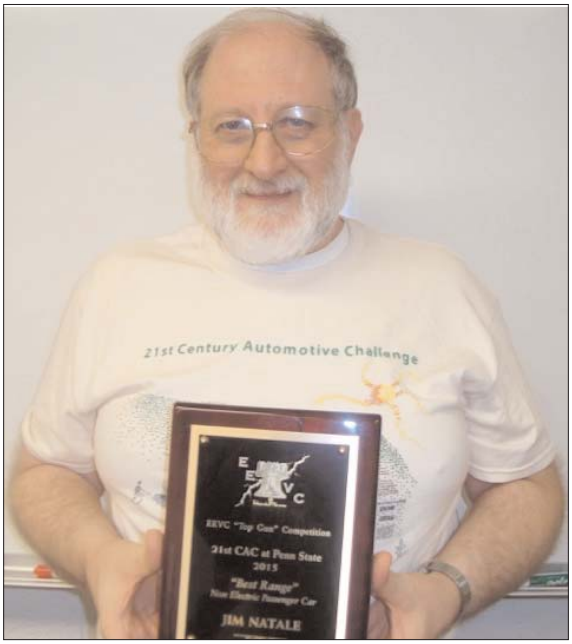
To win this coveted award you need a fast machine and you have to know how to drive it. The competition was fierce and very close.

Best Range

To win "Best Range" you need a great long range battery pack, know how to fully charge it, and if there are several vehicles with similar packs, you need to be a patient efficient driver. Right now Tesla has placed the rest of the competition in their rear view mirror. In the old Tour de Sol days once upon a time there appeared "Trailer Man!" He discovered how to win the range event legally.



Jurgen Balitzkyz, 2015 EEVC "Top Gun" for "Best Range" in a battery only electric vehicle. (Tesla Sedan)



James Natale, 2015 EEVC "Top Gun" for "Best Range" in a Non-Electric Passenger Car. (Prius)

If you want to win best range in a non-electric car you not only have to have skill and determination but also a cast iron seat, bladder control, and the will to win. After many, many hours in the saddle, many wonder just how much the best range title is worth to them. Maximizing fuel, time, and distance (there are time constraints) is the secret.

Most Cargo Transported

Dr. Paul Kydd, 2015 EEVC "Top Gun" for "Most Cargo Transported" (Ford F-150 converted hybrid pickup)

The goods and services of this nation run on wheels. Efficient transportation of cargo should be high on the list of objectives when it comes to energy conservation. A motorcycle does not cut the mustard when it comes to UPS delivery. Finding a way to make large cargo movers more fuel efficient is a noble cause. We should be thinking fuel cost per pound of cargo carried when it comes to delivery vehicles. The 21st CAC includes a scored cargo carrying event in the competition. Paul Kydd's converted F-150 held more cargo than any of the other competing vehicles.

Editors note: Paul Kydd was almost beaten out in the cargo carrying competition by the motorcycle, whose driver stacked boxes close to 100 feet high on the back seat. The boxes were spiked through a long aluminum pole which then was raised like a flag pole upward over the back fender. The rider was able to move 10 feet forward but neglected to

notice an overhead wire which knocked the pole off the bike. The "cargo box committee" reviewed the instant replay video of the incident several times and concluded that the bike couldn't practically carry that many packages As a result they disqualified the rider from the cargo competition. UPS however is considering the possibilities of utilizing an adaptation of the idea and the driver of the motorcycle is presently under contract with them and cannot comment on his view of the box committee's ruling. As a good sport he has, however, congratulated Paul for winning the event. His parting words to the "review committee" on the loading dock was to "Wait till next year!"

CAREY ROWAN DIES AT 76

Carey V. Rowan, one of the founders of the EEVC, died on July 24 at the age of 76. Devoted husband of Janice M. (nee McCaughey), loving father of Robert E. Rowan and Victoria R. Darmanin (Neil), grandfather of Nolan. Also survived by his sister Eileen Rowan (Robert Ryan).

2015 21st CAC AWARDS NIGHT AT PLYMOUTH WHITEMARSH HIGH SCHOOL

Dr. Joel Anstrom (Penn State Instructor and Researcher) director of the 21st Century Automotive Challenge, presents an over-all view of the competition and the rational behind the scoring system of the event.

