

**TOWN OF BOONE
SUSTAINABILITY, ECONOMICS AND ENVIRONMENT COMMITTEE MEETING
THURSDAY, FEBRUARY 18, 2019
5:30 P.M.**

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

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 5:32 p.m.

Adoption of Agenda

Member Scarboro made a motion, seconded by Member Prickett, to adopt the agenda as amended, with the adding of the following topics: Budget discussion and possible recommendation regarding the \$100,000 allocation and discussion on a possible recommendation that the SEEC review the New River Light and Power power purchase agreement.

Vote:

Aye – All

Nay – None

The motion passed.

Approval of Minutes

Member Scarboro made a motion, seconded by Vice-Chairperson Ayers to approve the January 10, 2019 meeting minutes with the following corrections as pointed out by Liaison Furguele: On page three in the first paragraph and first sentence, change Member Ball to Member LaPlaca; on page three in the second paragraph in the last sentence, change advise to prohibit; on page three in the third paragraph in the second sentence add "Ayers" between "Vice-Chairperson and to"; on page five in the sixth paragraph in the first sentence, add the word "of" between percent and "the"; on page seven in the first paragraph in the last sentence, remove "ask Mr. John Ward, Town Manager, to work on net metering" and replace with the following "to make a recommendation to Council to ask Mr. John Ward, Town Manager to work on net metering for

the Town”; and on page eight, paragraph three, in the second sentence, change the word “conceivable” to “comparable”.

Vote:

Aye – All

Nay – None

The motion passed.

Energy Action Plan Discussion

Chairperson David began discussion on this agenda item stating that he would like to review the 2017 Sustainability goals to present to Council for budget purposes (permanently attached). He reviewed the Boone Municipal Energy Inventory completed on June 7, 2017 using the 2014 budget year approximate figures for electricity, NG propane, Gas or Diesel and the total of all energy costs. He reviewed the action steps: (1) estimate solar required for 100 percent goal, (2) estimate solar cost, (3) investigate funding sources, (4) implement budget action for funding source and (5) monitor progress with a yearly report presented at the Town budget hearing.

Vice-Chairperson Ayers explained that he had learned from Mr. John Ward, Boone Town Manager that the Town would rather purchase the solar from the New River Light and Power rather than try to build its own solar array.

Chairperson David talked about the greenhouse gas reduction plan. He said that Governor Cooper wanted a 40 percent reduction by 2025 in these type of gases. Chairperson David suggested that the SEEC propose this same reduction for the Town of Boone. Chairperson David said if we did convert every fossil fuel vehicle over to electricity, we would still use approximately 10 mega-watts of solar. Vice-Chairperson Ayers said his studies showed that we would use approximately seven-watts of solar. Chairperson David said he was perhaps being more conservative with his calculations of the mega-watts.

Member Scarboro asked Chairperson David if the Town built a municipal solar array in Watauga County, if this power could be transmitted over a power company’s grid, and what would they charge to do it.

Chairperson David said the SEEC needs to decide if the Town is going to be 100 percent renewable, if that means that every building and facility will be net zero at that location or would the Town purchase their solar from someone else. Vice-Chairperson Ayers explained that the Town is planning to purchase 500 megawatts from New River Light and Power and Appalachian State University already owns this property located on Hwy 321. Member Ball noted that in 2022 the public will be able to possibly purchase solar power from this same location, if there is enough left to purchase. He said that NTE can get solar from other places as well.

Discussion ensued on the cost of solar per kilowatt hour. Member Scarboro asked if the solar that is purchased from other areas will be charged to the Town at a premium price. Member

LaPlaca said that the price was presented at 3.5 cents per kilowatt hour at a previous meeting for the Town to purchase from New River Light and Power. She said that the price should be checked on because the cost of solar is going down as solar becomes more available. Member Scarboro asked if there was a solar farm in Watauga County or somewhere else and the Town used someone else's power to transport it to the Town, would the Town be trading for dollar to dollar or mega-watt for mega-watt. Member Scarboro said, if they are giving the Town solar power at twice the rate and they are taking the Town's power at the same rate then the Town ends up losing on it. Chairperson David said he is running into this issue with some other solar projects in Watauga County where Blue Ridge Electric will only pay five cents per kilowatt for what you generate and they turn around and sell it back to you at 12 cents per kilowatt. Chairperson David said if you want to reach net zero for your electric bill costs, you have to install almost twice as much solar as you actually use so it actually zeros out your bill. Member LaPlaca explained that there is a website called www.ratesofsolar.org that talks about this type of information. Member LaPlaca explained how the website works.

Discussion ensued on greenhouse gases. Member LaPlaca explained about greenhouse emissions. She noted that methane is worse than coal and coal is being replaced by natural gas. She referred to the IPCC's fifth assessment in their latest report that came out in 2014. She said the report has used 100 years for methane but now uses 20 years. She added that 20 years is 86x. Chairperson David asked if methane comes off of the Town's sewer plant. Member LaPlaca said yes. Chairperson David pointed out that the Town's waste water treatment plant is using 88 percent natural gas and asked if there was another way to reduce this cost while doing the greenhouse gas assessment. Chairperson David suggested researching this topic to try to reduce the cost. Liaison Furguele asked the SEEC why they were not making recommendations to Council to make this greenhouse gas topic the highest priority. Chairperson David said the SEEC will be addressing the topic of greenhouse gas but for now it has nothing to do with the Energy Action Plan. Member Ball suggested that the Town hire a consulting company to review the waste water treatment plant usage. Liaison Ashcraft suggested asking another municipality to help the Town with what they have done and what worked for them on this topic.

Discussion ensued on modifying the language to read "climate neutrality". Member Scarboro suggested using the climate neutrality language and Liaison Ashcraft agreed with Member Scarboro. Liaison Ashcraft said this modified language presents a larger goal and it carries more flexibility in terms of how we meet it. Member Ball said that climate neutrality is more along the lines of what they are trying to do on campus at Appalachian State University. Liaison Furguele explained that when we focus only on renewables, it is a harder goal to meet. Liaison Furguele said that to replace the trucks over the next eight years is non-realistic and would need to be staged due to the expense of them.

