



Sustainability Committee

Regular Meeting

~ Agenda ~

<http://www.townofboone.net/>

Jane Shook
828-268-6960

Thursday, November 14, 2019

5:30 PM Planning and Inspections Conference Room

I. Call to Order

II. Adoption of Agenda

III. Approval of Minutes

September 12, 2019 Meeting Minutes

IV. Town Manager Update

Toolkit Discussion Minutes and Handouts

V. Other Matters by Committee Members or Staff

VI. Adjournment

**TOWN OF BOONE
SUSTAINABILITY COMMITTEE
MEETING MINUTES
THURSDAY, SEPTEMBER 12, 2019
5:30 P.M.**

Members Present: Chairperson Quint David, Vice-Chairperson Harvard Ayers, Nancy LaPlaca, Joan Brook and John Prickett.

Town Council Liaisons Present: Sam Furgiuele and Marshall Ashcraft

Staff Members Present: Jane Shook-Director of Planning and Inspections and Marlene Crosby-Committee Secretary

Others Present: Mr. Jimmy Isaacs, Director of the Boone Fire Department

Call to Order

Chairperson Quint David called to order the Boone Sustainability Committee, held in the Planning and Inspections Department – Upstairs Conference Room located at 680 W. King Street at 5:30 p.m.

Adoption of Agenda

Vice-Chairperson Ayers made a motion, seconded by Member LaPlaca to adopt the agenda as written.

Vote: Aye – All
Nay – None
The motion passed.

Approval of Minutes

Member Prickett made a motion, seconded by Member LaPlaca to approve the August 8, 2019 meeting minutes as written.

Vote:
Aye – All
Nay – None
The motion passed.

Town Department Operations/Fire Department

Mr. Jimmy Isaacs, Director of the Boone Fire Department gave a presentation on department usage for natural gas, propane, electricity, apparatus and fuel for the Boone Fire Department, including Station 1, 2 and 3 (permanently attached). He noted that there are 30 full time employees and 18 volunteers at these three stations. He explained the fire department initiatives to reduce the carbon footprint as well as additional initiatives the department wanted to work on as funding becomes available. He also talked about data network initiatives to reduce the Town's carbon footprint.

Communication: September 12, 2019 Meeting Minutes (Approval of Minutes)

Mr. Isaacs indicated that the information presented at this meeting was based on a budget-fiscal year. He explained that he did not base the information in this report on miles driven, he based it on hours versus mileage because the fire trucks continue to run while being stationary. He noted that they need to keep an apparatus functional over long periods of time. He said that they can use electric vehicles for fire inspections and other non-emergency uses. He said one of the issues with the electric vehicles is they have no way to re-charge the vehicle battery when the vehicle is outside of the fire station.

Mr. Isaacs explained that the training classes for the firemen are being held inside the fire stations via video conference to help reduce the time the firemen are away from their stations. He said this type of training is allowing the firemen to save on response time on emergency calls.

Mr. Isaacs explained that they have had a maintained solar thermal unit for about 12 years at Fire Station 2 and it has worked properly.

Mr. Isaacs explained that Fire Station 1 and 2 have been re-roofed. He said they left the old insulation and put in additional insulation on both roofs to make the building more energy efficient.

Mr. Isaacs said that solar water heaters may not be able to keep enough hot water for the cleaning of the trucks, he said an “on demand” hot water heater would still be needed to clean the trucks. Member LaPlaca asked about the cost of the solar-water heaters. Mr. Isaacs said he has not priced them.

Council Member Furguele joined the meeting at approximately 5:56 p.m.

Council Member Furguele asked about the response time for fire calls when a fire station is located at the new location on the Bolick property. Mr. Isaacs explained that the fuel usage and time spent out of the station will be reduced substantially.

Mr. Isaacs explained the reason the Fire Department used trucks instead of sport utility vehicles (SUVs) was because after a fire the firemen would have to carry their dirty and contaminated gear inside the vehicle with the firemen back to the fire station which then couldn’t be cleaned out as easily as a truck plus the contaminated gear was in the same space as the firefighter.

Discussion ensued on emergency preparedness and resilience. Member Brook asked about hazard preparedness. Mr. Isaacs talked about the hazards of flooding, fire and wildfire, and the hauling off of debris. He talked about the emergency communication plan.

Chairperson David talked about the Sustainability Tracking Assessment and Rating System program having a section on response time to measure their sustainability performance. Mr. Isaacs said when he is looking to reduce costs, he looks at the cost benefit and tries to get a tangible benefit from it.

Council Member Furguele asked Mr. Isaacs how many times the Boone Fire Department has been asked to give aid to areas outside their jurisdiction. Mr. Isaacs said they do not receive a lot of requests.

After completing the fire department presentation and answering questions on it, Mr. Isaacs left the meeting at approximately 6:25 p.m.

Other Matters by Committee Members or Staff

Member LaPlaca welcomed new Member Joan Brook to the Committee. Member Brook gave a brief history of her experience with sustainability.

Council Member Furguele talked about asking Mr. Ward to speak on more sustainable technology when it becomes available and replacing the non-LED street lights. He said the street lights would pay for themselves as they are changed out.

Chairperson David said the date for the Town of Boone Litter Sweep is September 14 through 28, 2019. He also noted that there will be walk audits starting at the Watauga County Health Department on October 2, 2019.

Vice-Chairperson Ayers and Member LaPlaca said they will participate in the September 20, 2019 Climate strike held at the Community Garden on Howard Street from 4 p.m. to 5 p.m.

Council Member Furguele suggested that the committee look for ways in which the Town could incentivize employees to promote more sustainable personal behavior.

Adjournment

Chairperson David adjourned the meeting at 6: 34 p.m.

Quint David, Sustainability Committee Chairperson

Marlene Crosby, Committee Secretary

**TOWN OF BOONE
SUSTAINABILITY, ECONOMICS AND ENVIRONMENT COMMITTEE MEETING
THURSDAY, MARCH 14, 2019
5:30 P.M.**

Members Present:	Chairperson Quint David, Vice-Chairperson Harvard Ayers, Lee Ball, John Prickett and Nancy LaPlaca
Town Council Liaisons Present:	Sam Furguele
Staff Members Present:	Jane Shook – Director of Planning and Inspections, Marty Little – Planner and Marlene Crosby-Committee Secretary

Call to Order

Vice-Chairperson Ayers called to order the Boone Sustainability, Economics and Environment Committee, held in the Town Council Chambers Room located at 1500 Blowing Rock Road at 5:39 p.m.

Adoption of Agenda

Member Ball made a motion, seconded by Member Prickett to adopt the agenda as written.

Vote:

Aye – All

Nay – None

The motion passed.

Approval of Minutes

Vice-Chairperson Ayers made a motion, seconded by Member Ball to approve the February 18, 2019 meeting minutes as written.

Vote:

Aye – All

Nay – None

The motion passed.

Committee Name

Discussion ensued on the possible changing of the name of the Sustainability, Economics and Environment Committee. Vice-Chairperson Ayers asked why is word “Economics” in the committee name. Chairperson David, who arrived during the approval of minutes, explained that Sustainability is usually described as the three E’s, which are ethics, environment and economics,

and the three P's, which are people, planet and profit. Chairperson David explained that by leaving Economics in the committee name, it lets the public know that the committee is discussing more than just Sustainability topics. Member Ball noted that if there needed to be a longer descriptor for the committee name, he would recommend adding "Equity" to the name. Member Ball explained that the proposed committee names could be "Sustainability, Economics, Environment and Equity Committee" or "Sustainability Committee". Member Ball said he felt in 2019 that everyone has an understanding of what Sustainability means. Member Ball further explained that if the committee had a mission statement on the Town website, a description of Sustainability could be on the website.

Vice-Chairperson Ayers asked if the SEEC had a statement of purpose. Chairperson David explained that when every committee is formed, a statement of purpose is created.

Ms. Jane Shook, Director of Planning and Inspections explained that at the 2019 Annual Planning Retreat, the Council discussed the charge for the SEEC and they may be possibly revising it. Ms. Shook noted that there is the possibility of changing the name to "Sustainability" and then describing the things that the Committee is doing. Ms. Shook let the SEEC know that if they have suggestions regarding the charge of the Committee, they can let her know and she will forward the suggestions to the Council for their review.

Motion and Vote:

Vice-Chairperson Ayers made a motion, seconded by Member LaPlaca to recommend that Town Council change the name of the Committee from "Sustainability, Economics and Environment Committee" to "Sustainability Committee".

Vote:

Aye – All

Nay – None

The motion passed.

Planning and Inspections Update

Ms. Shook explained that every year the Council meets with the Planning Staff and they review the work of the committees and the workload of the Planning Staff. Ms. Shook said that the Council does recognize that the topics being discussed by the SEEC are broad and complex topics. Ms. Shook said that Council has asked the SEEC to re-focus their energies and to set aside their past topics, with the exception of the 2050 Resolution, which includes moving forward with the budget allocation. Ms. Shook explained that the Council is discussing the new charge for the SEEC, which includes working on the New River Light and Power power purchase agreement with Appalachian State University and working with the Town of Boone Departments.

Ms. Shook explained that the Council has asked the SEEC to begin working with the Town Manager and Town Department Heads to learn about the operations of all of the departments of the Town through individual meetings. Ms. Shook further explained that the Council would

like for the SEEC to create a toolkit of options on how the Town Departments can help meet the Town's proposed sustainability goals.

Ms. Shook asked the SEEC what other types of information could the Planning Staff provide for them to review and discuss.

Discussion ensued on the Boone Clean Energy Project. Vice-Chairperson Ayers began discussion on this topic, talking about the \$100,000.00 that was approved by Council for this project. Ms. Shook noted that there might be some confusion on this topic and other topics, such as 2030 goal for climate neutrality. Council Liaison Furguele explained that he has requested that this topic be placed on the Council's March 2019 meeting agenda for further discussion by the Council. Council Liaison Furguele noted that there needs to be buy-in from the Town of Boone Department Heads.

Discussion ensued on the new charge of the Sustainability, Economics and Environment Committee. Member Ball said he fully supports the change in the charge of the committee to narrow the focus and research of the SEEC on the topics approved by Council. Member Ball said that Appalachian State University is doing the same thing. Council Liaison Furguele further explained that the focus of the SEEC should begin with the Town's operations.

Discussion ensued on greenhouse gas emissions. Chairperson David talked about making larger scale decisions on gas emissions. Chairperson David explained that Appalcart is looking to purchase seven buses, costing around \$20 million with the help of a local 10 percent match to get a grant through the State of North Carolina and the Federal Transit Authority.

Council Liaison Furguele pointed out that after the SEEC makes concrete recommendations for the toolkit for the operations of the Town, then the SEEC may be able to move to other topics. He pointed out that some progress has been made on the Sustainability goals, but more progress needs to be made.

Discussion ensued on the Planning Staff providing information to the SEEC. Chairperson David said he is interested in the Planning Staff providing the SEEC with information on gas usage for the drying of the solids at the Town of Boone Waste Water Treatment Plant. Ms. Shook pointed out that there are recommendations that could be made for each operation in each Town facility. Member Ball said the Town of Boone may find it helpful to bring in a professional consultant to review the Town's energy usage.

