SETUP: Place handheld mic on laptop near speaker

1. **Hello, I am Pat Miller. During Earth Week, my husband Steve and I planned and presented a series of talks on the topic – how to get to clean energy as an individual and as a town. Then last month we got the opportunity to give a shortened version of the talk at our regular Sustainable Jersey Monmouth Hub that was focused on steps Green Teams can take to get their towns on the path to 50% GHG reduction by 2030 and net zero by 2050. Steve and I have attended the Hub meetings regularly every 2 months for the last couple of years and would highly recommend them to find out what other Monmouth Co Green Teams are doing. However, we have long been frustrated that SJ seems NOT to give reducing fossil fuel emissions the priority we think it should have. We think climate action is the NUMBER 1 priority for sustainability, and all Green Teams should be working toward that goal. That is Green Teams’ reason for being.**

**I will talk about why I believe it is SO important to prioritize energy actions above ALL others to draw down our emissions before it is too late. We have really reached a tipping point – we must see a significant result within the next 8 ½ years by 2030. And we have the support of both state and federal government to do it, and of at least 70% of people in the US. And last week the leaders of the G7 agreed. Steve will then talk more about the specific actions needed. These actions are aimed not only at saving the world, but at getting to the SJ Gold Star. ……………………. .. . …. ….**

1. **Our work is advised by both Climate Reality and Sierra Club Ready for 100, both nonprofits. We founded the local org Middletown for Clean Energy when we decided that we could make the biggest direct impact by working to drive our town and towns around us toward 100% clean energy at the local level with this mission of leaving a legacy of a livable world for our children and grandchildren.**
2. **And here is the reason that saving the world is so important to us personally – our 2 grandsons.**
3. **There are many sources of manmade global warming pollution: agriculture, forest fires, transportation. But the biggest source is the burning of fossil fuels.**
4. **The cost of carbon – [Wait till sound stops – click] The #1 threat to the global economy.**
5. **We have mandates to do something about this from the state level up to the international level. The state EnergyMP is on its way to being completely codified into law that every town will be required to follow very soon. The US has now committed to even more stringent targets (50% reduction by 2030). And G7 leaders agreed to same target days ago.**
6. **Even the well-respected Rutgers Climate Alliance warns that the consequences of not meeting the Paris targets could be catastrophic for our world.**
7. **I believe all these forces together will get us to our target, perhaps even sooner than expected. First of all, remember we must have net zero carbon emissions by 2050, to preserve a livable world for our children and grandchildren. So we must reach that target, and we will.**
8. **And why do I believe this will happen? Because the tide is turning – more and more people believe it must happen and are demanding it.**
9. **[Wait for sound] This is only one of thousands of marches and rallies that were happening more than weekly, until the pandemic cut short our ability to gather in large crowds. This was the big climate march in NYC in Sept 2019, in which Greta Thunberg spoke. We were there for that. Young people all over the world need us to make it happen. Their future is on the line. And Green Teams need to step up! This is our whole reason for being.**
10. **And If this is not reason enough, the market will drive this transition. We couldn’t stop it, even if we were intent on saving fossil fuels.**
11. **A big reason is the cost. This is what has happened in just the last 10 years. Solar has been dropping for 40 years, and in just the last 10 years has dropped by more than half. Wind power and EVs have dropped more than 75%. The price has dropped to the point that almost everywhere clean energy is cheaper than any fossil fuel. Why wouldn’t people buy it, given a choice?**
12. **And have no fear, investment in clean energy is not a job killer – quite the opposite. Every dollar we invest in clean energy not only pays the people who will do the work (creating jobs), whether it is researchers, installation technicians, or manufacturing – all of it meant to be done in the US – it creates the value of an endless source of free energy and the devices to capture and use it.**
13. **Even now, solar and wind technicians are the 2 fastest-growing job categories in the US and are projected to remain so.**
14. **So, how do we get to clean energy? We can use the typical NJ Emissions chart (applicable to the state as a whole, to towns, and to individuals) as a road map for our individual as well as collective path to zero emissions. This chart shows that Transportation is the largest cause of emissions in NJ, at 46%. Building Space Heating is 2nd, for a total across residential and commercial, of 22%, and Electricity Generation is 3rd, at 21%. One other point I would like to make. Do you see the orange slice on the RHS? That is actually negative emissions. In NJ we have enough tree and plant cover to sequester 8% of our emissions. This is awesome. Do not cut the trees! (And every town should have a tree ordinance.)**
15. **The NJ Energy Master Plan lays out 7 strategies for getting to clean energy:**
	* **Transportation is first, because it’s the worst.**
	* **Clean energy generation is 2nd for the state, which has the most leverage to make it happen on a large scale, but it also requires individual buy-in.**
	* **Efficiency and buildings really go together, but conversion to electric is key.**
16. **The 5th strategy is environmental justice, which must be considered in EVERY action.**
	* **6th The entire electrical grid needs to be upgraded for reliability, heavier use, and electricity flowing both directions.**
	* **Finally, we need research into new clean energy solutions, as well as a just workforce transition.**
17. **We at Middletown for Clean Energy have developed an Energy Plan for Middletown (but which could be adapted to any town, to the whole state, or to an individual.) The goal is 100% clean energy by 2050. It prioritizes steps to be taken toward cutting emissions in the order that produces the greatest savings in the first 10 years and if continued to 2050, would result in, as close as possible, 100% clean energy. The top 3 actions for the 10-year initial period are 1) switch the entire town to renewable electricity, 2) replace one quarter of current passenger cars with EVs, and 3) begin to electrify space heating for commercial and residential. (The only reason transportation is not first in this scenario is that we cannot get to 100% EV transportation in that 10-yr timeframe, whereas we could conceivably get to 100% clean electricity by 2030.) Steve is going to tell us about the steps to take to get there. STEVE STARTS HERE**
18. **I volunteer as needed by the Middletown Green Team. I am Climate Chair for the Sierra Club Jersey Shore Group, and trained leader for the Climate Reality Project. This talk defines how the Middletown Green Team can reduce Middletown ‘s GHG 50% by 2030. The easy path: follow Sustainable Jersey Gold Star in Energy ACTIONS, and repeat as often as required to meet goals..
STEP #1: switch to clean electricity. Community Choice Aggregation has a HUGE MULTIPLIER. Instead of just your home, it is MOST ALL 24,000 HOUSEHOLDS, plus BUSINESSES which elect to opt-in: The easiest path for Middletown: join the “Sustainable Monmouth Alliance”, (currently 8 towns) and let the Administrator of Red Bank do the heavy lifting.**