Chairperson David asked the SEEC if they had any additional energy action plan possible recommendations that could be forwarded to the Council. Member LaPlaca suggested adding a section in the proposed plan that shows the damages from fossil fuels from various studies to help the public understand them. Chairperson David suggested adding an appendix or table that shows the damages.

Discussion ensued on the total energy cost. Chairperson David talked about the action step on investigating funding sources and the Town Staff should investigate 62 cost share with utility rates. Liaison Furguele asked if this would raise the water rates by 62 percent in the Town. Chairperson David explained that 62 percent of the energy costs in the Town is from the water utility.

Chairperson David explained that if the Town's goal is 100 percent renewable energy, the Town has to build it or partner with someone to achieve it.

Liaison Ashcraft said he was not in favor of asking the Town staff to investigate ways to fund an investment for a Town owned solar array because he said he thought the SEEC has covered the important part, which is to partner with NTE and BREMCO for an expanded purchase.

Member Scarboro said he felt it was important to keep the water bond and general fund bond actions because ultimately, barring a natural disaster, the Town of Boone will be around for 50 years and more. He pointed out that the Town may not be using the same providers in 50 years. Chairperson David said that this type of discussion would be a part of resiliency planning. Member Ball said if the Town did face some crises the Town might want to purchase a large battery placed near the solar facility help get through the crisis.

Discussion ensued on the possibility of raising funds for solar projects. Liaison Furguele said he did not believe that the Council would raise taxes in the Town to help fund solar projects. Vice-Chairperson Ayers said that he fully intends to raise some funds through the Federal Transit Administration. Vice-Chairperson Ayers said he believes the FTA would support the goal of the Town to help purchase electric vehicles.

Budget Discussion

Discussion ensued on making a possible recommendation to Council for electric vehicles. Vice-Chairperson Ayers referred to the handout (permanently attached) called "The First on the Ground Work of The Boone Clean Energy Project" and explained to the SEEC that he felt that this recommendation should be voted on and approved by the SEEC in this meeting. The recommendation was for the Town to purchase two electric cars and two electric bicycles that totaled \$67,600.00 which is part of the \$100,000.00 that Council previously approved. Member Ball noted that he does not think that the energy action plan is ready to be presented to Council. Member Ball felt the energy action plan needed more discussion. Chairperson David said if the Council does not want to approve funds for the 100 percent renewable energy goal, the SEEC should withhold making the vehicle recommendation to Council. Vice-Chairperson Ayers said it would be a big mistake to not make the recommendation to Council because the money has been approved. Liaison Furguele explained that with this proposed recommendation, the SEEC has an opportunity to get the Police Department on board and get some experience with the hybrid vehicle. Liaison Ashcraft agreed with Liaison Furguele to start making some headway and begin to reduce the carbon footprint.

Discussion ensued on the various plans that are being worked on by the SEEC. Liaison Furguele noted that there are three plans that need to be addressed, which are the energy action plan, climate neutrality, and perhaps adopting a formal resiliency plan. He noted that as far as he knows, the Town does not have a disaster plan other than the placement of exit signs. Member Ball noted that Appalachian State University will be working on their climate action plan with a resiliency component which includes the energy action plan all under one umbrella.

Member Ball asked Chairperson David if we should table the topic of the energy action plan and focus on the recommendation for the electric vehicles. Chairperson David explained that the Council approved the SEEC to focus specifically on the energy action plan goals (permanently attached). Chairperson David said if the Council wants to release the SEEC from that topic, he would like to talk about other things. Vice-Chairperson Ayers reminded the SEEC that the Council approved the proposal for the \$100,000.00. Liaison Furguele explained that the Council took action at the budget retreat. He said it was stated at that time when it was proposed, and explained by the Town Manager, that this would be something that the Council would be interested in pending review by the SEEC. Liaison Furguele said if the SEEC accepted the idea, then the Council would prepare to move forward with the \$100,000.00. Vice-Chairperson Ayers said the SEEC approved the \$100,000.00 at the May 2018 SEEC meeting. Vice-Chairperson Ayers further stated that he felt the SEEC should discuss the vehicle recommendation at some point in this meeting.

Vice-Chairperson Ayers pointed out that the \$100,000.00 was approved by the Council for specific items.

Discussion ensued on the breakdown of costs for the electric vehicles. Vice-Chairperson Ayers said that the SEEC members need to decide if they want to make the recommendation to Council for the electric vehicles (permanently attached). Chairperson David said that electric vehicles were not part of the short-term or long-term goals that the SEEC set in 2017. Chairperson David said the electric vehicles seem to be something that Vice-Chairperson Ayers' group has proposed on their own. Vice-Chairperson Ayers said that he worked with Mr. Ward on the electric vehicles the whole time. Chairperson David pointed out that the SEEC has no current goals for electric vehicles.

Chairperson David pointed out that it was written in the short-term goals to do another public-private solar project like the one on Depot Street.

Chairperson David explained that the SEEC made a recommendation to Council for \$200,000.00 and the Council approved the allocation of the \$100,000.00, and it was up to the SEEC to discuss converting Town vehicles from fuel to electric. Vice-Chairperson Ayers explained that the SEEC made a recommendation to Council in May of 2018. Liaison Furguele said the Council has agreed that the \$100,000.00 be protected until there are concrete proposals of how to allocate it in times of a tight Town budget. He further explained that the proposal by the Town Manager was preliminarily accepted by the Council to use a portion of the money, if the SEEC is in agreement with the vehicle purchase which is noted on the last page of the handout. Liaison Ashcraft

confirmed that the Council is interested in recommendations from the SEEC on the use of the \$100,000.00.

Chairperson David said there are other areas that can be argued that are sustainable areas that are not necessarily part of the \$100,000.00 budget. He said the money could be spent on sidewalks or on the greenway.

Vice-Chairperson Ayers talked about moving ahead with the previous approval by Council. Chairperson David said the previous goals that were approved were solar first and EV second. Chairperson David said if the SEEC is going to budget the \$100,000.00, does the SEEC want to move forward with what the SEEC recommended previously, or go with the \$67,600.00 that is being recommended for electric vehicles.