It has been a long while since we competed in the 2015 21st CAC at Penn State. Due to an unexpected conflict we could not use the Plymouth Whitemarsh High School (PWHS) facility for our annual award ceremony last June as scheduled. The long summer passed, as did September, before we were able to present the awards. Dr. Anstrom (Joel) came down from Penn State to supervise the award portion of the 21st CAC.

October 14th 2015 The EEVC meets at Plymouth Whitemarsh High School for the annual 21st CAC Awards. The meeting was well attended.

Joel very briefly reviewed the history of the 21st CAC and explained how we have evolved to our present state. He also spent some time reviewing the guidelines and scoring system of the 21st CAC. Lastly he handed out individual placards to all of the competitors present at the meeting. Each placard summed up the score of the competitor and provided a display the over-all characteristics achieved by his or her vehicle. The objective of the event is to gather real world driving data and vehicle performances that can provide useful information to customers considering the purchase of a vehicle. There are many needs. What vehicle type can best meet the particular needs of a consumer? Our event data is being used in over-all vehicle research.

Everyone who earned a Top Gun Award also was presented an Award from Joel.

The 2015 21st CAC Results included individual competitors and teams who were not present at the EEVC meeting at Plymouth Whitemarsh High School October 14th. Joel presented plaques only to those who attended

our meeting.

Two individuals, both of whom competed at Penn State, joined the EEVC at the competition. Both of these competitors performed very well but were unable to attend the Awards Meeting.

The winners

Cory Rideout, from Penn State (far left): Vectrix Electric Motorcycle. First Place: In Class PLL1-2, First Place: Local Division, tied for First Place Overall with 830 points out of 1000.

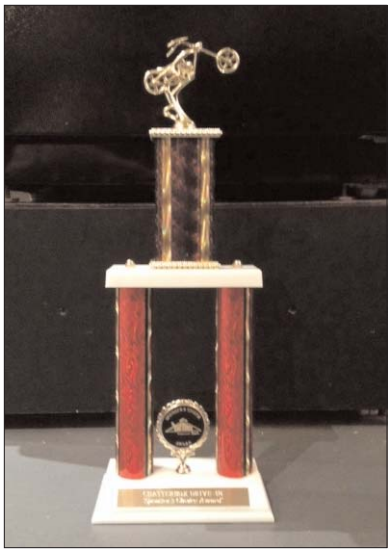
First Place: In Class ILH3-5, Winner of the Autocross of both ICE and Electric Vehicles; Total out of 1000 pts: 772. Cory and Jonathan are presently EEVC members.

In order to be eligible for EEVC Top Gun Awards participants must be members of the EEVC when they register for the event. They cannot receive EEVC awards if they join the EEVC after they register for the 21st CAC.

WINING A MOTORCYCLE AWARD FROM HARLEY RIDERS WITH AN ELECTRIC BIKE

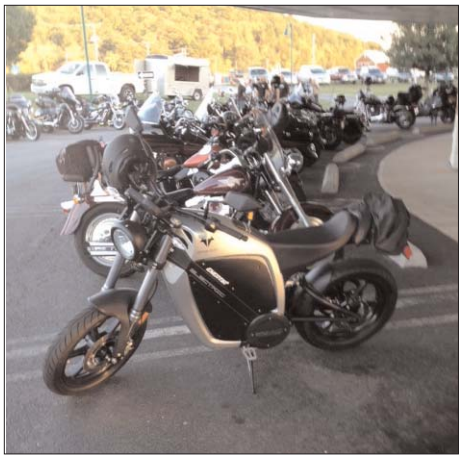
Theo Padavano

The Chatterbox Drive-In, in Augusta, NJ, is a restaurant with a large following among car guys and motorcycle enthusiasts. It's a classic drive-in from the fifties, where patrons enjoy hamburgers, hot dogs and ice cream floats surrounded by an interior decorated with movie posters and album covers from the era. From April thru September, the Chatterbox has hosted classic car nights every Saturday and Bike nights on Thursdays. For years I have cruised to the Drive-In behind the wheel of my old car (a '77 Dodge Aspen RT) and I have enjoyed the atmosphere and camaraderie of fellow gear heads.



The "Sponsor's Choice Award" given to Theo Padavano at Bike Night at the Chatterbox Drive-In in Augusta, NJ on September 9.