Ms. Shook informed the SEEC that Mr. John Ward, the Town Manager, was not able to attend this meeting, but he plans on attending the future meetings with the Town Department Heads. Mr. Ward had asked Ms. Shook to give an update to the SEEC on the New River Light and Power power purchase agreement. Ms. Shook said they are in their final legal review with NTE on the power purchase agreement.

Ms. Shook asked about the status of the bicycle trailer on Howard Street. Chairperson David said that there is an Appalachian State University bicycle group that is using the trailer. Chairperson David also mentioned that another larger bicycle trailer had been purchased because the original one was too small. Member Ball asked if Mr. Ward could talk to SEEC Member Benjamin Scarboro to check the status of the bicycle trailer. Member Ball said he would be glad to work with Mr. Ward on seeing if the University has an interest in utilizing the bicycle trailer.

Ms. Shook talked about some issues that the Planning Staff has been having regarding the posting of the SEEC agenda. Ms. Shook explained that the Planning Staff has been receiving meeting information after the agenda has been published on the Town website. Ms. Shook further explained that most committees set their agenda at the end of each meeting and there are no other agenda items added until the next meeting under the Adoption of Agenda.

Discussion ensued on reducing confusion during SEEC agenda item discussions. Ms. Shook suggested that the SEEC try to be more specific when they are referring to the Town, whether it be the Town operations or the community as a whole, when the SEEC discusses their various topics. Member Ball agreed with the SEEC being more clear in future meetings during their discussions.

Ms. Shook explained that the SEEC is an advisory committee and the recommendations from the Committee need to come through the Committee so an action item can be placed on the Council's meeting agenda.

Planning and Inspections Operations

Ms. Shook handed out information to the SEEC that contained basic information regarding the operations of the Town of Boone Planning and Inspections Department (permanently attached). Ms. Shook stated that this is an introduction to some of the department's usage and it is a starting point for the SEEC to begin reviewing Town operations. Council Liaison Furguele said he thought it would be helpful for the Planning Staff to provide the steps of how they are reducing energy consumption. Ms. Shook outlined some of the things that the Planning and Inspections Department is doing to reduce energy consumption, such as using compostable cups, using digital photo copies, installing automatic shut-off light switches, changing out light bulbs to LED's, and recycling paper products.

Discussion ensued on the usage of vehicles in the Planning and Inspections Department. Ms. Shook gave a brief summary on how the department uses the vehicles. Ms. Shook noted that the department does need a vehicle that can go onto building sites for inspection purposes. Member Ball explained that a quick return on energy usage savings can begin with changing desk lamp bulbs to LED bulbs. Member Ball also talked about the Town departments working on the process to change-out vehicles over time.

Discussion ensued on maximizing energy efficiencies. Member Ball talked about maintenance being worth the investment on various things like HVAC units to help reduce energy usage. Member Ball said there may be expertise in house to help with the topic of energy efficiencies.

Discussion ensued on working with the other Town Departments. Member LaPlaca asked Ms. Shook if the SEEC could email her their ideas for working with the other Town Departments. Member LaPlaca suggested that the SEEC begin tours of the other Town departments. Ms. Shook said the tours can be coordinated with the other Town departments.

Discussion ensued on using the STAR system when working on the options for the toolkit. Chairperson David suggested using systems that are already in place in other locations, when working on the options. Member Ball said he supported using this type of system.

Discussion ensued on working on possible changes to the Unified Development Ordinance. Member Ball suggested providing incentives and density bonuses in the proposed changes. Ms. Shook said this topic is already on the Planning Staff work plan.

Council Liaison Furguele talked about trying to get the sales tax returned to the Town to help pay for some of the Town sustainability initiatives such as replacing current vehicles with electric vehicles. Discussion ensued on sales tax distribution. Council Liaison Furguele explained how the sales tax distribution has affected the Town. Council Liaison Furguele further explained that the Watauga County Commissioners changed the sales tax distribution, which resulted in a loss of discretionary funds for the Town in an amount of \$2 million dollars.

Ms. Shook told the SEEC that she will ask Mr. Ward to coordinate the facility tours with the other Town departments and Mr. Little, Planner will track the progress in the toolkit.

Other Matters by Committee Members or Staff

Vice-Chairperson Ayers informed the SEEC about workshops on Executive Order 80 being held in Asheville and Charlotte, North Carolina. He said the first workshop will be held on March 22, 2019 at 8:30 a.m.

Adjournment

With no other matters to discuss, Chairperson David made a motion, seconded by Member LaPlaca to adjourn the meeting at 7:15 p.m.

Vote:

Aye – All

Nay – None

The motion passed.

Quint David, SEEC Chairperson

Marlene Crosby, Committee Secretary

Town of Boone Planning & Inspection – Operations

Location: 680 West King Street (share's facility with downtown Post Office); 2 story-building

Hours of Operation: 8 am – 5 pm (plus evening meetings)

Staff: 9 FTE/1 PTE

Vehicles: 6 (1 hybrid sedan & 5 SUV)

YEAR	MAKE/MODEL	Vehicle Mileage
2004	FORD EXPLORER	78,178
2005	JEEP LIBERTY	69,668
2009	TOYOTA RAV	49,637
2011	JEEP LIBERTY	35,120
2015	CHEVY EQUINOX	22,698
2017	TOYOTA PRIUS	6,396

Note: Staff has noted to Town Council that fleet changes for the department could be modified so that with vehicle replacement, needs are at least 50% to be AWD/4WD and 2-3 with higher vehicle clearance.

Maintenance Costs for past 12 months: \$2,116.15

Gallons of gas used in past 12 months: 983.21 gallons

Estimated miles driven in past 12 months: 15,589 mile

Cost of vehicle related gas for past 12 months: \$2,236.07

Building-Electricity for past 12 months:

Kilowatt Hours: 73,513

Cost: \$6,277.10

Building-Gas for past 12 months:

Gallons: 2,535.39

Cost: \$2,584.64

Educational Programs:

Arbor Day/Tree City USA

Bee City USA

Earth First Friday

Watch For Me NC

**TOWN OF BOONE
SUSTAINABILITY COMMITTEE
MEETING MINUTES
THURSDAY, APRIL 11, 2019
5:30 P.M.**

Members Present:	Chairperson Quint David, , Lee Ball, Benjamin Scarboro, John Prickett and Nancy LaPlaca
Town Council Liaisons Present:	Sam Furgiuele and Marshall Ashcraft
Staff Members Present:	Marty Little – Planner and Marlene Crosby-Committee Secretary
Others Present:	John Ward, Town Manager

Call to Order

Chairperson David called to order the Boone Sustainability, Economics and Environment Committee, held in the Town Council Chambers Room located at 1500 Blowing Rock Road at 5:30 p.m.

Adoption of Agenda

Member Scarboro made a motion, seconded by Member Ball to adopt the agenda as presented.

Vote:

Aye – All

Nay – None

The motion passed.

Approval of Minutes

Member Ball made a motion, seconded by Member Prickett to approve the March 14, 2019 meeting minutes as presented.

Vote:

Aye – All

Nay – None

The motion passed.

Planning and Inspections Update

Mr. Marty Little, Senior Planner began the update by stating that the Planning Staff met with the Council on April 10, 2019 in a Planning Retreat meeting.

Mr. Little noted that the Council approved the name change of the Sustainability, Economics and Environment Committee to Sustainability Committee.

Mr. Little explained that the Council approved the changes to the charge of the Sustainability Committee as outlined in the attached handout (permanently attached).

Mr. Little explained that Council has directed Mr. John Ward, Town Manager to create a draft resiliency plan to get the process going and to coordinate with Appalachian State University on the resiliency plan. Member Ball noted that his office at ASU is working on their resiliency plan and he said that part of their charge is to work with the community.

Mr. Little explained that the Council discussed the target years of 2030, 2040 and 2050 for all of the Town of Boone Municipality becoming Climate Neutral. He also noted that because there was not an opportunity for public comment on this topic, it will be discussed further at the April 18, 2019 Council meeting to gather public input.

Mr. Little explained that the Council began a discussion on the possibility of considering incentives for Town departments regarding fossil fuels. He noted that this topic has been moved to June of 2019 Council meeting to allow for more research and discussion on this topic.

Mr. Little explained that the Council discussed the topic of the use of plastic bags and this topic will be discussed at a July 2019 Council meeting. Mr. Ward referred to a new NPR article that talks about paper versus plastic, he said that he anticipated that the article might be part of the discussion. Mr. Little said the Council discussed inviting grocery stores to be part of the discussion on the use of plastic bags. Council Liaison Ashcraft suggested using surveys as a way to receive feedback on this topic.

Mr. Little explained that the Council discussed having a press release policy regarding Town climate change actions, which could mean using different newspapers or social media. Mr. Ward said he will provide a list of the current press release contacts and he will extend that list to the Sustainability Committee. Mr. Ward noted that he needs help getting all of the groups like the Sierra Club on the press release list.

Mr. Little talked about the Town Attorney reviewing the draft bike sharing ordinances. Discussion ensued on various types of bike sharing services, specifically Gotcha E-Bikes and E-Trikes programs. Member Ball noted that these types of programs use hubs in various places and they would be mostly used by students. Member Ball said the University is most likely going to sign an agreement with this program and he noted that it will work best if the Town would be involved in it. Mr. Ward was interested in discussing these types of programs for a possible potential involvement. Mr. Ward pointed out that this type of E-Bike program will involve the bicycle-pedestrian plan and the possible need for more bicycle lanes. Mr. Ward asked Member Ball if infrastructure would be needed for the E-Bike program. Member Ball said the company will rent warehouse space to maintain the batteries for the bikes. Member Ball said the University does not pay for the E-Bike program because the user is paying for it.

Discussion ensued on bicycle helmets. Member Ball explained that the University would provide helmets on campus. Member Scarboro explained the possibility of the helmet law being waived or to give away helmets. Member Scarboro noted that newer helmets provide more protection.

Discussion ensued on the Downtown Historic Core and Interface Districts. Council Liaison Furgiuele noted that the Council discussed adding the bicycle charging stations as a permitted use in the B-1 zoning district.

Mr. Little informed the Committee that the Earth First Friday scheduled for Friday, April 5, 2019 has been rescheduled for Friday, April 26, 2019.

Overview of Town Department Operations

Mr. Ward gave a presentation of the Administrative and Finance Department Operations (permanently attached). He noted that there are about 20 employees working out of Town Hall. There is no gas usage; only electric usage. The largest energy usage is the cooling requirement for the computer server system. One of the largest expenses is the paper and copier cost.

Discussion ensued on cloud storage and data storage. Member Ball asked if the Town was permitted to have cloud storage for data storage. Mr. Ward said he would need to check on this topic. Member Prickett asked if this type of storage exposes the Town. Mr. Ward said he could contact the University to see what they do with their storage.

Discussion ensued on shredding paper. Member Ball asked Mr. Ward if the Town shredded their paper. Mr. Ward said the paper has to be shredded because of the confidentiality purposes.

Discussion ensued on ways to reduce costs. Council Liaison Furgiuele suggested that the Town use local vendors and local ingredients and caterers for Town events. Mr. Ward explained to reduce paper costs that the Town has purchased computer tablets for the Council, Board of Adjustment, Planning Commission, and the Planning Department to use. Council Liaison Furgiuele explained that he has trouble seeing the information on the tablets and he suggested that the agendas and packets could be provided on a flash drive for use on his own laptop that he is familiar with. Member Prickett showed concern for a thumb drive possibility carrying a virus into the Town computer system.