Vice-Chairperson Ayers explained that Mr. Ward has arranged to get 500 mega-watts of solar power without an initial cost up front. Member Ball said when the energy is available to the Town, there is likely to be an additional cost to the Town at that time.

Member Ball asked if the proposed hybrid vehicles are vehicles that the Town already needs. Liaison Ashcraft explained that the Town has one vehicle that was damaged and the Town will receive some insurance money for it and it will probably need to be replaced in the current year. Liaison Ashcraft further explained that there are no funds set aside for this vehicle replacement. Member Ball asked what the Ford Fusion Hybrid would be used for. Liaison Furguele said it would be used for trips for administration staff. Liaison Furguele also explained that the Ford Fusion Hybrid Police Responder Sedan would be assigned to the Downtown Boone police officer and it would be parked in front of Town Hall. Liaison Furguele said there would be signage attached to both of the hybrid vehicles. Member Ball said that the SEEC had discussed supporting an electric vehicle and asked why that is not in the proposal. Vice-Chairperson Ayers said the EV's are a lot more expensive. Liaison Furguele said he thought it was a range issue. Member Ball said the range for an EV is around 300 miles but it would need to be charged while on long trips. Liaison Ashcraft pointed out that it is not a practical option for the Police Department to have an EV due to all of the electronics in the vehicles and because they take their vehicles home which causes charging issues. Liaison Furguele pointed out that the Police Department also has issues with sharing police vehicles because of the complexities of the equipment change outs due to all of the electronics. Liaison Furguele noted that the idea is to try to replace two Town vehicles in a time of tight Town budget constraints. Liaison Furguele agreed that the SEEC should only be discussing the difference in the costs of the vehicle. Liaison Furguele explained that the SEEC could support purchasing some hybrids and it would get Staff used to not using gasoline powered vehicles. Liaison Furguele said this could be a small step in beginning to convert the Town's large fleet away from fossil fuels.

Chairperson David reviewed the previous approved goals that covered installing bike shelters and maintenance stations in public locations. He asked the SEEC if they wanted to recommend a budget amount for these goals. Liaison Ashcraft added that the Police Department wants to get all wheel drive SUV Hybrid vehicles with police packages, when they become available.

Member Prickett asked if the \$100,000.00 is not used fairly quickly, if it will it be moved somewhere else. Liaison Furguele said the Council set this amount of money aside and the Council can change it from year to year. He said at this time the money is intact. He also explained that this is an election year and in November and after the election, there could be new Council members that possibly may not support the allocation.

Discussion ensued on the Boone Clean Energy Project. Member Ball asked about the terminology of the last line of page two in the handout regarding the \$32,400.00 and the Boone Clean Energy Project. Member Scarboro said the Boone Clean Energy Project is explained in the April 2018 meeting minutes. Vice-Chairperson Ayers explained that the \$100,000.00 was allocated for things in the Boone Clean Energy Project. Chairperson David asked Vice-Chairperson Ayers if this project included solar first and EV second. Member LaPlaca explained that with solar it has changed dramatically to the point that no one wants to own it anymore, when you can locate a power purchase agreement and just purchase the energy.

Liaison Furguele explained that at the time that the Council set aside the \$100,000.00 they discussed the charging stations and the Town fleet. He said at that time the New River Light and Power power purchase agreement was not known about by the Town.

Chairperson David pointed out that there is a motion on the floor from an email that was not discussed at the last SEEC meeting. Member LaPlaca stated that she wanted to move forward with Vice-Chairperson Ayers' recommendation.

Member Ball suggested changing the recommendation to read that the remaining \$32,400.00 is to be used for Boone clean energy projects which allows for more flexibility. This was accepted as a friendly amendment. Member Scarboro read from the April 2017 SEEC minutes which stated that in the first year, a solar project would be completed and one electric vehicle would be purchased. Member Scarboro stated that he supports the purchasing of two electric vehicles, but he does not like purchasing these vehicles out of money that was originally allocated for clean energy projects. Member Scarboro talked about proposing the amount of \$16,000.00, which is the difference between the police and non-police car package amount. Vice-Chairperson Ayers disagreed with this proposed amount because he felt it might not be approved by Council if the \$67,600.00 was not included in the recommendation. Member Scarboro said he looked at the proposal as incentivizing rather than replacing someone's infrastructure.

Chairperson David said he wanted to make it clear that he is glad that the Town has the \$100,000.00 to work with; but if the SEEC does not want to discuss the previous SEEC short-term or long-term goals, and they want to move completely to the electric vehicle discussion, he is alright with it. He noted that there has been no discussion of the previous short-term or long-term goals at this meeting.

Liaison Furguele said if the SEEC supported the proposed recommendation, he suggested accepting the proposed amounts now, but in the future, pursuant to the Boone Clean Energy

Plan, add language to allocate more than the differential between the cost of the future electric-hybrid vehicles and the non- electric-hybrid vehicles. This was accepted as a friendly amendment.

Discussion ensued on changing the recommendation of the Town vehicle. Liaison Furguele said the Council has preferred that the purchase price of \$27,000.00 be used for a plug-in hybrid for the administrative use vehicle. He suggested that the SEEC recommend \$35,000.00 of the \$100,000.00 for the vehicle with the police package. Member Scarboro was in support of recommending the plug-in hybrid vehicle.

Motion and Vote:

Vice-Chairperson Ayers made a motion, seconded by Member LaPlaca, that the Sustainability, Economics and Environment Committee make a recommendation to Council for the purchase of one plug-in hybrid-electric vehicle costing \$27,000.00 that does not include the police package and one plug-in hybrid-electric vehicle that includes the police package for \$35,000.00, and two hybrid-electric bicycles costing \$5,600.00, for a total of \$67,600.00, which will come from the \$100,000.00 budget allocation from the Town's 2018-2019 fiscal year budget, with the remaining \$32,400.00 going toward future sustainability projects.

Vote:

Aye – All

Nay – None

The motion passed.