In July of last year, I purchased a Brammo Enertia Plus electric motorcycle. The bike is powered by lithium-ion batteries rated at 6.2 kWh with a total battery stack voltage of 88.8 volts. The motorcycle is equipped with a high-output sealed brushless permanent magnet AC motor that cranks out 13 kW @ 4500 rpm and 40 Nm of available torque. Sold as their commuter bike, the Enertia Plus has a top speed of 65 mph and a range of 80 miles. With the acquisition of Brammo's motorcycle manufacturing, Polaris's Victory brand has now begun selling their own version of Brammo's sport bike, the Empulse, while the Enertia model appears to be discontinued.



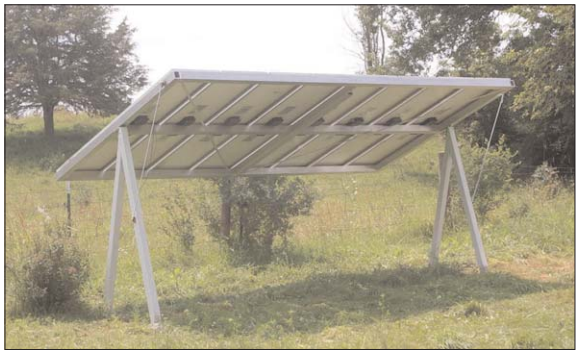
Theo's Brammo Enertia Plus, which won the award from a group consisting mostly of Harley-Davidson riders.

Although my work schedule generally prevents me from attending the Chatterbox Bike Night, I had a rare Thursday afternoon off last week, so with the Enertia fully charged I set off on the 44 mile round trip. As one might expect, the majority of the motorcycles parked at the Drive-In were Harley Davidsons.

There were some sport bikes, a few café racers and even a handful of CanAm Spider three-wheelers, but most were the large and loud Harleys. Upon parking, I made a quick tour of the lot before grabbing a meal inside the restaurant. Returning to my motorcycle a short time later, I found several bikers who had gathered around the Enertia. They were a tough-looking crowd and I was more than a bit apprehensive, but the tattooed and leather-clad group were welcoming. Several of the bikers were familiar with Harley's LiveWire electric prototype motorcycle so they were genuinely curious about the Enertia's abilities. Then an elderly man, who told me he had raced drag bikes for most of his life, approached and introduced himself as the "Man in Charge." I was concerned when he instructed me to pull my motorcycle out and ride towards the entrance. Once there, the man presented me with a trophy for the "Sponsor's Choice Award." Besides being selected as the 'Best in Show' in a crowd of Harleys, the most amusing part of the evening came when I had to ride home with the 22-inch trophy tucked under my jacket — the top of which kept poking me in the chin so that I was forced to ride with my head to one side and giving me one sore neck the following day.

DOMESTIC HOT WATER USING PHOTOVOLTAICS

Pete Gruendeman



I have my brand new PV array charging my Solectria. It is for now wired to the bottom element of my electric water heater, and for the first 13 days of operation, has reduced my grid use for DHW to exactly zero. This 25% reduction in CO_2 etc. has come at a very reasonable cost, probably less than the cost of CO_2 sequestration.

The 1.2 kW array is wired direct to the water heater element, without inverter or grid-tie. There is a safety disconnect, and a solid state relay to prevent the water heater from overheating. For a family of two, I suggest a 2 kW array. My neighborhood is not piped for natural gas so the alternatives, all much more expensive, include propane, oil or electricity. A modest size PV array wired direct to an electric water heater is a really simple way to reduce one's carbon footprint and electric bill.

The top element is still wired to the grid, switching on when the PV can't keep up. I have been asked "Who pays to support the grid so it's there when I need it to run my water heater?" I respond: "Who pays the workers at McDonald's when I decide to eat at Burger King?"

The following is from www.driftlessnotes.com: "Photovoltaic panels have gotten so cheap that it now makes economic sense to use them to power our electric water heaters for domestic hot water. At one time this was the domain of solar thermal panels, which for larger systems is still the most cost effective solution. For small scale systems, such as single family homes, PV panels offer a lower installed cost for the same performance. Best of all, no inverter and no grid-tie is needed. There is no utility involvement at all in a project like this. None.

"Of course this is only useful for DHW (with some surplus power available for space heat) which is only a portion of one's electric bill, but it's so easy to do that I would hope that anybody with roof or yard space for a rack of PV panels look in to this. I am helping Xcel reduce their carbon emissions, even though they don't want my help. And save a few $$ too."

NEWS UPDATE

Who is guarding the henhouse?
An opinion piece in *Quartz* (qz.com) reports that global fossil fuel companies are cooperating to advise governments on how to reduce(!) carbon emissions: "Oil giant Royal Dutch Shell, coal mining behemoth BHP, and energy industry supplier General Electric are teaming up with a range of other firms including consulting firm McKinsey, 'to advise governments on how to combat global warming without weakening their economies,' the Financial Times reports."