Discussion ensued on the monthly billing and receipts from the Town. Mr. Ward explained that the actual billing is outsourced and this is a cost savings by not having to purchase the equipment. Mr. Ward explained how the electronic billing and payment process works with the use of credit cards. Mr. Ward said he would check to see if the Town can streamline this process. Mr. Ward pointed out that electronic payments save on paper and postage stamps. Mr. Ward thought it was a great idea to have people opt out of a mailing notification and to receive their notifications electronically.

Discussion ensued on reducing costs at the Planning Department. Council Liaison Furguele talked about the multiple mailings that are required by law. He suggested looking at the Planning Department notification costs that are not mandated by State law and look at ways to send those notifications other than through mailings. Mr. Ward said that the notifications needed for transitional zones is one of the larger paper, printing and postage costs. Council Liaison Furguele suggested making this type of notification through the water department. Mr. Ward said he thought the legal requirement is to send the notification to the property owner.

Discussion ensued on departmental emission reports. Chairperson David talked about emission reports and that the City of Asheville, North Carolina compiles their emission reports for energy, electricity, gas and paper waste. He said the City of Asheville also tracks the miles that their employees drive to work and is counted as part of their emission goals. Council Liaison Furguele suggested that the Town compensate the employees that live in Town because they are not creating additional emissions by driving into Town. Member Scarboro suggested asking the Town accountant to review the costs that they see in the Town.

Discussion ensued on the Town employee compensation package. Mr. Ward explained that the compensation package breaks down the value of the benefits the employee is receiving. Mr. Ward said breaking down the value of the benefits on paper helps the employee understand what they are receiving from the Town.

Discussion ensued on carbon usage. Chairperson David said that the estimated miles driven by employees is included in this usage per capita. Mr. Ward confirmed that Chairperson David is suggesting that the Town track the miles over and above the employee take home vehicles. Member Ball said that the University tracks the mileage and they factor it into their overall gas inventory and the overall goal to reduce it.

Discussion ensued on incentives. Chairperson David said that some incentives are to purchase a more fuel efficient vehicle or to live in a more affordable area in Town. Council Liaison Furguele liked the idea to provide a stipend for a person purchasing a fuel efficient vehicle or living near Town. Chairperson David suggested possibly providing an annual \$200.00 bonus for an employee who drove their hybrid vehicle to work all year.

Discussion ensued on net metering. Member LaPlaca talked about the Town of Boone not having net metering. Council Liaison Ashcraft pointed out that the Town does not control the utility companies. Member LaPlaca suggested making a request to the utility companies or have a stakeholder meeting to discuss net metering. She said the Town of Boone will never have a residential solar market without net metering. Member Ball suggested inviting Mr. Ed Miller from New River Light and Power and a representative from Blue Ridge Electric Membership Corporation to attend a Sustainability Committee meeting to discuss net metering. Chairperson David explained that Appalcart is looking at installing 40 kilowatts of solar to offset their electricity usage but because they do not have net metering, they have to install 80 kilowatts of solar. He further explained that they have to install double of what they need to get the dollar value of it. Member LaPlaca confirmed that New River Light and Power does not have net

metering for residential areas. She said that Blue Ridge Electric Membership Corporation has wholesale net-metering but you have to buy twice as much of it. She further explained that Duke Power has retail net metering. It was the consensus of the Sustainability Committee members to invite both utility companies to a Sustainability Committee meeting.

Member Ball left the meeting at 7:15 p.m.

Council Liaison Furguele said he would make an action request for the Council's May 2019 agenda to add net metering and to expand the charge of the Sustainability Committee to ask lobbyist to research the tax increase on electric vehicles.

Member LaPlaca said she would make a request to Council regarding a presentation that she would like to make to Council on what is going on in other towns and cities and what does the Town of Boone need to change to move forward with their Sustainability goals. She confirmed that she would be presenting information to Council on her behalf and not on behalf of the Sustainability Committee.

Other Matters by Committee Members or Staff

Council Liaison Furguele encouraged the Sustainability Committee members to attend the May 9, 2019 Council meeting and speak as citizens under public comment on the clarification and adjustment of the Sustainability goals discussed in this meeting.

Adjournment

With no other matters to discuss, Member Prickett made a motion, seconded by Member Scarboro to adjourn the meeting at 7:36 p.m.

Vote:

Aye – All

Nay – None

The motion passed.

Quint David, Sustainability Committee Chairperson

Marlene Crosby, Committee Secretary

TOWN OF BOONE TOWN HALL

(Administration, Finance, Utility Billing, Human Resources, Downtown Coordinator, Downtown Police)

Location: 567 West King Street 2 story building with full basement

Hours of Operation: 8 am – 5 pm

Staff:

Utility Billing:	3
Finance:	4
GIS:	1
Police Officer:	1
Admin/HR :	6 FT 1 PT

Employees Full-time: 15

Part-time: 1

Vehicles: 3

YEAR	MAKE/MODEL	VEHICLE MILEAGE
2001	Chevy Impala	68,017 Est. 22 MPG
2007	Chevy Trail Blazer	28,582 Est. 17 MPG
2017	Chevy Equinox	14,379 Est.24 MPG

Maintenance Costs for 12 months: \$163.87

Gallons of gas used for 12 months: 285.16

Estimated miles driven in 12 months: 5,046

Cost of vehicle related gas in the last 12 months: \$589.25

Cost of Maintenance and gas per mile \$0.12

Building-Electricity for past 12 months:

Kilowatt Hours: 163,715

Cost: \$13,979

~\$1,165 per month

Building-Gas for past 12 months:

NA

Building – Water for past 12 months:

41,000 gallons

~ 3,417 gallons per month

~ 155 gallons per day

On-line Educational Training Programs for Employees:

Safety Training

Risk Management Training

Human Resource Training

**TOWN OF BOONE
SUSTAINABILITY COMMITTEE
MEETING MINUTES
THURSDAY, MAY 16, 2019
5:30 P.M.**

Members Present:	Chairperson Quint David, Vice-Chairperson Harvard Ayers, Ben Scarboro, John Prickett and Nancy LaPlaca
Town Council Liaisons Present:	Sam Furgiuele and Marshall Ashcraft
Staff Members Present:	Marty Little – Senior Planner and Marlene Crosby-Committee Secretary
Others Present:	Pilar Fotta, Director of Cultural Resources

Call to Order

Chairperson Quint David called to order the Boone Sustainability Committee, held in the Town Council Chambers Room located at 1500 Blowing Rock Road at 5:30 p.m.

Adoption of Agenda

Member Scarboro made a motion, seconded by Vice-Chairperson Ayers to adopt the agenda as amended with the addition of the topics of Greenhouse Gas Reduction Solutions and inviting Blue Ridge Electric Membership Corporation (BREMCO) and New River Light and Power Company (NRLP) to give presentations on their companies.

Vote:

Aye – All

Nay – None

The motion passed.

Approval of Minutes

Member Scarboro made a motion, seconded by Member LaPlaca to approve the April 11, 2019 meeting minutes as presented.

Vote:

Aye – All

Nay – None

The motion passed.

Planning and Inspections Update

Mr. Marty Little, Senior Planner, began the update by stating that the Earth First Friday Event occurred on Friday April 26, 2019. He said the event went well except for some rainy weather at the time of the event. He said the Town plans on continuing this event in the future.

Mr. Little informed the committee that Boone Town Hall had received a new Ford Fusion hybrid vehicle. He also noted that the Boone Police Department has not received the new police vehicle because it is still being outfitted with the necessary police gear. He further noted that the Police bicycles have already been received and are in use and they are helping the Police officers do a better job at patrolling the Downtown area.

Vice-Chairperson Ayers asked Mr. Little if the bicycle lanes will be improved in the Town. Mr. Little noted that the Town has a Bicycle-Pedestrian Plan that has been adopted by Council. Mr. Little explained that the Town-maintained streets can be updated and the Town does install bicycle lanes where possible.

Mr. Little informed the committee that he had recently attended a "Complete Streets" workshop in Marion, North Carolina and some of the things discussed in the workshop were: access to transit stops, bike lanes, and road diets. Mr. Little further explained that "Complete Streets" incorporates "multi-modal" transportation.

Mr. Little gave a Council meeting update. He said there was a request for discussion regarding the Waste Water Treatment Plant and a system that can capture green-house gases admitted by this plant. Council Liaison Furgiuele explained that after the discussion on green-house gases at this meeting, Mr. John Ward, Town Manager, may be coordinating an analysis of the Waste Water Treatment Plant, as well as researching a DEQ grant.

Mr. Little said there is no update on the contract on the NRLP solar project at this time.

Mr. Little said at the Council meeting, Council approved three large trees to be planted along Queen Street and the planting of 100 seedlings in the Town.

Overview of Town Department Operations

Ms. Pilar Fotta, Director of Cultural Resources, began a presentation on the Jones House and Town of Boone Cultural Resources Department, which included a handout (permanently attached). She explained that the Jones House is open seven days a week. She explained that the electricity costs were reduced by converting over to natural gas.

Member Scarboro reviewed the handout and suggested that the number of dollars per square meter of carbon offset be added to the handout.

Discussion ensued on dog waste stations in the Town. Ms. Fotta talked about the dog waste stations that the Town provides for the public to use. She said that she provides supplies for two of the stations near the Jones House. In her experience of purchasing dog station bags, it has

been difficult to locate a commercial-grade bag that is biodegradable or made of a sustainable material.

Discussion ensued on the disposing of dog waste bags at the landfill. Council Liaison Ashcraft noted that the landfill will accept any type of bag but it would be better to have compostable bags. Ms. Fotta said the used dog waste bags are usually taken away by the public. She explained there are two waste containers near the Jones House for the public to dispose of the dog waste bags.

Discussion ensued on municipal composting. Member Scarboro suggested the Town starting a composting program, and to add composting bins alongside regular garbage receptacles. Member Scarboro further stated that the waste bags could be placed in the composting bins.

Member LaPlaca asked Ms. Fotta about the cost to use compostable service materials. Ms. Fotta said the cost for paper is about 20 to 25 percent and the utensils cost around 25 to 30 percent more, but she tries to purchase these items in bulk to receive a discount to help offset the increase in cost. Ms. Fotta suggested that each Town department research and decide which products they want to purchase that fits within the department budgets.

Council Liaison Furguele pointed out that Ms. Fotta is the point of contact for all of the use of the Dan'l Boone Park. He asked her if there has been any discussion on mandating the products that are used by the groups that use Town property. She said there has not been any discussion on this topic but she felt it was a great suggestion. He said he thought the license agreements should be reviewed to mandate the use of more sustainable products. Council Liaison Furguele also talked about the Town using a certain percentage of local foods from Farmers Markets.

Discussion ensued on the www.drawdown.org website. Chairperson David explained things like wind power and reducing food waste from this website and suggested that each Sustainability Committee member review the website.

Discussion ensued on the reduction of electricity. Member Scarboro asked Ms. Fotta about how she achieved the reduction in electricity. She said she had motion sensors installed and she turns the lights off when they do not have any visitors in the house viewing the galleries. She also explained that she invested in the Ecobee system, which includes monitors in all of the rooms that regulate the temperature throughout the house.

Discussion ensued on the windows of the Jones House. Ms. Fotta explained that because of the historic designation of the house that applying window film on the front of the house is not allowed. She explained that she has checked on changing out the windows so they can be opened during warmer weather.