Discussion ensued on the future use of the \$32,400.00. Member Ball pointed out that due to the rapidly changing solar market, the SEEC might need to change what this amount of money should be spent upon in the future. Member Ball said this money might be used on other things like the New River Light and Power power purchase agreement, total electric vehicle, or other possible things. Vice-Chairperson Ayers said that these types of things fall under the Boone Clean Energy Project. Member Ball explained that he had much rather just pay the difference in the cost of the conventional vehicle and the clean energy vehicle.

Discussion ensued on possible budget recommendations. Chairperson David reviewed the budget recommendations for the short-term and long-term goals (permanently attached). He said he had prepared a preliminary budget if the SEEC would want to discuss them at this meeting. The items that Chairperson David reviewed from the goal list were installing a bike shelter and maintenance station in a public location, curbside composting, winters farmers market, education components and managing carbon emissions. He discussed possibly using the \$32,400.00 for some of these goals.

Member Scarboro talked about the short-term goal of the bicycle shelter and maintenance station. He is moving forward with this goal that the Council has already approved.

Mr. Little noted that the Earth First Friday recommendation is going to the next Council meeting for their consideration and approval.

Liaison Furguele said an allocation was made to the Watauga County Food Council to come back and make recommendations for developing a local food plan.

Member Ball talked about the curbside composting and needing the County's help. He said the University is encouraging the County to start a composting program at the landfill. He said that currently there is not a hauler for it.

Member Ball said at the next meeting, he wanted to talk about a bike-share program. He said the University is researching the Gotcha company. Chairperson David said this topic could be added to the next meeting agenda. Mr. Little informed the SEEC that perhaps Council would want the Transportation Committee to review this topic.

Discussion ensued on moving the budget amount of \$2,000.00 for the bike shelter maintenance station into a charging station. Member Ball suggested installing the charging station at the Boone Town Hall location.

Discussion ensued on moving forward with the budget items from the SEEC approved plan from August of 2017. Member Ball said that due to the small budget amount, the project would need to be small. Chairperson David said the project could be similar to the Depot Street solar project. Member Ball said the money could be used for a consultant to review the Town's water sewer treatment plant.

Discussion ensued on the \$32,400.00, which would be the remaining money from the \$100,000.00. Member Ball suggested further discussing, and being specific on, what they are proposing for the remaining money from the \$100,000.00 at the next meeting. Member Furguele suggested not using the money for funding of the Earth Day Celebration because last year the Council funded it separately.

Committee Name

Chairperson David suggested tabling this agenda item to the next meeting. It was the consensus of the SEEC members to table this agenda item to the next meeting.

New River Light and Power Power Purchase Agreement Discussion

Liaison Furguele encouraged the SEEC to make a recommendation to Council regarding the New River Light and Power power purchase agreement, that the SEEC to review it when it becomes available.

Motion and Vote:

Member Scarboro made a motion, seconded by Vice-Chairperson Ayers, to recommend to the Town Council that Council direct the SEEC to review and provide recommendations on the New

River Light and Power power purchase agreement for the proposed two-acre solar site located in Watauga County prior to Town Council reviewing the agreement.

Vote:

Aye – All

Nay – None

The motion passed.

Other Matters by Committee Members or Staff

Discussion ensued on the agenda items for the next meeting. Mr. Little pointed out that the Town's Transportation Committee could be a part of the discussion on the Bike Share topic. Chairperson David suggested the following agenda items for the next meeting: Energy Action Plan, Greenhouse Gas Discussion, the Remaining Budget Items Discussion, and the Committee Name Discussion.

Adjournment

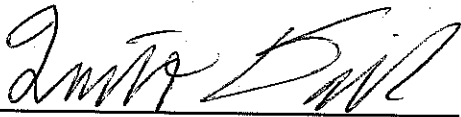
With no other matter to discuss, Member Ball made a motion, seconded by Member Scarboro to adjourn the meeting at 7:42 p.m.

Vote:

Aye – All

Nay – None

The motion passed.



Quint David, SEEC Chairperson



Marlene Crosby, Committee Secretary

Marlene Crosby - Boone Energy Action Plan

From:
To: Marlene Crosby <Marlene.Crosby@townofboone.net>

Date: 2/17/2019 1:45 PM

Subject: Boone Energy Action Plan

Attachments: Town of Boone Electricity and Fuel Use 2014.xlsx; FINAL Boone Sustainability Task Force Recommendations 11-20-2014 (1).pdf; 2017 TOB SEEC Recommendations.pdf

Ok folks,

So firstly we need to separate our "plan" from our budget requests.

Charlotte has an example here: <https://charlottenc.gov/CityCouncil/focus-areas/EnvironmentFocusArea/SEAP%20Presentation.pdf>

Cary here: <https://www.townofcary.org/home/showdocument?id=1749>

Carrboro here: <http://townofcarrboro.org/DocumentCenter/View/3508/DraftCommunityClimateActionPlan?bidId=>

Asheville is a little more simple but has also actually done more: <http://ashevillenc-prod.civica.granicusops.com/civicax/filebank/blobdload.aspx?BlobID=26177>

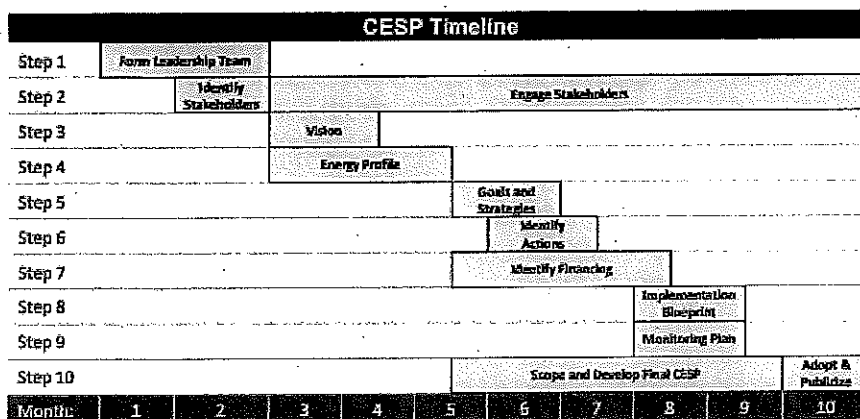
You can see their initiatives for zero emission busses, bike shares, climate change resiliency planning (flooding etc), parks etc here: https://www.ashevillenc.gov/departments/comm_public/projects_n_initiatives/default.htm

The basic process for both greenhouse gas reduction or 100% renewable planning is pretty simple-

1. Greenhouse Gas or Energy Inventory
2. Adopt a target
3. develop action plan to reach target
4. implement the plan
5. monitor progress and re-assess

Following the Department of Energy's guide we have been stuck between their own Step 6: Identifying Actions, Step 7: Identifying Financing, and are expected to produce a Step 8: Implementation Blueprint.