**If Middletown doesnt provide cheaper, renewable electricity, then the Green Team can encourage Middletown residents to**

* **install their own rooftop (or backyard) solar**
* **OR - subscribe to Community Solar (available NEXT YEAR & save 10 to 20%).**
* **OR - switch to a 3rd party 100% clean supplier, just as Middletown did last year for all Municipal accounts – (save ~10%)- MY WEB SITE identifies the lowest cost providers**
1. **NJ is already one of the top states for rooftop solar. To accelerate rooftop solar, the Green Team can make it easy and popular by following SJ ACTIONS to change Middletown town codes and policies.**
2. **The NJ legislature just approved a bill (waiting for Gov Murphy’s signature) requiring new warehouses to have solar-ready roofs. Warehouse owners, rather than paying 30K/month for electricity, are likely to install solar, and make money selling surplus solar to others, using a program such as “Community Solar”.**
3. **CA now requires every new home to have solar and energy efficiency features. The Green Team can push Middletown to enact special new building ordinances, and ask STATE legislators to adopt solar-ready new construction policies.**
4. **Green Team members can adopt their OWN green principles, and then brag to their whole town. This is a Google Earth aerial view of my house at high noon. We ARE sequestering carbon with all these trees. New neighbors move in, and start clearing front yards, with nothing to stop the deforestation in my neighborhood! Green Team ACTION is required to help preserve such trees in Middletown!**
* **Four years ago, we switched our house to a 100% clean electricity supplier; we currently save 10% on wind energy from Texas. Pat and I have been contracting with 100% clean suppliers, just as Middletown started last summer with renewable electricity for all municipal buildings.**
1. **We organize neighbors via a campaign such as Sierra Club’s Ready for 100. We always have a “Middletown for Clean Energy” booth in “Middletown Day” (except 2020), to lobby our neighbors and town officials.**
2. **Local community solar is a GREEN TEAM ACTION. Middletown applied for the Community Solar trial, to build a canopy over the train station parking lot, like this photo at Great Adventure.**
3. **By 2035, NJ will have 7500 MW offshore wind 15 mi off the coast. I calculate this might be more than 1/3 of NJ total electrical power. I foresee opportunities for residents to buy-in, just as I am presently buying Texas wind power.**
4. **This slide was discussed earlier by Pat. But the BIGGEST source of GHG is transportation: causes over 40% of your and my GHG. Switching to EVs is the most important action to begin EARLY, because of the LONG lag time to get internal combustion engines off the road.**
5. **Your new EV, purchased with fed and state incentives, will usually be plugged-into your household’s clean electricity, and save you a bundle of money, Sustainable Jersey has 2 different Green Team Actions to stimulate EVs in Middletown!
- An additional ACTION is to electrify the Middletown vehicle fleet. This wed, 1PM is a SJ webinar on the how to identify candidates to begin to electrify the fleet.**
6. **We drive a Toyota Prius Prime plug-in hybrid, shown here in our garage, being charged with our 100% clean elec. The car goes 30 miles on a charge before switching automatically to the hybrid engine We averaged 150MPG since buying this Prius, 3 years ago.**
7. **You can see how fast EVs have grown over the past decade. This will accelerate when EVs become cheaper than gasoline cars in the next couple of years.**
8. **Half the world’s buses are projected to be electric in 4 years.**
9. **This is what they look like.**
10. **The Green team can lobby Middletown Schools to transition their bus suppliers to electric school buses. The diesel fumes are unhealthy for both students and us. The large BATTERIES in electric school buses might receive income by providing grid storage for intermittent wind and solar renewables.**
11. **We already have electric trucks.
PAUSE 5 seconds for truck slides (2) animations to display**
12. **And NJ is planning to transform medium-to-heavy duty diesel trucks to electric.**
13. **FIRST we need energy efficiency improvements in residential, commercial, and municipal buildings.**