With no other updates or questions, Ms. Fotta left the meeting at 6:34 p.m.

Greenhouse Gas Reduction Solutions

Discussion ensued on greenhouse gas reduction solutions. Chairperson David referred to www.drawdown.org and explained the report. Member LaPlaca pointed out that www.drawdown.org has global information. She suggested using the www.rockymountaininstitute.com website. She further explained that the United States is different from the global area because of its impact of electricity and food. Chairperson David suggested looking at both websites to look for ideas to help reduce the carbon footprint in the Town of Boone.

NRLP and BREMCO Invitations to Present

Discussion ensued on inviting representatives from Blue Ridge Electric Membership Corporation and New River Light and Power Company to give a presentation to the Sustainability Committee. Member LaPlaca suggested providing a list of questions to ask these power companies to learn what they do for their customers.

Discussion ensued on developing a business model. Member LaPlaca talked about a co-op named Roanoke Electric located in eastern North Carolina. She said the co-op has been participating in a program called E-Clip, which is a federal efficiency program that has helped around 400 low-income households to get personal loans and save money.

Discussion ensued on the committee charge. Chairperson David asked the Council Liaisons about committee recommendations outside of the new committee charge. Member LaPlaca talked about the committee needing to discuss the obstacles and opportunities of moving towards clean energy. Chairperson David suggested making a recommendation for every Town Department to install enough solar to achieve the zero energy goal in the next 20 years. Member LaPlaca explained that if there is no net-metering, it will never work and it will cost twice as much as it needs to. Council Liaison Furgieuele responded to Chairperson David's question regarding the recommendations outside of the new committee charge. He explained that Council asked the Sustainability Committee to work on forming recommendations for Town Department operations, which includes the creation of the toolkit. He suggested that the Sustainability Committee make a recommendation to Council to have a joint meeting with Town Council and the power companies, if the Council as a whole is interested in it. He further suggested the Sustainability Committee making a recommendation to ask Council to have a joint-meeting with Council and the Sustainability Committee, and inviting elected representatives from Raleigh, North Carolina to attend. He explained that if the Sustainability Committee is suggesting the State taking over the regulation of co-op's, or changing the configuration of the way that electricity is distributed in the State, these concerns will have to be taken to the General Assembly.

Mr. Little said the next step would be to make a recommendation to Council for Council to schedule a joint-meeting with the Sustainability Committee. Council Liaison Furgieuele noted that Mr. Ward, Town Manager, would need to be involved in the joint-meeting. Council Liaison Ashcraft said that he felt that the Sustainability Committee should work through the Town Departments first, before having a joint-meeting. Member LaPlaca said it will take six months to work through the Town Departments, which will take too long, in addition to waiting on the Council's decision regarding a joint meeting. She suggested starting the process because time is

of the essence and the obstacles are formidable. Council Liaison Furguele explained that the Council's direction for the Sustainability Committee to meet with the Town Department Heads and work on the toolkit be carried out.

Chairperson David said he would work with Member LaPlaca on a recommendation to discuss at the next Sustainability Committee meeting. Mr. Little said he would add this topic to the next meeting agenda.

Other Matters by Committee Members or Staff

Council Liaison Furguele asked if it was necessary for the committee members to meet in the Council Chambers for just the month of June, 2019. The Sustainability Committee agreed to meet in the Planning & Inspections Department Upstairs Conference Room located at 680 W. King Street for the June 13, 2019 Sustainability Committee 5:30 p.m. meeting.

Motion and Vote:

Member Prickett made a motion, seconded by Member Scarboro, for the Sustainability Committee meeting, scheduled for June 13, 2019 at 5:30 p.m., to be held in the Planning and Inspections Department Upstairs Conference Room located at 680 W. King Street.

Vote:

Aye – All

Nay – None

The motion passed.

Adjournment

With no other matters to discuss, Member Prickett made a motion, seconded by Member Scarboro, to adjourn the meeting at 7:15 p.m.

Vote:

Aye – All

Nay – None

The motion passed.

Quint David, Sustainability Committee Chairperson

Marlene Crosby, Committee Secretary

Town of Boone Jones House & Cultural Resources-Operations

Location: 604 West King Street; 2 story-building

Hours of Operation: 8 am – 5 pm M-F

11 am-4 pm Saturday and Sunday

Tuesday evening 5-9

Thursday evening 5-11

Additional weekend and evening hours for special events as requested

Staff: 3 FTE/3 PTE

Vehicles: 1

YEAR	MAKE/MODEL	Vehicle Mileage
2010	F-250	46,092

Note: Staff trades vehicles with Planning and Inspections for trips out of town. Our vehicle was “recycled” from the Fire Department and meets our needs for moving materials and towing our stage for events.

Maintenance Costs for past 12 months: \$ 429.55

Gallons of gas used in past 12 months: 86.218

Estimated miles driven in past 12 months: 840

Cost of vehicle related gas for past 12 months: \$ 267.65

Building-Electricity for past 12 months: *Please see graph for usage trends

Kilowatt Hours: 28,692

Cost: \$ 2,990.52

Building-Gas for past 12 months:

Therms: 151

Cost: \$ 303.31

Building-Water for past 12 months:

Gallons: 25,000

Current Events Promoting Sustainability:

Solar Christmas Tree

Earth First Friday

Initiatives we've taken to reduce carbon footprint:

- Switched to recycled paper for schedules and flyers (\$\$)
- Switched to compostable or recycled event supplies: cups, plates, and utensils, and towels (\$\$)
- Recycle event waste
- Over a two-year period made the conversion to LED light bulbs (\$)
- Put parade forms online (not paper)
- Plant pollinators in the yard at the Jones House
- Keep lights off when not needed (tried to install motion detectors but were not able to retrofit)
- Purchased Ecobee system to help regulate temperature and keep it static (\$)
- Use natural cleaning products (no aerosols) (\$\$)
- Eliminated the use of straws at events
- Use reusable grocery bags when we shop
- Large water dispenser instead of bottled water
- Regularly monitor replace threshold seals (\$)
- Eliminated use of helium balloons at events (\$)
- Switched to OXO-Bio dog waste bags for the two stations we supply (Made with 98% recycled plastic with 2% EPI additive to make them biodegrade with exposed to elements in landfill). Even though it's made with 98% recycled plastic, it is still plastic (please see below for suggestions on how we can continue to improve this) (\$\$)

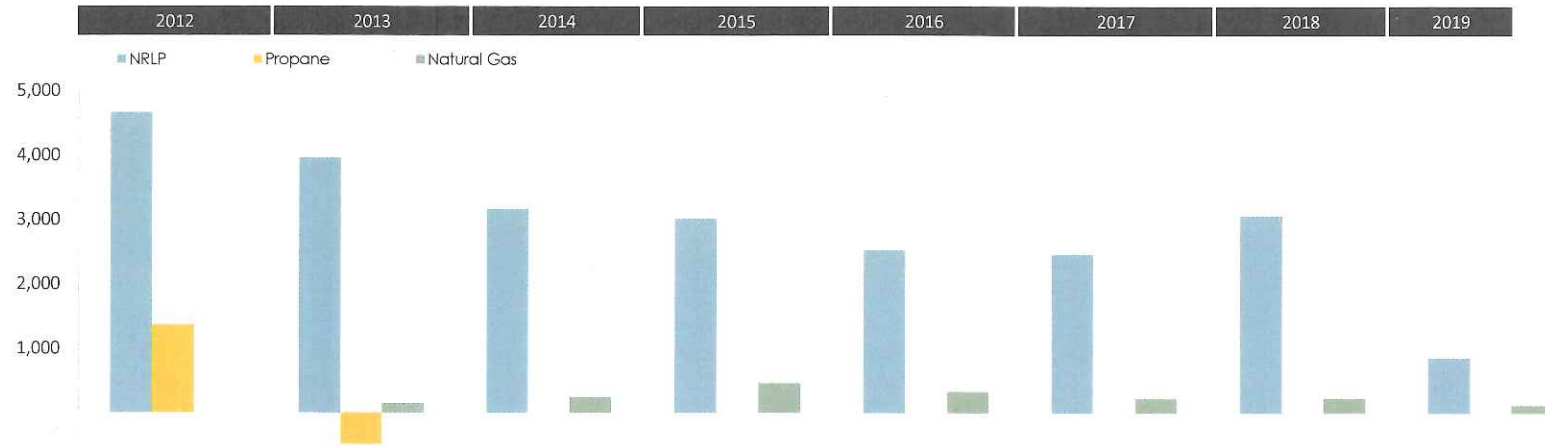
(\$) *Indicates a one-time increase in cost*

(\$\$) *Indicates an increase in budget for ongoing expense*

Suggestions moving forward:

- Upgrade toilets (will need to serve high use as we are a public facility)
- Replace windows with double pane windows (need to consider historic designation)
- Upgrade refrigerator to a more energy efficient model
- Continue to look for alternatives for dog waste disposal bags
 - Two new products are set to come out later this year and we will start using those products as soon as possible
 - June – Biobased bags (minimum of 38% plant matter)
 - August – 100% Compostable Bags are set to hit the market they are only available in rolls which would require us to replace two of our three stations
- Continue to look for ways to reduce packaging and waste for event giveaways

Jones House



Expenses	JH 2012	JH 2013	JH 2014	JH 2015	JH 2016	JH 2017	JH 2018	1st Q 2019
NRLP	4,666.00	3,960.43	3,168.00	3,016.00	2,530.12	2,466.55	3,057.46	860.84
Propane	1,372.00	-493.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	150.42	242.71	461.30	331.34	232.00	234.00	121.73
Total	6,038.00	3,617.85	3,410.71	3,477.30	2,861.46	2,698.55	3,291.46	982.57

NOTE: There are several factors that caused the increase in 2018 and 2019.

1. Effective May 2018 Price for meter rates doubled from \$8 per month to \$16 per month.
2. In May 2018 charges started for Cole Ash Recovery started this averages around \$10 per month.
3. There was a slight increase in rates.
3. We started operating 7 days a week.

Our usage has increased slightly, but the increase in charges you see are related mostly to the increase in costs and fees.

* Total cost includes sales tax.

**TOWN OF BOONE
SUSTAINABILITY COMMITTEE
MEETING MINUTES
THURSDAY, JULY 11, 2019
5:30 P.M.**

Members Present: Chairperson Quint David, Vice-Chairperson Harvard Ayers, Nancy LaPlaca and John Prickett.

Town Council Liaisons Present: Sam Furgiuele and Marshall Ashcraft

Staff Members Present: Jane Shook-Director of Planning and Inspections, Marty Little-Senior Planner and Marlene Crosby-Committee Secretary

Others Present: Rick Miller-Director of Public Works and Todd Moody-Deputy Director of Public Works

Call to Order

Chairperson Quint David called to order the Boone Sustainability Committee, held in the Planning and Inspections Department – Upstairs Conference Room located at 680 W. King Street at 5:30 p.m.

Adoption of Agenda

Member Prickett made a motion, seconded by Vice-Chairperson Ayers to adopt the agenda as written.

Vote: Aye – All

Nay – None

The motion passed.

Member LaPlaca stated that she would like to add to the agenda that she objects to the purview of the Sustainability Committee being so narrow and she noted that she hopes that this can be discussed at some point. Chairperson David said this topic could be discussed under other matters. He said that this topic was discussed at last month's meeting but it can also be discussed again.