Find the guide here: <https://www.energy.gov/eere/slsc/guide-community-energy-strategic-planning>



The CESP also has a scoring form for deciding on which actions should be a top priority to implement. You can find that here and I will bring a copy to discuss.

https://www.energy.gov/sites/prod/files/2014/05/f16/cesp_tool_6-1_sample_scoring_form_prioritizing_actions.docx

We have had some excellent suggestions on potential actions I will try to include in my summary document later tonight. We have also had some talk about funding and financing sources I will include as well.

As usual I am including an updated spreadsheet of our energy usage, our 2014 goals which include the 2011 tenets of sustainability, and our 2017 goals.

Tonight I will compile a list of goals and action items similar to the simple Asheville list noted above for us to discuss tomorrow. We should also try and put forward a preliminary budget recommendation and discuss how we have, or have not, met our 2017 goals, and what we will do to adjust for the 2020 updated list coming sooner than later. I would suggest another public survey as the 2014 list is getting a bit dated.

Thanks,

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Sheet1

Boone NC Municipal Utility Expenses

First Compiled 6-7-2017 by Quint David for Sustainability, Energy, Environment Committee

Updated 2-17-2019

Numbers are approximated.

	2014 Actual:	Electricity	%electricity	NG/Propane	%NG	Fuel/Gas	%fuel
Dept/Div							
Dept 400 Gov Body		944	0.13		0.00		0.00
Dept 401 Admin			0.00		0.00	1,600	0.65
Dept 402 Finance			0.00		0.00	30	0.01
Dept 403 Tax collection			0.00		0.00		0.00
Dept 404 Legal			0.00		0.00		0.00
Dept 405 Elections			0.00		0.00		0.00
Dept 406 Fire Station 1		9,301	1.26	1,600	0.92		0.00
Dept 407 Blowing Rock Rd E		14,498	1.96	803	0.46		0.00
Dept 408 Brown bldg		12,046	1.63	11,287	6.52		0.00
Dept 409 Jones House		3,168	0.43	242	0.14		0.00
Dept 410 Town Hall Bld		15,171	2.05		0.00		0.00
Dept 415 Fire Station 2		5,272	0.71	1,656	0.96		0.00
Dept 417 Post Office		5,730	0.77	2,913	1.68		0.00
Dept 420 Fire Station 3		1,828	0.25	661	0.38		0.00
Dept 500 Public Safety			0.00		0.00	86,626	35.19
Dept 350 Fire Dept			0.00		0.00	27,353	11.11
Dept 360 Planning			0.00		0.00	6,449	2.62
Dept 600 public works			0.00		0.00		0.00
Div 401 Street Dept		148,188	20.01		0.00	45,255	18.38
Div 404 Fleet Maintenance			0.00		0.00	2,199	0.89
Div 405 Facility Maint			0.00		0.00	27,554	11.19
Div 801 Public Utilities			0.00		0.00	1,200	0.49
Div 802 Water Ops		21,879	2.95		0.00	20,050	8.14
Div 803 Sewer		8,882	1.20		0.00	20,050	8.14
Div 804 Water Treatment P		160,235	21.63		0.00	3,024	1.23
Div 805 Waste Water Treat		333,589	45.04	153,986	88.93	4,793	1.95

Total	\$740,731.00	100.00	\$173,148.00	100.00	\$246,183.00	100.00
est price per unit	0.1 kwh		2.5 gal		2.25 gal	
est units	7,407,310.00		69,259.20		109,414.67	

Total Electricity=	\$740,731.00	Total Fossil Fuel=	\$419,331.00
		Total All Energy=	\$1,160,062.00

Boone 2014 Sustainability Task Force Recommendations

'A Roadmap'

2014 Task Force Members:

Town Council: Quint David, Jennifer Peña:

Chair: Kent Walker

Vice-Chair: Sandra Diaz

Community Members: Sam Zimmerman, John Pertalion, Harvard Ayers, Kent Hively.

Council Charge to Committee:

- 1) Establish short (1-3 years) and medium term (5+years) goals and recommendations that the town of Boone may implement to improve the sustainability and resilience of our community.
- 2) Coordinate Community Input and Planning Process Integration.
- 3) The task force will also establish a yearly sustainability forum that representatives and citizens may participate in for the purpose of reporting effectiveness of current measures and receiving broad public input for new measures.

The Committee completed the bulk of these tasks by:

- Conducting a community survey, receiving over 300 responses and 100 emails.
- Meeting 2x a month since May to discuss, research, and finalize recommendations to council.
- Discussing public forum/workshop input ideas and formats.

Recommended actions for Town Council consideration:

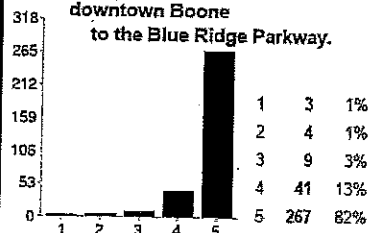
- 1) It is the recommendation of the 2014 sustainability task force that town council move to have town staff prepare a basic report investigating the costs and feasibility of integrating the following measures into the town of Boone (see below and following page) for action consideration at the December and January council meeting.
- 2) It is also recommended that town staff be free to include additional items they feel may be easily and cost-effectively achievable. (example: fast permitting for rainwater systems, expanding toilet rebate program etc.)
- 3) The final recommendation is to extend the term of the current task force, which would otherwise end Dec 31st this year, for 3 additional months until March 31st, for the purpose of working with town staff to finalize and schedule public input on the specific subject of sustainability, to finalize how that input may integrate with our budget and planning workshops of 2015, and to connect with community leaders and stakeholders to ensure their involvement during this on-going process of community sustainability is well defined and documented.