 **In 2017, a Climate Corp Fellow initiated, and then Middletown completed in 2019, , Middletown sponsored energy efficiency improvements . But to reach 50% GHG reduction in 2030 and beyond, this type of effort will need to be repeated periodically. In fact, all the ACTIONS that I describe must be repeated to engage an every-increasing participation rate. Pat and I used the Middletown $49 home energy audit and followed recommended upgrades. On the left, you see a zippered refrigerator bag over the attic stairs, and on the right see additional insulation in the attic on the right**

1. **The 3rd highest priority is electrifying space heating and cooling, We need to start NOW to switch household appliances to electric, as the old fossil-fuel appliances wear out. When the furnace, OR the AC needs to be replaced, then replace BOTH with a single cold climate electric heat pump. Also replace the old fossil fueled water heater, stove and dryer. The price of operating those old appliances will be going up as their govt subsidies are phased out.**
2. **This is a short ad from JCP&L on why to switch to a heat pump. Expect to see the space heating GAS MONOPOLY about to come to an end. 2 CLICKS**
3. **VIDEO**
4. **This pie chart summarizes the priority actions we JUST TALKED ABOUT. They map to SJ Gold Star in Energy shown in GOLD letters.**

**1st: Biggest GHG saving (blue): have your city adopt clean electricity aggregation
2nd: (in red), encourage all residents to switch to EVs
3rd: (in yellow). electrify space heating
4th: in green: improve energy efficiency of homes and businesses in your town.
MY BIG MESSAGE: The Middletown Green Team has a great opportunity to halve Middletown’s GHG emissions by “Going for Gold.”**

1. **Zenon, the Sustainable Jersey data guru, stands ready to help Middletown measure and track the effectiveness of a campaign to reduce total GHG emissions as it completes the Gold Star in Energy ACTIONS.**
2. **In Oct, 2020, this STATUS REPORT was given to the NJ Legislature, on the NJ GLOBAL WARMING RESPONSE ACT. It recommends the same actions that Pat and I have been describing today.
Green Team members are the best evangelists by “Greening their own life” and talking about it. Then make SJ Energy Actions highest priority – they are the keys to SAVING THE WORLD. Hold ongoing education sessions for residents. DOUBLE CLICK**
3. **(SHOW SILENT VIDEO): During EARTH WEEK, our daily events, were broadcast widely across NJ. I have only time to highlight ONE presentation:**

**FIRST: John and Diane Burke (right center) tag-teamed descriptions of their Zero Carbon Passive House to be finished Jan, 2022 in Middletown, after 10 years of yearning and planning. WATCH FOR the BURKE ANNOUNCEMENTS of public tours every week when construction begins in January, 2022. The tours will focus on teaching zero carbon techniques to local architects and builders.**

**FOLLOWING is a Q&A tip to help the Middletown Green Team outreach and motivate town residents and businesses. Kerri Ann Lombardi guides a homeowner who describes results of improved insulation, sealing airleaks, and heatpump installation. Upon request, Kerri Ann Lombardi stands ready to SUPPLY YOU with one or more of her excellent speakers on NJ energy incentives and rebates as you proceed with Gold Star in Energy.
DOUBLE CLICK**

1. **VIDEO OF KERRI ANN LOMBARDI Q&A**
2. **This is my final slide, then we are open to questions.
We emphasized that you “green Your Own Life”, and advertise across Middletown.
Launch SJ ENERGY ACTIONS, with their provided step-by-step descriptions. Create and keep Middletown goals. The biggest portion of the work is outreach to Middletown residents & businesses. The Federal & state governments will be helping you reach these low GHG goals that are so important to preserve the world for our grandchildren!!**

**STOP SCREEN SHARING**

**Q&A TIME.**

**END END END END**

**NOT USED**

1. **(old slide 24: But it is better to buy local renewable electric to stimulate local solar investments, and create local jobs. We continue to lobby Middletown to adopt clean energy for the entire town, to multiply our individual impact by a WHOPPING 25,000 households.**
2. **[On one daily webinars during Earth Week, I hosted Ariane Benrey, from the BPU. Ariane has a lead position in the BPU Community Solar program, and apparently wrote the selection criteria. In casual discussion, I slipped in the great attributes of Middletown’s proposal. We will see if this tips in Middletown’s favor!]**
3. **SECOND: Delightful Phyllis Garr (top left), of the Marlboro Green Team, narrated a pictorial story of her 20 year history of going green with heatpumps, solar panels, and EV. She joyously cites, TO THE PENNY, the money she has made from her rooftop solar!**
4. **(former 25)We lobby for Community Choice Aggregation because THIS SINGLE Green Team ACTION, gets us 40% of the way to our 2030 goal to HALVE GHG. AND residents save money, all at no cost to the town.**