Approval of Minutes

Member Prickett made a motion, seconded by Vice-Chairperson Ayers to approve the June 13, 2019 meeting minutes as written.

Vote:

Aye – All

Nay – None

The motion passed.

Communication: Toolkit Discussion Minutes and Handouts (Town Manager Update)

Town Department Operations/Public Works Department

Chairperson David welcomed Public Works Director, Mr. Rick Miller, and Public Works Deputy Director Mr. Todd Moody to the meeting and turned the meeting over to them to begin their presentation on their departments.

Mr. Moody handed out an eight-page document (permanently attached) that covered the following topics related to Public Works in their presentation: Public Services and Public Utilities, Jimmy Smith Wastewater Treatment Plant, Water Treatment Plant, Equipment Yards, Streetlights and Traffic Signals, Booster Station on Brownwood Road, Greg Young Water Intake, New River South Fork Intake and the Winkler Creek Intake. Mr. Miller added that there are 57 full-time employees and one temporary employee in the Public Services and Public Utilities Departments.

Member LaPlaca asked where the most time and energy is spent in their departments. Mr. Miller said on whatever the priority is on that day. He said one example is the meter reading which is a priority for the first two weeks of the month for eight hours a day. He explained that at this time, the meters are read with touch-read meters.

Chairperson David noted the wastewater treatment and sewer related activities created about 60 percent of the expenses in the annual budget. Mr. Miller said the waste water treatment sewer plant is the largest expense with about \$400,000.00 per year and between \$135,000 and \$150,000 in natural gas expense per year. Mr. Miller further explained that it takes electricity and gas for the drying process for two and one-half million gallons of sewage coming in to be processed per day. Mr. Miller recommended not making any changes to the sewer plant until the time the plant underwent an expansion which could be in ten to fifteen years.

Vice-Chairperson Ayers asked about the breakdown for kilowatt hours. Mr. Miller said the Town gets its power from both New River Light and Power (NRLP) and Blue Ridge Electric Membership Corporation (BREMCO). He also noted that the waste water treatment plant gets its power from BREMCO.

Discussion ensued on the breakdown of the total usage at the wastewater treatment plant. Mr. Miller said over the years there have been three separate engineers that have looked at lowering the power usage. Member LaPlaca said there should be some way to negotiate the usage with BREMCO because of their system load. Mr. Miller said there have been conversations with BREMCO and NRLP and other pump stations on trying to lower the usage. Member LaPlaca said the usage cannot be reduced because of the demand charge issue and Mr. Miller agreed.

Discussion ensued on the power bills for each of the topics outlined in the attached document. Member LaPlaca asked about the actual cost of energy without the demand charges. She recommended that Council have experts review the power bills and look at the different options for the Town's electricity.

Discussion ensued on energy versus the demand charge. Member LaPlaca said she thought the demand is half demand and half energy. She explained that the demand charge drives everything and she asked Mr. Miller to do some more research on it based on the peak charge.

Discussion ensued on the LED lights in the Town. Member LaPlaca asked if the Town was using any LED street lights. Mr. Moody explained that the Town started changing the street lights over to LED lights about five years ago. Member LaPlaca asked if the Town has seen any cost savings since they changed over to LED lights. Mr. Moody said it depends on the wattage that they are

using for the lights and because the Town is charged a flat rate, they cannot tell the cost savings. Chairperson David said he would like for the Town to ask NRLP about the rate they are charging the Town for kilowatt hours. Mr. Moody said that the Town does not see the cost savings because it is blended into the increase in the electrical rates that just occurred in July of 2019. Mr. Miller suggested that the Sustainability Committee check with the Finance Department on the electric bills. Vice-Chairperson Ayers asked how many LED street lights have been changed out that make up the 25 percent number. Mr. Moody said there are 9,000 poles in the Town of Boone but the Town does not maintain all of them.

Mr. Moody explained that for LED lights, there is a one-time charge of \$400.00 to change out a light fixture. If they change a black, powder-coated pole downtown it is \$9,125.00, a sidewalk light costs \$1,750 and a street light costs \$1,950.00. Mr. Miller explained that it takes three employees to change five or six lights per day depending on where they are working and the circumstances where they have to work.

Discussion ensued on changing out the vehicles to electric vehicles. Mr. Miller said he is working on replacing the public works 2010 bucket truck. Mr. Miller pointed out that if this type of truck is available in an electric version, it would cost more than what the budget could currently afford for a non-electric version. Vice-Chairperson Ayers asked about doing research to see if bucket trucks are available in the electric version. Ms. Jane Shook, Director of Planning and Inspections, said the Planning Staff can do the research on making a list on which vehicles that might be converted to electric.

Discussion ensued on negotiating with BREMCO to reduce power costs. Mr. Miller said that, at the Staff level, he did not feel that he could make progress with BREMCO on reducing costs.

Discussion ensued on an updated plan to evaluate if there are new methods that would help conserve water and energy in the water treatment and wastewater treatment plant systems.

Discussion ensued on alternative methods to reduce costs at the water and wastewater treatment plants. Council Liaison Furgiuele asked Mr. Miller if he had researched any alternative methods to reduce costs for the process of drying the solids. Mr. Miller said he has not researched these type of methods. Mr. Miller explained the water treatment plant is currently running at 55 to 65 percent on most days; therefore, an expansion is not needed for ten to fifteen years, based on growth of Appalachian State University and population of the Town.

Mr. Miller noted that at some point the wastewater treatment plant will need to be expanded and this is when the alternative methods will need to be researched. Mr. Miller said the wastewater treatment plant was designed to expand from 4.8 million gallons per day (MGD) to 6.2 MGD.

Mr. Miller explained that the Town of Boone toilet rebate program will pay a property owner a \$100.00 rebate when older toilets were replaced with the newer low-flow toilets.

Discussion ensued on contacting an engineer on conserving power and water. Council Liaison Furgiuele talked about consulting with an engineer regarding both sides of the raw water system to see if there are newly developed technologies to conserve power and water. Mr. Miller said it is possible to discuss this topic with an engineer.

Discussion ensued on providing power and water conservation information to the public. Ms. Shook talked about possibly handing out educational information to applicants who submit

building permit applications. Mr. Miller agreed with trying to educate the public and he noted that it is difficult to persuade the public to actually carry out the changes.

Discussion ensued on possibly expanding water conservation education for restaurants to reduce water use. Mr. Miller noted that one of his employees attends the expos and other events that promote water conservation.

Discussion ensued on maintenance work on electric vehicles. Council Liaison Furguele asked Mr. Miller if it is currently an obstacle to not have trained Town mechanics to work on the hybrid vehicles owned by the Town. Mr. Miller said it is a current obstacle and he explained that this type of training may not be available to offer the Town mechanics at this time. Mr. Moody said that he doesn't think that EV classes are available yet through the training program that they use. Mr. Miller said it is a priority for him to get ASC certifications for the current Town mechanics.

Chairperson David reviewed the 10 Tenets of Sustainability with Mr. Miller and Mr. Moody. Mr. Miller said the most frustrating item that they deal with is storm water.

Council Liaison Furguele asked Mr. Miller if his employees are concerned with climate change. Mr. Miller explained that some of the employees have different personal priorities and he is not sure how to change their priorities.

Chairperson David suggested that the Sustainability Committee create a list of items based on the EPA guidelines and from other cities; and he said he would like to present the list to Mr. Miller and Mr. Moody before presenting the list to Council. Member LaPlaca suggested reviewing the electricity use across the Town. She said that she knows experts across the country that are grant-funded that would help the Town at no cost. She suggested having a stakeholders meeting as well to get their feedback.

Discussion ensued on looking into incentive programs for employees. Member Prickett suggested creating incentives for employees to provide savings for the Town. Council Liaison Furguele talked about involving the Town's Human Resource Director on the incentive program.

Mr. Miller and Mr. Moody left the meeting around 6:44 p.m.

Other Matters by Board Members or Staff

Vice-Chairperson Ayers informed the Committee that both hybrid vehicles have been received by the Town.

Vice-Chairperson Ayers talked about the goals for 2030, 2040 and 2050.

Member LaPlaca voiced her concern regarding the change of the Committee charge. She said she felt that the focus was too narrow at this time and she would like to see other issues addressed, such as net metering and co-ops. She said that she felt we should be looking at the source of energy. She also noted that BREMCO is at 0.5 percent for clean energy. She said that NRLP mirrors Duke Energy at about 4 percent for clean energy. She included that if the underlying problem of energy is not reviewed, nothing will be solved.

Council Liaison Furguele explained about the possibility of changing the way the utility companies operate regarding clean energy. He noted that the Sustainability Committee has no power to negotiate this type of change on how they source their energy. Member LaPlaca explained that she disagreed with Council Liaison Furguele and that there are things that can be

done, starting with education. She also suggested a joint meeting with BREMCO and NRLP to discuss how to possibly make a change.

Council Liaison Furgiuele explained that the Sustainability Committee was tasked by the Council to begin discussions on net metering, pending a contract between NRLP and the Town of Boone for the solar array.

Council Liaison Furgiuele and Council Liaison Ashcraft explained the reason for the change in the Committee charge, which was to focus on areas where the Town had the most control and could make the most impact. Council Liaison Furgiuele said reviewing the Town operations was suggested by the Sustainability Committee and authorized by the Council. Council Liaison Ashcraft explained that the Committee charge may be expanded in the future if the Council chooses to do so.

Council Liaison Furgiuele talked about the possibility of a bond referendum to raise taxes to get the funding to accomplish specific things. He said that the Sustainability Committee needs to identify and propose specific things that might could be accomplished.

Ms. Shook said the Planning Staff will work internally on the demand charge versus the energy charges.

Adjournment

Vice-Chairperson Ayers made a motion, seconded by Member LaPlaca, to adjourn the meeting at 7:15 p.m.

Vote: Aye – All

Nay – None

The motion passed.