Area	Short Term Goal	Medium Term Goal
Transportation	Community Bike Initiative	Greenway Expansion Plan, and actual expansion.
Energy	Local incentives for efficiency and energy production.	Solar Covered Parking Project on Queen St. Or similar green energy initiative.
Water	Point source pollution study within TOB limits.	Watershed restoration plan in partnership with regional groups.
Food	Curbside composting program for restaurants.	Community center with a focus on winter farmer's market and other local food initiatives.
Education and Outreach	Information and links on TOB website outlining sustainability-oriented plans and initiatives from the TOB and local community organizations.	Collaborative and yearly sustainability focused community workshop held around earth day in April. Official TOB Earth Day events.

Categories and goals taken from previously adopted tenets of sustainability.
Percentage indicates percent of 4 and 5 level responses.

Transportation:

A Greenway corridor from downtown Boone to the Blue Ridge Parkway.

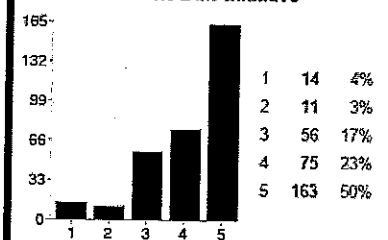


95%

We envision the Town of Boone as a community that is a regional leader in providing a full range of safe, clean, and user-friendly transportation options. The Town will discourage fossil fuel burning vehicle use and enhance other healthier forms of transportation

such as walking, bicycling, and carpooling. The Town will continue to support and improve accessibility of public transportation efforts.

Revive the Boone Bike Initiative

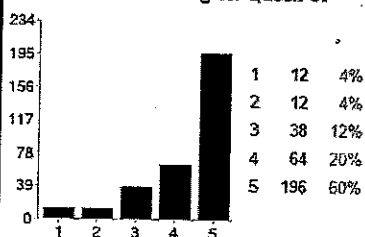


73%

- **Revive the Boone Bike Initiative (Short-Term)** – Instruct town staff (cultural resources and public works) to coordinate with the remnants of the Boone Bike Initiative, the Boone Area Cyclist, the ASU office of Sustainability, ASU Outdoor Rec, and other applicable stakeholder groups, to identify needs and potential locations for a community bike shop. This will likely be a simple license agreement between one of these groups and the town to be able to secure bikes and tools, and host volunteers, at a yet-to-be-identified town-owned property for the purpose of community bike repair and community workshops.
- **Greenway expansion (Long Term)** – Instruct town staff (public works and planning) to work with the middle fork greenway association, the town greenway committee, and other appropriate community groups, to complete an 'outline plan' for complete greenway connection and improvement across the town. Establish potential priority sections and areas for improvement to bring back to council. Utilize existing town plans as part of recommendations.

ENERGY:

Solar Covered Parking on Queen St



80%

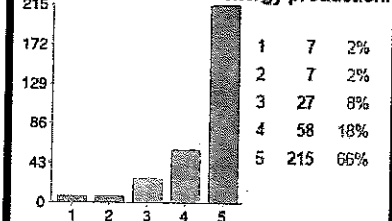
We envision the Town of Boone to be a community whose innovative approaches to energy are upheld as leadership practices.

Citizens will be aware of individual and aggregate energy use, engaged in methods for utilizing energy effectively, and educated on new and renewable means of energy production. These efforts will focus on

operating our community infrastructure more sustainably while also enabling individuals to

utilize these methods and knowledge in their own homes and businesses.

Local incentives for energy efficiency and energy production.

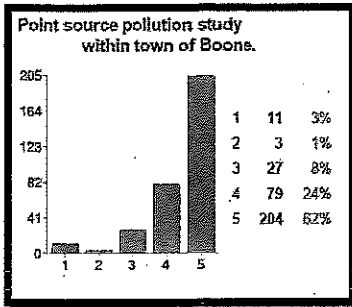


84%

- **Local incentives for energy efficiency and energy production (Short-Term)** – (planning/inspections) Have staff prepare a list of incentives other municipalities are using to encourage the adoption of energy efficiency and energy production to present to council for consideration. Permit fee discounts, permit prioritization, development ordinance density bonuses, and quick-permitting incentives for green building features were some ideas that needed further staff input.
- **Solar Covered Parking Queen St. (Long-Term)** – Instruct town staff (manager and planning) to conduct a feasibility study and report back to council including potential costs, savings, and partnerships of a photovoltaic project located in downtown Boone. Queen street and the town-owned parking lot beside the post office have been identified as potential sites, but other sites and possibilities should be considered if applicable.

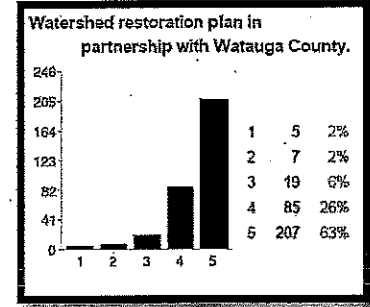
Categories and goals taken from previously adopted tenets of sustainability.
Percentage indicates percent of 4 and 5 level responses.

WATER:



86%

We envision the Town of Boone as a community that acknowledges the precious and valuable resource that is water. The Town will implement policies and procedures that maximize water efficiency and minimize the environmental impacts of both, water extraction from and returning water to the natural environmental system.