The idea, it appears, is to help the companies gain credibility. In addition, of course, "Shell's chief executive Ben van Beurden, while acknowledging that solar will one day become 'the dominant backbone of our energy system, certainly of the electricity system,' told the BBC last week that the transition will take decades, a period in which fossil fuels will predominate."

Rooftop solar — courtesy of the electric company

In a similar vein, a September 29 AP story by Ray Henry reports that big power utilities are working hard to get into (and control) the rooftop solar business. "The emerging competition comes as utilities and smaller solar installers fight over the future of the U.S. energy system. While the market for residential solar power remains a financial drop in the bucket for a big utility, the installation of solar panels overall grew by more than 50 percent in 2014 and is on track for another record-breaking year at time when the traditional utility business is pretty flat."

In a typical arrangement, the power company pays for the customer's entire installation, then grants a discount on electric bills. Sounds like a good way to help the big guys stay relevant (and squeeze out their competitors — many of them small companies). It won't be as advantageous economically for the customer (smaller, rather than zero electric bills) but many will probably be glad to cede responsibility for the whole thing to the big boys. Aside from the question of paying up front for a system (although many of the solar companies have a similar model) one wonders how many want to do whatever maintenance is required. Your editor is reminded of a recent incident in which his eldest son went up on the roof to clean dust off the panels and found a bullet hole in one of them (he lives in range of Oakland, where festive occasions tend to involve firing into the air).

Georgia Power opens 11 new EV charging islands

More and more states are getting with the program: On Sept. 30 Georgia Power announced that the company would open 11 EV charging islands to the public on October 1. The new charging islands, located at Georgia Power properties across the state, mark the completion of the first phase of planned charging infrastructure being developed by the company which will include approximately 61 community charging islands for public use statewide by the end of 2016.

SolarCity unveils industry's most efficient rooftop solar panel

On October 2 SolarCity announced that it has built the world's most efficient rooftop solar panel, with a module efficiency exceeding 22 percent. The new panel generates more power per square foot and harvests more energy over a year than any other rooftop panel in production, and will be the highest volume solar panel manufactured in the Western Hemisphere.

The company planned to begin producing the first modules in small quantities in October at its 100 MW pilot facility, but the majority of the new solar panels will ultimately be produced at the company's 1 GW facility in Buffalo, NY. Production is expected to be between 9,000 - 10,000 solar panels each day with similar efficiency when the Buffalo facility reaches full capacity.

The company initially expects to install the new panel on rooftops and carports for homes, businesses, schools and other organizations, but it will also be suitable for utility-scale solar fields and other large-scale, ground level installations.

Energy Department Awards Nearly $55 Million to Advance Fuel Efficient Vehicle Technologies in Support of EV Everywhere and SuperTruck

On Sept. 17 the Energy Department

announced it will spend nearly $55 million for 24 projects to develop and deploy clean vehicle technologies. Through the Advanced Vehicle Power Technology Alliance with the Energy Department, the Department of the Army is contributing an additional $2.26 million in cofunding to support projects focused on battery modeling technologies and computational fluid dynamics.

The money will go toward a range of research, development, and demonstration projects that aim to reduce the price and improve the efficiency of PEV, alternative fuel, and conventional vehicles. These selections are under two major thrust areas:

- Critical Technologies to meet the EV Everywhere Grand Challenge: Sixteen projects are aimed at reducing the cost and improving the performance of key PEV components. This includes developing advanced manufacturing and process technologies for advanced battery materials, advanced electrode and cell fabrication manufacturing, and integrated wide band gap power modules for next generation plug-in vehicles. Other projects focus on electric drive battery modeling for vehicles and advancing lightweight materials research to help electric vehicles increase their range and reduce battery needs.
- Fuel Efficiency Improvements in Passenger Vehicles and Commercial Trucks: Eight projects are aimed at improvements including developing and demonstrating dual-fuel or dedicated natural gas engine technologies for high-efficiency medium and heavy-duty vehicles to reduce petroleum usage and developing advanced computational fluid dynamics models to accelerate the development of advanced engine technologies. Building on the SuperTruck activity, other projects aim at developing enabling technologies to improve the efficiency of heavy-duty diesel engines.