Quint David, Sustainability Committee Chairperson

Marlene Crosby, Committee Secretary

TOWN OF BOONE PUBLIC WORKS

Public Services and Public Utilities

Location: 321 E King Street

Hours of Operation: 7:00am – 5:00pm (Emergency Call Back)

Staff: Administration: 8 Full-time 1 Temporary
 Public Services: 29 Full-time
 Public Utilities: 20 Full-time
 Full-time: 57
 Temporary: 1

Vehicles:

Facilities Maintenance		
Year	Make/Model	Odometer
1992	New Holland L553	91.4
1998	Ford F250	34,682
	Kubota B 1750	1,929
1996	Ford Leaf Vac	32,673
	Vermeer Chipper	1,787
2008	New Holland CM274	394
1999	Giant Vac	455
2004	Kubota B2100 HSD	2,186
2001	Freightliner Grappler	34,274
2003	New Holland TN75	1,428
	Kut Kwick Slope Mower	148
2002	Kubota B7500	1,599
2004	GMC T7500	23,088
2006	Toyota Tacoma	55,828
1989	Chevrolet Flusher	15,234
2008	Chevrolet Silverado	43,456
	Bobcat Ransom Mower	1,265
2010	Kubota B3030HSD	1,515
2010	Chevrolet Colorado	57,033
2005	Kubota RTV900	1,298
2011	Caterpillar 279C Tracked	874
2011	Chevrolet 3500	38,310
2013	Chevrolet 3500	53,659
2014	OBD LCT650	149
2014	Ferris IS 3100Z	607
2015	Chevrolet 2500HD	20,205
2016	Kubota B3350HSDC	249
2016	Kubota B2301HSD	275
2018	Freightliner Grappler	4,997

2017	John Deere Z930R	206
2019	Chevrolet 2500 HD	0
2000	Kubota B2620HSD	1,149

Maintenance Costs for 12 Months: \$34,657.27
 Gallons of Gas Used for 12 Months: 9,030.265
 Estimated Miles Driven in 12 Months: 26,320
 Cost of Vehicle Related Gas in the Last 12 Months: \$19,867.91
 Cost of Maintenance and Gas per Mile: \$2.07

Fleet Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2006	Toyota Tacoma	49,596
2013	Chevrolet Express Van	2,027
2017	Chevrolet 2500 HD	2,717
2018	Chevrolet Silverado	6,773

Maintenance Costs for 12 Months: \$2,820.30
 Gallons of Gas Used for 12 Months: 782.855
 Estimated Miles Driven in 12 Months: 8,377
 Cost of Vehicle Related Gas in the Last 12 Months: \$1,572.04
 Cost of Maintenance and Gas per Mile: \$0.52

Street Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
1973	Gallion Road Grader	1,730
1974	Ford Tractor	3,387
	Ford 2910	1,2910
	Ingersoll-Rand	908
1981	Chevrolet Camera	1,813
	Champion 720A Motor Grater	1,504
	Robex Excavator	2,751
1996	International Dump	84,527
	Dresser to 7 Dozer	986
2000	International Do-All 4800	32,544
2000	Chevrolet Swap Loader	19,071
	Daewoo Mega 200 III	4,490
2000	Ford Explorer	43,736
	Lee Boy 8500-II Paver	911
	Lee Boy 400TS Roller	606
2003	Freightliner FL80	12,337
2003	Freightliner FL80	45,702
2004	Chevrolet W4	8,487
	Komatsu Excavator	4,220
2007	Chevrolet Tahoe	49,719
2007	Chevrolet 3500 Crew Cab	69,783

2007	Mack Dump	45,063
	Komatsu WA200PZ-6	2,986
2010	Ford Bucket	11,439
2011	Chevrolet 3500HD	24,824
2012	International Do-All	14,669
2013	Chevrolet 3500 Crew Cab	44,518
2015	International Terrastar	7,242
2015	Chevrolet 3500HD	12,911
2016	Chevrolet 2500HD	34,817
2016	Caterpillar	1,198

Maintenance Costs for 12 Months: \$68,935.39
 Gallons of Gas Used for 12 Months: 12,728.281
 Estimated Miles Driven in 12 Months: 45,901
 Cost of Vehicle Related Gas in the Last 12 Months: \$28,102.02
 Cost of Maintenance and Gas per Mile: \$2.11

Utility and Engineering		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2007	Chevrolet Trailblazer	101,564
2016	Chevrolet 1500	29,020

Maintenance Costs for 12 Months: \$1,868.66
 Gallons of Gas Used for 12 Months: 1,001.220
 Estimated Miles Driven in 12 Months: 14,008
 Cost of Vehicle Related Gas in the Last 12 Months: \$2,026.76
 Cost of Maintenance and Gas per Mile: \$0.27

Water and Sewer Operations		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2002	Toyota Tacoma	58,505
1993	JCB Backhoe	5,914
1995	International Dump Truck	63,823
1997	Ford F350	19,667
	Ingersoll-Rand	56
2000	JCB Backhoe 214	4,889
2006	Ford F350	92,501
2006	Kubota U 45	3,229
2008	Ford Ranger	49,816
2009	Ford F350	54,371
2010	Hatz	705
2011	Chevrolet 3500	105,400
2012	Freightliner M2106	20,078
2012	Chevrolet 2500HD	91,565
2013	Nissan Rouge	27,616
2013	Chevrolet 2500	46,017

2015	Ford F350 Super Duty	54,527
2015	Chevrolet 3500HD	28,070
2016	Nissan Frontier	2,402
2017	Ford Transit 350	3,915
2017	Nissan Frontier	3,427
2017	Caterpillar 420F2	300
2018	Freightliner M6	3,202
2018	Nissan Frontier	5,030
2018	Nissan Frontier	126
2018	Chevrolet 2500HD	5,092

Maintenance Costs for 12 Months: \$28,151.51
 Gallons of Gas Used for 12 Months: 13,625.445
 Estimated Miles Driven in 12 Months: 72,549
 Cost of Vehicle Related Gas in the Last 12 Months: \$29,308.42
 Cost of Maintenance and Gas per Mile: \$0.79

Building-Electricity for past 12 Months:

Kilowatt Hours: 132,240
 Cost: \$13,158.79

Building-Gas for past 12 Months:

Gallons: 4,043
 Cost: \$5,957.31

Building-Water for past 12 Months:

Gallons: 142,000

TOWN OF BOONE PUBLIC WORKS

Jimmy Smith Wastewater Treatment Plant

Location: 201 Casey Lane

Hours of Operation: 24 hours daily

Staff: 12 Full-time

Vehicles:

Facilities Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
	Komatsu Wheel Loader	4,628
	Ford 340B	2,959
2000	Ford F350	18,935
2000	Ford F350	114,966
2008	Ford Ranger	60,293
2012	Chevrolet 1500	22,304
2016	Chevrolet 1500	14,017
2018	Toyota Rav 4 - Hybrid	2,718

Maintenance Costs for 12 Months:	\$1,641.77
Gallons of Gas Used for 12 Months:	2,154.399
Estimated Miles Driven in 12 Months:	6,177
Cost of Vehicle Related Gas in the Last 12 Months:	\$4,411.94
Cost of Maintenance and Gas per Mile:	\$0.98

Building-Electricity for past 12 months:

Kilowatt Hours:	3,787,392
Cost:	\$347,665.90

Building-Gas for past 12 months:

Therms:	148,844
Cost:	\$166,674.97

Building-Water for past 12 Months:

Gallons:	5,255,000
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TOWN OF BOONE PUBLIC WORKS

Water Treatment Plant

Location: 376 Deck Hill Road

Hours of Operation: 4:00am – 9:00pm

Staff: 7 Full-time

Vehicles:

Facilities Maintenance		
<u>Year</u>	<u>Make/Model</u>	<u>Odometer</u>
2010	Carryon Trailer	
2007	Chevrolet Trailblazer	60,495
2016	Chevrolet 1500	10,647
2018	Toyota Rav 4- Hybrid	4,044

Maintenance Costs for 12 Months:	\$1,795.59
Gallons of Gas Used for 12 Months:	756.002
Estimated Miles Driven in 12 Months:	1,650
Cost of Vehicle Related Gas in the Last 12 Months:	\$1,517.96
Cost of Maintenance and Gas per Mile:	\$2.00

Building-Electricity for past 12 months:

Kilowatt Hours:	1,274,560
Cost:	\$112,350.34

Building-Gas for past 12 months:

Gallons:	5,115
Cost:	\$7,472.83

Building-Water for past 12 Months:

Gallons:	239,000
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TOWN OF BOONE PUBLIC WORKS

Equipment Yards

Location: 169/174 Horn Avenue

Building-Electricity for past 12 months:

Kilowatt Hours:	27,242
Cost:	\$3,039.63

Building-Gas for past 12 months:

Gallons:	632
Cost:	\$968.19

Building-Water for past 12 Months:

Gallons:	10,000
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Streetlights and Traffic Signals

Electricity for past 12 months:

Cost:	\$135,720
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Booster Station on Brownwood Road

Electricity for past 10 months:

Cost:	\$16,359
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Greg Young Water Intake

Electricity for past 10 months:

Cost:	\$26,809
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New River South Fork Intake

Electricity for past 12 months:

Cost:	\$74,134
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Winkler Creek Intake

Electricity for past 12 months:

Cost:	\$7,157
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Public Works Promotes Sustainability in the following capacity:

- Promoting and participating in Recycling
- Promoting and participating in Water Conservation
- Promoting Residential Composting Program
- Harvesting rainwater to water flowers, trees and mixing salt brine
- Hosting Litter Sweep/Boone Clean-Up Day
- Hosting Earth Week
- Hosting Fun in the Park
- Hosting Every Drop Counts Poster Contest
- Hosting Rain Barrel Promotion and Giveaway
- Using beet juice to pretreat roads during inclement weather
- Using LED lighting
- Using programable thermostats
- Using occupancy sensors
- Using high efficiency heat pumps
- Using used motor oil for the fleet maintenance heating system
- Using WWTP effluent discharge to water flowers, trees and mixing salt brine
- Educating during school year (recycling, litter prevention, water conservation)

**TOWN OF BOONE
SUSTAINABILITY COMMITTEE
MEETING MINUTES
THURSDAY, AUGUST 8, 2019
5:30 P.M.**

Members Present: Chairperson Quint David, Vice-Chairperson Harvard Ayers, Nancy LaPlaca, Lee Ball and John Prickett.

Town Council Liaisons Present: Sam Furgiuele and Marshall Ashcraft

Staff Members Present: Marty Little-Senior Planner and Marlene Crosby-Committee Secretary

Others Present: Police Chief Dana Crawford and Police Captain Andy LeBeau

Call to Order

Chairperson Quint David called to order the Boone Sustainability Committee, held in the Planning and Inspections Department – Upstairs Conference Room located at 680 W. King Street at 5:32 p.m.

Adoption of Agenda

Vice-Chairperson Ayers made a motion, seconded by Member Prickett to adopt the agenda as written.

Vote: Aye – All
Nay – None
The motion passed.

Approval of Minutes

Member Prickett made a motion, seconded by Vice-Chairperson Ayers to approve the July 11, 2019 meeting minutes as written.

Vote:
Aye – (Ayers, David, LaPlaca, Prickett)
Nay – None
Abstention – 1 (Ball)
The motion passed.

Discussion ensued on plastic bags. Chairperson David talked about a process to implement ideas to reduce the use of plastic bags. Member Furgiuele said that the Sustainability Committee has no authority on plastic bags.

Town Department Operations/Police Department

Police Chief Dana Crawford and Police Captain Andy Lebeau gave a presentation on the Boone Police Department regarding sustainability (permanently attached).

Chief Crawford presented information describing the Police Department's location, hours of operation, number of Staff, number of vehicles (which included the maintenance costs for the past 12 months as well as the vehicle fuel usage), water usage, electricity usage, natural gas usage and initiatives that they have undertaken to reduce their carbon footprint.

Chief Crawford pointed out that the Police Department will be receiving a hybrid patrol car when it has completed its necessary upgrades. He said the Department has received two electric-assisted bicycles, which have generated positive feedback so far, with the only foreseeable downside being the inclement winter weather.

Council Member Furguele talked about washing the police vehicles, how the new Municipal Building will include its own car washing station, and the importance of washing the undercarriage of the police vehicles in order to sustain vehicle life by removing salt.

Council Member Ashcraft wanted to know how many front-line vehicles were in the Police Department. Chief Crawford said they have 35 front-line vehicles, with five auxiliary/reserve cars, and that they try to replace four vehicles per year. He expects the transition to a full hybrid/electric fleet to take eight to nine years. He noted that the Department has been using some vehicles since 2005.

Council Member Furguele asked how many police personnel live in Town. Chief Crawford said currently there are two living in Town. Council Member Furguele further talked about the current lack of incentives for police officers to live in Town, including no incentives for police officers that are called back for patrol duty or training on their days off. Chief Crawford noted that there are currently eight police detectives that are subject to call-back.