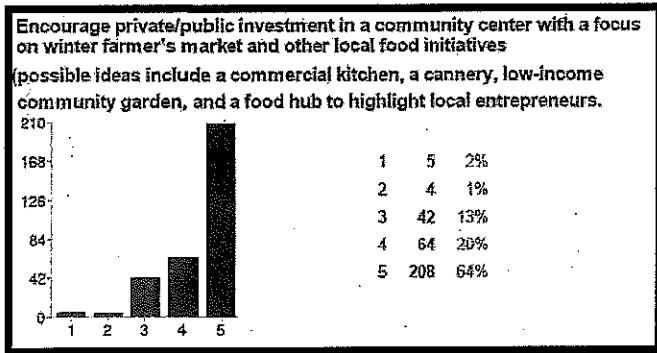


89%

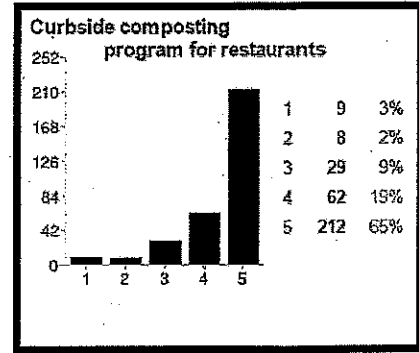
- **Point source pollution study within town of Boone (Short Term) – (manager, public utilities)** As recommended by DENR. Investigate partnerships with ASU and state agencies for the purpose of identifying and addressing pollution in our river and waterways.
Have town staff prepare an outline plan and cost estimates for study of watersheds within the town of Boone limits.
- **Watershed restoration plan in partnership with regional organizations. (Long-Term) – (manager, public utilities)** As recommended by DENR. Investigate partnerships with regional entities for the purpose of coordination, remediation, and general improvement of the health of our local rivers, streams, and watersheds. Have staff contact potential partners and prepare an outline plan and cost estimate for the study and remediation of issues affecting the health of our local rivers, streams, and watersheds.

FOOD:

Food: We envision the Town of Boone to be a community where food is healthful, safe, and increasingly raised/produced locally, using sound environmental, humane & sustainable practices, available to and affordable for all.



84%



84%

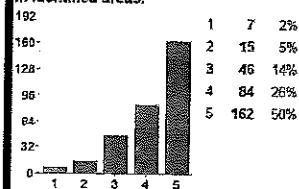
- **Curbside composting program for restaurants (Short-term) – (public works)** Instruct town staff to investigate and prepare an outline plan and estimated costs for the expansion of existing recycling services to include composting for high-volume businesses, as well as a potential drop off site for residential customers.
- **Community Center/Indoor Farmers Market Space (Long-term) – (manager, planning, cultural resources)** Instruct town staff to investigate potential locations of a community center that could be utilized as an indoor farmers market space or a 'food hub' for community members. Contact community stakeholders such as the cooperative extension, farmers market etc. for input and ideas.

Categories and goals taken from previously adopted tenets of sustainability.
Percentage indicates percent of 4 and 5 level responses.

EDUCATION AND OUTREACH:

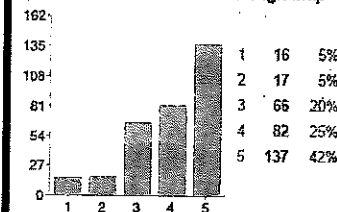
Education & Outreach: We envision the Town of Boone to be a community where our institutions and citizens share and promote sustainability freely, openly and collaboratively. The community's diverse sustainability resources will be documented and inventoried. The Town of Boone will partner with these resources to educate the community and support sustainable development activities.

Publish local sustainability oriented workshops and events on Town of Boone website.
Create a page on Town of Boone website with a calendar of local events and a monthly e-newsletter to give access to programming already occurring around sustainability in identified areas.



76%

Extend green business certification and promote businesses on map of town.
Photo: Sustainable Raleigh Map



67%

Collaborative and yearly sustainability focused community workshop (Long-term) – Instruct staff (planning, manager) to conduct a (at least) a 1 day workshop in April to collect public input on initiatives and report on what the town is currently doing to meet and improve on the 10 tenants of sustainability. Presentations and collaborative input from community groups should be encouraged. Results should be presented to council prior to budget workshops.

Website with town sustainability information and links (Short-term) – Instruct town staff (manager, IT) to include town sustainability oriented initiatives, the 10 tenants of sustainability, and other relevant information (green businesses, conservation oriented non-profits, river and trash cleanup days, hazardous waste days at the landfill etc etc) as part of the towns website and overall image as a 'green' and environmentally conscious community.

Other tenets not specifically addressed by this task force, but already adopted by the town:

Economic: We envision the Town of Boone as a community that utilizes tax dollars and various local resources in an efficient manner. The Town will promote, procure, and focus the economy locally, through implementing policies that support local businesses.

Environment: We envision the Town of Boone as a community that celebrates its unique and extraordinary natural environment that benefits and sustains its citizens and attracts visitors. The Town of Boone will maximize environmental protection policies to ensure that the natural environment is maintained and enhanced for all future generations.

Resilience: We envision the Town of Boone as a community that recognizes the current econoy is dependent upon global systems that are increasingly dynamic and volatile. The Town of Boone will promote self reliance by encouraging policies and practices that localize markets and resource use, better preparing the community for potential resource constraints.

Social: We envision the Town of Boone as a community free from discrimination and violence, where everyone has access to: adequate housing and food, meaningful work that pays a living wage, quality healthcare services, participatory civic opportunities, education, and everyone is free from discrimination and violence. The Town of Boone will favor policies that build community and increase quality of life for all of its citizens.

Recycling: We envision the Town of Boone as a community that promotes the reduced consumption of consumer goods and natural resources. The Town of Boone will be a regional leader in providing convenient opportunities for businesses, industries and households to recycle the goods and resources that must be discarded. (KD-H)

These final tenets were not specifically addressed due to being partially included as part of the main task force recommendations. For example: A map on the town website showing which restaurants are participating in the food composting program connects recycling, community resilience, social values, supports and promotes local businesses, local food, and sustainability education.

Historical Perspective Minutes:

(Excerpt from Council minutes 5/19/2014)

DISCUSSION OF RE-ESTABLISHING THE SUSTAINABILITY TASK FORCE

Upon a motion by Council Member Mason, seconded by Council Member Hay, Council moved to re-establish the Sustainability Task Force for a time-limited basis to end on December 31, 2014 with the following guidelines:

Task force to: establish short (1-3 years) and medium term (5+years) goals and recommendations that the town of Boone may implement to improve the sustainability and resilience of our community. The task force will conduct focus groups in various areas of sustainability issues to research methods of community improvement, and present the town council with recommendations by the normal August meeting.