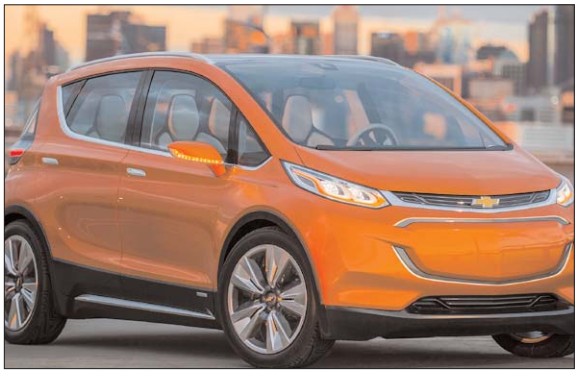
Aston Martin has big plans

An October 21 piece in *Automotive Engineering* reports on plans by Andy Palmer, new CEO of the British high-end car company (and builder of James Bond's iconic DB5). Aside from a greatly accelerated schedule for new product introduction, the company plans to introduce an EV that will likely by built on the existing DBX platform. "The production electric Aston will probably be a version of the DBX, which will be engineered for both gasoline and electric powertrains. The company has already built a one-off (so far) electric version of its four-door Rapide. But it isn't a "skateboard" architecture, which Palmer regards as ideal. Nevertheless, it could be seen as a technology demonstrator and market tester.

"The pure electric Aston Martin Rapide (designated RapidE) technology demonstrator was developed in collaboration with Williams Advanced Engineering. Aston Martin and Chinese investment Group ChinaEquity have agreed to explore the development of a production version of the RapidE concept. If successful, the car could be marketed in about two years. CEO Dr. Andy Palmer said: 'We see luxury electric vehicles as an intrinsic part of our future product portfolio and welcome ChinaEquity into the next phase of study for the project development.'"

One possible hurdle, the article says, will be to satisfy drivers' aural expectation, which an electric whir would not satisfy. Work on that continues.

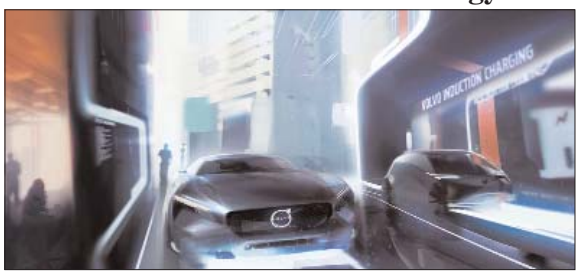
Chevy Bolt range could be 200 miles



An October 21 article by the AP's Tom Krisher reports that GM has announced that the Chevy Bolt EV will have a range in excess of 200 miles. The car will be classified as a crossover SUV, and is expected to sell for less than $30,000 when the $7500 federal credit is included.

The company announced in February that it had committed to production of the Bolt, so we'll have to wait until the scheduled introduction in 2017 to see how well they do.

Volvo unveils electrification strategy



On October 15 Volvo Cars announced its electrification strategy in which plug-in hybrids will be introduced across its entire range. It will develop an entirely new range of electrified smaller cars and build a fully electric car for sale by 2019. As part of this new strategy the company said it expects electrified vehicles to account for up to 10 per cent of total car sales in the medium term.

The first element of the strategy involves the introduction of plug-in hybrid versions of its 90 series and 60 series larger cars, based on the company's new Scalable Product Architecture. This process has already begun with the launch of the T8 Twin Engine All-Wheel Drive plug-in hybrid version of its new XC90 SUV and will continue with plug-in hybrid versions of the new S90 premium sedan and other forthcoming models.

Volvo will also broaden its range of plug-in hybrids with the introduction of a new front-wheel drive Twin Engine variant. The company will also introduce an entirely new range of smaller 40 series cars based on its newly-developed Compact Modular Architecture (CMA), which, like SPA, has been designed from the outset for electrification.

The company has confirmed that it will build an all-electric car for sale by 2019. Further details of this planned model will be released at a later date.

Toyota wants to be out of gas by 2050,

No, not out of business, but out of the gasoline-powered car business. But, according to a October 14 AP story by Yuri Kageyama, not by going to all EVs. Instead, says the article, Toyota's plans call for hybrids and fuel cell vehicles: "Toyota projected its annual sales of fuel cell vehicles will reach more than 30,000 by about 2020, which is 10 times its projected figure for 2017."

"Annual sales of hybrid vehicles will reach 1.5 million and by 2020 Toyota would have sold 15 million hybrids, nearly twice what it has sold so far around the world."