Captain Lebeau talked about the Town policy for taking police vehicles home, which includes keeping up the maintenance of the vehicles. He talked about the recruitment and retention for police officers.

Chief Crawford read from his quarterly and annual report stating that the Boone Police Department receives around 21, 000 calls per year. Member Ball asked if there was a way to reduce mileage without compromising the services. Chief Crawford said it is difficult because officers are constantly responding to calls and do not have a lot of downtime. Captain Lebeau said that officers do "Intelligent-Led Patrolling", where they patrol "hot spots" in an effort to be pro-active, but most officer time is reactionary instead of preventative.

Council Member Furguele asked Chief Crawford if he supports police personnel living in the Town limits. Chief Crawford answered yes and that he would like for all officers to live in the Town limits.

Discussion ensued on the use of bicycles for police work. Chief Crawford said officers can use the bicycles for a lot of the calls, but in some cases, a hostage situation for example, they need to use a police vehicle. Chief Crawford pointed out that when the police officers use the bicycles, they can better engage with the community.

Discussion ensued on police trailers. Chief Crawford said the Police Department has two traffic trailers, but they do not have a specialized trailer to work a crime scene. He said they do have a generator to use to power a trailer to serve as a command post. Committee Member Ball talked about how police trailers can be powered with photovoltaics (PV), and conversions to solar can be grant-funded.

Discussion ensued on electric vehicles. Chief Crawford said that the batteries on the electric vehicles drain from the specialized lights and computers running for extended periods of time in the police vehicle.

Discussion ensued on propane-gas conversions in vehicles. Captain Lebeau talked about a way to convert the gasoline-powered vehicles over to propane-gas through a company called Alliance Auto Gas (permanently attached). He said the propane-gas conversions could be done as an intermediate step as proven electric vehicles start to become available. He noted that the cost of this type of conversion is about \$6,000.00 in addition to the cost of the new vehicle. He also noted that the current cost of propane is about \$1.20 per gallon and varies just like gas does, and it is a higher octane. He said the amount of carbon reduction is about 85 percent greater than a gasoline powered vehicle. He said the propane tanks are located in steel boxes in the trunk of the vehicle for safety. He said this type of conversion is not recommended for Dodge Chargers. He said that the Town of Waynesville, North Carolina has converted some of their police vehicles to propane through the Alliance Auto Gas company.

Committee Member LaPlaca showed concern for an environmental impact from using the propane gas. She asked how long will it would take to recoup the cost of the propane-gas conversions. Captain Lebeau said the cost of the conversion would be recouped within 12 to 18 months, with the car's lifespan being about eight to ten years.

Discussion ensued on recycling paper. Chief Crawford explained that his department is doing some digital storage of information, but state law requires that they retain large amounts of paper, which is more than they want to keep.

Discussion ensued on the drug-take back program. Chief Crawford said his department receives an incredible amount of drugs in this program. Council Member Furgiuele asked Chief Crawford if he could contact pharmacies to learn how to educate the public on the disposal of unused drugs.

Council Member Furgiuele asked Chief Crawford if he anticipated any resistance within the Police Department to departmental changes towards climate neutrality. Chief Crawford answered that he did not, as long as the equipment and changes were proven to be as effective as before.

Other Matters by Committee Members or Staff

Council Member Furgiuele talked about a proposed Town Council agenda item asking Council to direct Mr. John Ward, Town Manager, to create an internal system to monitor the emergence of sustainable technology that could be used by Town departments. He also mentioned that he planned to place on the Town Council agenda an action item regarding the possible banning of Styrofoam.

Adjournment

Member Ball made a motion, seconded by Vice-Chairperson Ayers to adjourn the meeting at 6:55 p.m.

Vote: Aye – All

Nay – None

The motion passed.

Quint David, Sustainability Committee Chairperson

Marlene Crosby, Committee Secretary

Communication: Toolkit Discussion Minutes and Handouts (Town Manager Update)

Town of Boone Police Department

Sustainability Report



Location: 1500 Blowing Rock Road (Blowing Rock Government Building)
Hours of Operation: 24/7
Staff: 37 Officers/11 FT and 4 PT Civilians
Vehicles:

Maintenance Costs for past 12 months (April 2018-March 2019): \$42,304.66

Vehicle Fuel Usage in past 12 months (April 23, 2018 to April 22, 2019 combined averages):

Estimated Miles:	422,370
Gallons Purchased:	33739
Total Gross Cost:	\$86,314.30
Total Paid after tax exemption and Speedway discount:	\$66,018.38

Chrysler/Dodge/Ram products have Engine Displacement Systems for fuel economy

Building Water for past 12 months (June-May): 92,000 gallons

Building Electricity for past 12 months:

Kilowatt Hours:	165,720
Cost:	\$15,057.50

Building Natural Gas for past 12 months:

Therm Usage:	1,254
Cost:	\$1,420.69

Initiatives we've undertaken to reduce carbon footprint:

- Switched from Propane to Natural Gas
- Replaced refrigerator with an energy efficient model
- Replaced water heater with a natural gas, tankless version in 2016
- Use bike patrol when possible and have personnel available
- Placed a drug take back station in the lobby to keep pharmaceuticals out of streams
- Several recycle bins through the building for easy access
- Installed motion detector lighting for high traffic areas
- Refrigerator has water dispensing for use instead of bottled water
- Air Purifier placed in the evidence room
- Purchase of hybrid patrol car (testing phase)
- Purchase of two electric assist bicycles
- Changing building lights to LED when replacement is necessary

MUNICIPAL SOLUTIONS



Alliance AutoGas (AAG) is an international network providing a comprehensive propane autogas solution for multiple vehicle platforms for all major manufacturers. AAG is able to convert buses, vans, sedans, utility trucks, medium-duty buses to bi-fuel propane autogas or to a mono fuel configuration. Conversions can be fully compatible with handicap accessible vehicles.



THE ALLIANCE AUTOGAS ADVANTAGE

- Meet sustainability goals & reduce costs
- Buy American-domestic fuel & conversion systems
- Direct & indirect labor savings – No fuel stops
- Predictable pricing allows for accurate budgeting
- Reduce fuel costs by 30% - beat your budget every year
- Single-point sourcing for fuel allows for greater control, fuel quality, & data integrity
- Excellent “mission critical” fuel supply
- Increases uptime
- Low or no upfront costs allow for quick ROI
- Alliance AutoGas grant & rebate programs available



INFRASTRUCTURE, SCALABILITY & DATA MANAGEMENT



Adopting an alternative fuel shouldn't be a hassle. When Alliance AutoGas converts a vehicle fleet to operate on propane autogas, we provide autogas fueling at no upfront cost to their organization. With scalable onsite and public refueling site options available, we assess each individual fleet's needs. And since autogas infrastructure grows with your fleet, we can make sure fleets have the most success based on fleet size, budget, and facility space.

In addition to refueling, our autogas dispensing stations provide data management opportunities. The Alliance Triton T3MR Dispensing Station allows users to track vehicle data they require such as Driver ID, Vehicle ID, Vehicle Mileage, Gallons pumped and more.

FEATURES OF THE TRITON T3MR INCLUDE:

- Simple user interface
- Cellular-based communication
- User customizable reporting
- Multi-level user access for Alliance members and customers
- Real-time management of cards and fleet resources
- Complete end to end solution
- Daily data file for back office import
- Accommodates multiple fleets/user at a single location



Communication: Toolkit Discussion Minutes and Handouts (Town Manager Update)



KEY FACTS ABOUT PROPANE AUTOGAS



- There are over **24 million vehicles running on Propane Autogas worldwide**, making Propane Autogas the third most-widely-used automotive fuel in the world. The technology has been tested in every condition and has proven itself in the real world.
- **100% of Propane in the U.S. comes from North America**, increasing America's energy security.
- **Propane Autogas costs 30% less than gasoline.** Even during spikes in the price of crude oil, the relationship between the price of gasoline and Propane Autogas has held steady.
- The American Propane Autogas industry has been building an extensive infrastructure for Propane AutoGas supply and distribution for years; **there are over 70,000 miles of Propane Autogas pipeline in the U.S.**, and the current distribution capacity far exceeds current demand.
- **Propane Autogas is a safer fuel than gasoline or diesel in case of accident;** it's less flammable and nontoxic. Thousands of school buses and taxis in the U.S. have already been converted to Propane Autogas.
- **Propane Autogas is a cleaner technology**, burning with fewer polluting by-products -- enabling you to be a better corporate citizen and protect public health.
- **Propane Autogas provides the longest driving range of any alternative fuel.** Your fleet will not experience any lack of productivity after conversion.
- You can use the same quality trucks you already own, but get higher performance from them by converting them to Propane Autogas, a cleaner fuel that **extends engine life and reduces necessary maintenance.**
- You can add brand new OEM Propane Autogas-powered vehicles, or aftermarket conversion systems.
- You can **convert your existing fleet into flexible bi-fuel** (Gasoline/Propane Autogas) vehicles, and take advantage of both fuel sources.



SUSTAINABILITY + ENVIRONMENT



REDUCE YOUR COMPANY'S CARBON FOOTPRINT BY CONVERTING TO AUTOGAS

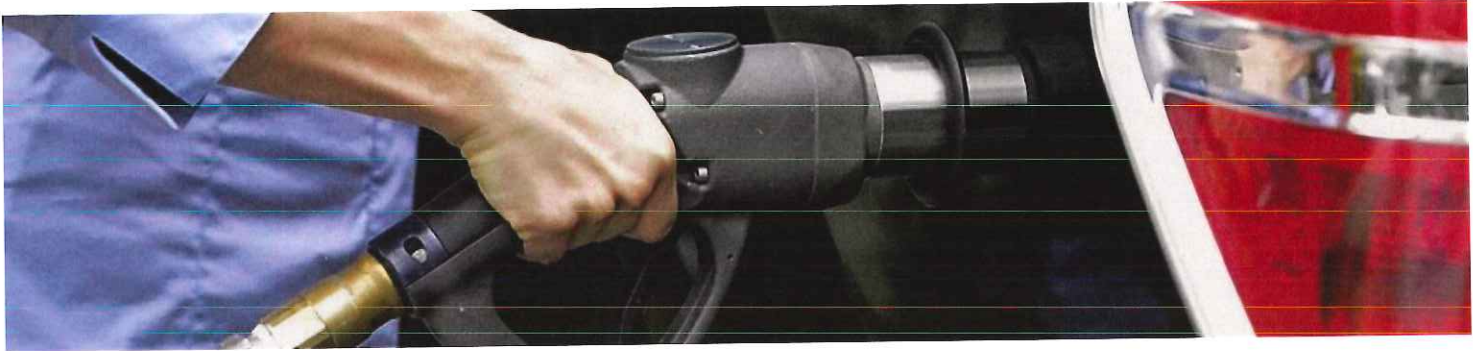
Not only does propane autogas cut costs, but it also cuts down on harmful emissions. Propane Autogas is the cleanest burning fossil fuel and is an approved Clean Fuel listed in the 1990 Clean Air Act and Energy Policy Act of 1992.

According to test conducted by the US Environmental Protection Agency, propane autogas vehicles can produce 30-60 percent less carbon monoxide emissions, 80 percent reductions in exhaust coarse particulate matter, up to 95 percent reductions in evaporative volatile organic compounds, and approximately 50 percent fewer toxins and other smog-producing emissions when compared to gasoline engines.

AUTOGAS:

- Lowers harmful greenhouse gas emissions significantly when compared to gasoline and diesel vehicles
- Significantly reduces pollutants such as particulate matter
- Reduces Carbon Monoxide by 60% when compared to gasoline, by 28% when compared to diesel
- Reduces Carbon Dioxide by 12% when compared to gasoline, by 18% when compared to diesel
- Reduces Nitrogen Oxide by 20% when compared to gasoline, by 60% when compared to diesel
- Reduces non-regulated emissions, including aromatic hydrocarbons, benzene, and SO₂
- Is nontoxic and soluble in water
- Reduces your carbon footprint by up to 96% compared to other fuels when considering total emissions, according to the World LP Gas Association





PROPANE AUTOGAS IS A SAFE, PROVEN, ALTERNATIVE FUEL

- Propane AutoGas is less flammable than gasoline, diesel, or CNG.
- Propane AutoGas is nontoxic.
- Propane AutoGas burns cleaner than other fossil fuel by-products, such as CNG.
- Propane AutoGas tanks are 20-times stronger than conventional fuel tanks.
- Propane AutoGas dissipates in the air in case of accident, unlike gasoline or diesel.
- Fueling systems and stations installed by Alliance AutoGas are sealed systems, eliminating the likelihood of spills, and employ an ultra-low emissions connector.
- Propane AutoGas has already proven its safety and reliability in powering over 25 million vehicles worldwide.
- Propane AutoGas is the third most-widely-used vehicle fuel in the world.

Alliance AutoGas also offers the safest refueling option in the industry.

The Stäubli Nozzle was developed to replicate the refueling process of a gasoline vehicle, something every driver already knows. The nozzle is just one part of our state-of-the-art vehicle technology, which makes safe refueling quick and easy, keeping your fleet on the road.



COMPLETE SOLUTION & QUALITY



WHO WE ARE / CONVERSION PROCESS

At Alliance AutoGas, we provide the only complete solution to convert, fuel, train, and manage your autogas fleet. In 2015 alone, Alliance members collectively displaced 45 million gallons of gasoline, producing \$54 million in fuel cost savings for the 460 fleets they service.

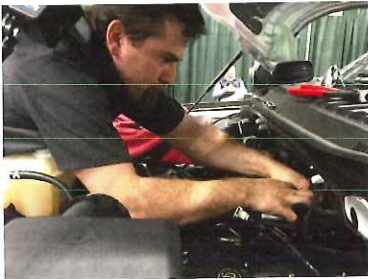
- ① Vehicle Technology ② Conversions ③ Refueling Infrastructure
④ Fuel Supply ⑤ Maintenance



Our state-of-the-art technology is robust, reliable, and our new conversions are designed for “plug-and-play” installation, meaning less downtime for your fleet, with most vehicles being converted in under 6 hours. Developed for a variety of makes and models, our conversions take less time to install and are EPA certified for your vehicle — meaning they will not void your existing vehicle warranty, in addition to requiring less maintenance. We offer additional peace-of-mind through our 5 year/100,000 mile warranty on new conversion models to show just how confident we are.



CONVERSION PROCESS



Alliance AutoGas proudly offers an EPA certified bifuel solution, reducing range anxiety for our fleets by allowing them to refuel with either propane autogas or gasoline. Offered at zero upfront cost, our systems are installed by Certified Conversion Centers with trained autogas technicians to deliver quality results.

With a wide range of vehicle platforms, we handle everything from the conversion technology and infrastructure to refueling, training and maintenance. In addition, we offer our own “plug and play” System, which significantly reduces cost and conversion time.

BENEFITS OF THE PLUG AND PLAY SYSTEM:

- Dramatic CO₂ emissions reduction- helps fleet managers meet and surpass sustainability initiatives for medium and heavy-duty truck fleets
- System is certified with the U.S. Environmental Protection Agency (EPA) and National Fire Protection Association's (NFPA) 58 standards
- Labor time cut in half and conversion costs are significantly reduced
- The conversion system is supported by a 5-year, 100,000 mile warranty
- Zero intrusion on the vehicle's original fuel tank

Our bifuel conversion systems do not void the current warranty on your vehicle, and we also offer our own 5-year, 100,000 mile warranty on our Plug and Play systems just to prove how confident we are.



**TOWN OF BOONE
SUSTAINABILITY COMMITTEE
MEETING MINUTES
THURSDAY, SEPTEMBER 12, 2019
5:30 P.M.**

Members Present: Chairperson Quint David, Vice-Chairperson Harvard Ayers, Nancy LaPlaca, Joan Brook and John Prickett.

Town Council Liaisons Present: Sam Furgiuele and Marshall Ashcraft

Staff Members Present: Jane Shook-Director of Planning and Inspections and Marlene Crosby-Committee Secretary

Others Present: Mr. Jimmy Isaacs, Director of the Boone Fire Department

Call to Order

Chairperson Quint David called to order the Boone Sustainability Committee, held in the Planning and Inspections Department – Upstairs Conference Room located at 680 W. King Street at 5:30 p.m.

Adoption of Agenda

Vice-Chairperson Ayers made a motion, seconded by Member LaPlaca to adopt the agenda as written.

Vote: Aye – All
Nay – None
The motion passed.

Approval of Minutes

Member Prickett made a motion, seconded by Member LaPlaca to approve the August 8, 2019 meeting minutes as written.

Vote:
Aye – All
Nay – None
The motion passed.

Town Department Operations/Fire Department

Mr. Jimmy Isaacs, Director of the Boone Fire Department gave a presentation on department usage for natural gas, propane, electricity, apparatus and fuel for the Boone Fire Department, including Station 1, 2 and 3 (permanently attached). He noted that there are 30 full time employees and 18 volunteers at these three stations. He explained the fire department initiatives to reduce the carbon footprint as well as additional initiatives the department wanted to work on as funding becomes available. He also talked about data network initiatives to reduce the Town's carbon footprint.

Mr. Isaacs indicated that the information presented at this meeting was based on a budget-fiscal year. He explained that he did not base the information in this report on miles driven, he based it on hours versus mileage because the fire trucks continue to run while being stationary. He noted that they need to keep an apparatus functional over long periods of time. He said that they can use electric vehicles for fire inspections and other non-emergency uses. He said one of the issues with the electric vehicles is they have no way to re-charge the vehicle battery when the vehicle is outside of the fire station.

Mr. Isaacs explained that the training classes for the firemen are being held inside the fire stations via video conference to help reduce the time the firemen are away from their stations. He said this type of training is allowing the firemen to save on response time on emergency calls.

Mr. Isaacs explained that they have had a maintained solar thermal unit for about 12 years at Fire Station 2 and it has worked properly.

Mr. Isaacs explained that Fire Station 1 and 2 have been re-roofed. He said they left the old insulation and put in additional insulation on both roofs to make the building more energy efficient.

Mr. Isaacs said that solar water heaters may not be able to keep enough hot water for the cleaning of the trucks, he said an “on demand” hot water heater would still be needed to clean the trucks. Member LaPlaca asked about the cost of the solar-water heaters. Mr. Isaacs said he has not priced them.

Council Member Furguele joined the meeting at approximately 5:56 p.m.

Council Member Furguele asked about the response time for fire calls when a fire station is located at the new location on the Bolick property. Mr. Isaacs explained that the fuel usage and time spent out of the station will be reduced substantially.

Mr. Isaacs explained the reason the Fire Department used trucks instead of sport utility vehicles (SUVs) was because after a fire the firemen would have to carry their dirty and contaminated gear inside the vehicle with the firemen back to the fire station which then couldn’t be cleaned out as easily as a truck plus the contaminated gear was in the same space as the firefighter.

Discussion ensued on emergency preparedness and resilience. Member Brook asked about hazard preparedness. Mr. Isaacs talked about the hazards of flooding, fire and wildfire, and the hauling off of debris. He talked about the emergency communication plan.

Chairperson David talked about the Sustainability Tracking Assessment and Rating System program having a section on response time to measure their sustainability performance. Mr. Isaacs said when he is looking to reduce costs, he looks at the cost benefit and tries to get a tangible benefit from it.

Council Member Furguele asked Mr. Isaacs how many times the Boone Fire Department has been asked to give aid to areas outside their jurisdiction. Mr. Isaacs said they do not receive a lot of requests.

After completing the fire department presentation and answering questions on it, Mr. Isaacs left the meeting at approximately 6:25 p.m.

Other Matters by Committee Members or Staff

Member LaPlaca welcomed new Member Joan Brook to the Committee. Member Brook gave a brief history of her experience with sustainability.

Council Member Furguele talked about asking Mr. Ward to speak on more sustainable technology when it becomes available and replacing the non-LED street lights. He said the street lights would pay for themselves as they are changed out.

Chairperson David said the date for the Town of Boone Litter Sweep is September 14 through 28, 2019. He also noted that there will be walk audits starting at the Watauga County Health Department on October 2, 2019.

Vice-Chairperson Ayers and Member LaPlaca said they will participate in the September 20, 2019 Climate strike held at the Community Garden on Howard Street from 4 p.m. to 5 p.m.

Council Member Furguele suggested that the committee look for ways in which the Town could incentivize employees to promote more sustainable personal behavior.

Adjournment

Chairperson David adjourned the meeting at 6: 34 p.m.

Quint David, Sustainability Committee Chairperson

Marlene Crosby, Committee Secretary



Boone Fire Department Sustainability Report

Locations: Station #1 - 721 West King St
Station #2 - 1075 State Farm Rd
Station #3 - 3228 Bamboo Rd

Natural Gas: Station #1 1575 Therm \$1,757.96
Station #2 1093 Therm \$1,268.52

Propane: Station #3 – 536 Gallons \$830.41

Electricity: Station #1 - \$5,989.82 NRLP
Station #2 - \$4,234.11 BREMCO
Station #3 - \$3,777.67 BREMCO

Staff: 30 Full Time
18 Volunteers

Apparatus: 5 - Pickups Ford f-150
3 - Type 6 Engines
4 - Type 1 Engines
2 – Tankers
1 - Heavy Rescue
1 – 100' Platform Truck
1 – 77' Ladder Truck

Fuel: Diesel – 6,071.08 gallons \$14,269.75
Gasoline – 3,037.05 gallons \$5,905.53
Non-Ethanol Gasoline – 138.29 gallons \$451.11

Fire Department Initiatives to reduce carbon footprint:

- Modification of response protocols.
- Diligent fire prevention and inspections.
- Solar water heater - Station #2.
- Additional Roof insulation Station #1 and Station #2
- On-demand water heater – Station #1 and #3.
- Installation of motion sensing light switches.
- LED Lighting change out at in living and office areas of Station #1 and #2.
- HVAC change out at Station #1 and #2 to higher SEER rating.
- Use of trailers for specialized needs such as Water Rescue and HazMat.

Additional Initiatives as funding becomes available:

- Electric vehicle to conduct fire inspections and travel to training (non-Emergency use)
- Increase preparedness and planning.
- Video Conference for stations to allow training to be conducted without movement of apparatus between stations.
- Solar water heater for Station #1 and #3
- Continue the upgrade of lighting to LED in apparatus storage areas.

Network Initiatives to reduce carbon footprint:

- Virtualization of servers.
- Improved connectivity between facilities.
- Centralized locations.