Of course, it already has a pretty good start with the Prius, so even if the fuel-cell Mirai doesn't go anywhere it won't be defeated.

THE EMPIRE STRIKES BACK
By California Pete

The relationship of the utility companies and rooftop solar is not quite as simple as made out in the news story on page 7 — at least in California. According to a piece in the *San Francisco Chronicle* for October 30, the legislation that would require half of all electric power to come from renewable sources by 2030 does not allow the power from rooftop solar installations (which "is more than a boutique, feel-good contributor to the fight against climate change.) California now has about 450,000 such units — more than half of those in the nation — generating the equivalent of about two nuclear power plants the scale of Diablo Canyon." The problem is, rooftop solar doesn't make the utilities a dime, and in fact costs them money, because they have to keep the grid connected to everyone, solar user or not.

Now there is a move, pushed by utilities, their union workers and their favorite politicians, to assess every rooftop solar user a tax. According to an op-ed piece in the same issue of the *Chronicle*, "the state's Office of Ratepayer Advocates, the independent entity within the commission that advocates on behalf of ratepayers ... is advocating monthly fees on new solar customers that are more extreme than those sought by the most antirooftop-solar utilities." The proposal would, according to the *Chronicle*, "have the typical residential solar customer pay additional fixed charges of $50 to $70 each month — simply for buying less utility power by going solar. The charge, which depends on the size of the solar system, would escalate over time from $2 per installed kilowatt to $10 per kilowatt.

Shaming the wasters

As the drought gets worse and worse, people are reacting in several ways. One is to rat out people whom they see (or suspect of) wasting water. These can range from calling in an anonymous tip to the water company about someone whose lawn looks too green to turning in the upstairs neighbor who takes too many (and too-long) showers. But the real water wasters, it seems, are the folks who live behind high fences and privacy walls. While most water agencies (especially those in places like Beverly Hills and the like) are not allowed, they claim, to disclose the names of those who use thousands of gallons a day, my water district, the East Bay Municipal Utilities District (better known by the truly delightful acronym EBMUD) is under no such restriction. While they won't disclose the names of water wasters to just anyone who visits their Web site, they will release the names to the media upon request. When the people named are confronted, their generally either claim that it was caused by a leaky pipe or insist that without all that water they will lose thousands of dollars worth of landscaping — or tell you to go to blazes.

You want me to drink *that*?

One obvious way to save water is to recycle, but this has traditionally encountered resistance due to what is delicately referred to as the yuck factor. "Toilet to tap" doesn't sound all that appetizing.

According to recent accounts, the process by which sewage is converted to potable water is thorough, including a reverse osmosis step — not necessary, perhaps, to remove all pathogens, considering that the process also includes ultraviolet light and hydrogen peroxide, but probably necessary to eliminate traces of drugs, hormones and pesticides. The resulting product, according to a September 29 article in the *Chronicle* by Peter Fimrite, is "[purified] to the level of distilled water."

Some municipalities have started on it and then abandoned it in the face of public opposition, but given the long-term climate outlook, it will be necessary if California is to remain inhabited.

The next question: What of agriculture? The amounts required for that are well beyond what can be recovered from sewage.

COMING EVENTS

Sixth Green Vehicle Convention
Nov 16-17, Shanghai, China. www.gvc-annual.com/en/

SAE 2015 Electric Powertrain Technologies Symposium
Nov 17, Stuttgart, Germany. Go to http://www.sae.org/events/epts/

Los Angeles Auto Show
Nov 20-29, http://laautoshow.com/

SAE International Vehicle Electric Powertrain Forum
Dec 3-4, Shanghai, China. Go to https://www.sae.org/events/vept/

SAE 2016 Hybrid & Electric Vehicle Technologies Symposium
Feb 9-12, Anaheim, CA. www.sae.org/events/hybridev/

SAE 2016 World Congress & Exhibition
April 12-14, Detroit. www.sae.org/congress/

NOTICE ON DUES

Annual EEVC dues are $20 with electronic delivery of the Newsletter, or $25 for a printed copy. Mail checks payable to EEVC to James Natale, 3307 Concord Dr, Cinnaminson NJ 08077, or pay via PayPal to jnatalemicro@comcast.net.

MEETING SCHEDULE

Meetings are held in Room 49, Plymouth-Whitemarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m.

Oct 14

Nov11

Dec 9

Jan 13

Feb 10

Mar 9

Apr 13