Example areas for initiative (the task force may add or remove these as they see fit):

- Transportation • Energy
- Local Food • Building Efficiency
- Internal Administration Practices • External Community/Business Support
- PR and Community Connectivity • Recycling/Re-use
- Other Public Policy

Subject research and reporting should take the form of:

1. Examples from other communities.
2. Our existing community plans and goals.
3. Plans/goals to be recommended by the task force.
4. Adoptable measure language recommended by the task force.
5. Timeline and way to measure effectiveness of adopted measures.
6. Final report that contains all initial areas and recommendations for presentation by the normal August town council meeting.

Research should take into account measures that affect internal sustainability processes (ex. energy efficiency in town owned buildings) as well as external sustainability processes (ex. energy efficiency in private residential buildings). The final research and recommendation report should coordinate with, and provide guidance to, the Planning Board regarding sustainability principles to be adopted as part of the 2014 Comprehensive Plan review/update process in coordination with the Boone 2030 plan.

The task force will also establish a yearly sustainability forum that representatives and citizens may participate in for the purpose of reporting effectiveness of current measures and receiving broad public input for new measures. This forum will be a keystone to maintaining these programs and interest here in Boone. Recommendations on date/times and agenda for this forum will be given by the task force.

The task force will comprise of 5 individuals from the community at large who have a background in sustainability initiatives, along with two council representatives. Subcommittees may be formed and participation from the public highly encouraged.

VOTE: Aye – All

Nay – None

Absent – 2 (Peña, Brantz)

Historical Perspective Minutes:

Town Of Boone Sustainable Development Task Force Update 6/17/10

Task Force Members:

Town Council Members: Andy Ball and Jamie Leigh

Community Members: Patrick Beville, Kelly Jo Drey-Houck, Ged Moody, Matthew Long, Susie Winters and Rowan Cannell

Initial Meeting: Monday May 24, 2010

Present task force members appointed Patrick Beville as Chairman, Kelly Jo Drey-Houck as Vice-Chairman and Matthew Long as Secretary.

Second Meeting: Monday June 7, 2010

Mission Statement was established.

Next Meeting: Monday June 21, 2010

Mission Statement:

The Sustainable Development Task Force seeks to position Boone, North Carolina as a leader in sustainability. We identify, research, and recommend, policies, procedures and initiatives that further incorporate sustainable social, environmental, and economic values into the Town of Boone's operations, governance, and planning.

Mr. Beville stated that he will appear before the Council on a quarterly basis to present updates on the activities of the Sustainability Task Force. Upon a motion by Council Member Phillips, seconded by Council Member Leigh, Council moved to approve the mission statement of the Sustainability Task Force as presented by Chair Patrick Beville.

VOTE: Aye - All

Nay - None

May 17 2011

ADOPTION OF TENETS OF SUSTAINABILITY

Patrick Beville, chair of the Sustainable Development Task Force, presented the Tenets of Sustainability for review and adoption by the Town Council. He offered that these tenets be used by the Town in future decision-making. Council member Mason asked that the following terms be incorporated into the proposed tenets: "reduce", "reuse", and "recycle." Additionally, she asked that "composting" also be included. It was also suggested that the word "pays" be changed to "promotes" in paragraph 6 entitled "Social." Upon a motion by Council member Mason, seconded by Council member Leigh, Council moved to adopt the following Tenets of Sustainability and to direct Chair Patrick Beville to present the document to the Sustainable Development Task Force for review of these proposed revisions:

Sustainable Development Task Force

"Tenets of Sustainability"

3/7/11

These tenants are fundamental principles around which the Town of Boone will operate and develop policy.

Economic: We envision the Town of Boone as a community that utilizes tax dollars and various local resources in an efficient manner. The Town will promote, procure, and focus the economy locally, through implementing policies that support local businesses.

Transportation: We envision the Town of Boone as a community that is a regional leader in providing a full range of safe, clean, and user-friendly transportation options. The Town will discourage fossil fuel burning vehicle use and enhance other healthier forms of transportation such as walking, bicycling, and carpooling. The Town will continue to support and improve accessibility of public transportation efforts.

Water: We envision the Town of Boone as a community that acknowledges the precious and valuable resource that is water. The Town will implement policies and procedures that maximize water efficiency and minimize the environmental impacts of both, water extraction

from and returning water to the natural environmental system.

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Resilience: We envision the Town of Boone as a community that recognizes the current economy is dependent upon global systems that are increasingly dynamic and volatile. The Town of Boone will promote self reliance by encouraging policies and practices that localize markets and resource use, better preparing the community for potential resource constraints.

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Recycling: We envision the Town of Boone as a community that promotes the reduced consumption of consumer goods and natural resources. The Town of Boone will be a regional leader in providing convenient opportunities for businesses, industries and households to recycle the goods and resources that must be discarded. (KD-H)

Food: We envision the Town of Boone to be a community where food is healthful, safe, and increasingly raised/produced locally, using sound environmental, humane & sustainable practices, available to and affordable for all.

Energy: We envision the Town of Boone to be a community whose innovative approaches to energy are upheld as leadership practices. Citizens will be aware of individual and aggregate energy use, engaged in methods for utilizing energy effectively, and educated on new and renewable means of energy production. These efforts will focus on operating our community infrastructure more sustainably while also enabling individuals to utilize these methods and knowledge in their own homes and businesses.

Education & Outreach: We envision the Town of Boone to be a community where our institutions and citizens share and promote sustainability freely, openly and collaboratively. The community's diverse sustainability resources will be documented and inventoried. The Town of Boone will partner with these resources to educate the community and support sustainable development activities.

VOTE: Aye-All

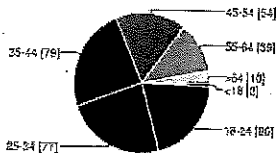
Nay-None

Absent - 1 (Brantz)

June 21st-2011 Original Committee Expired.

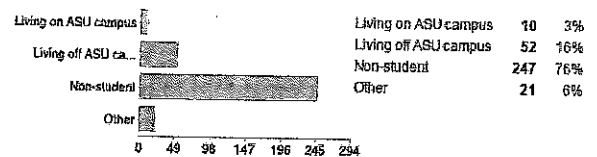
Survey Responses and Demographics:

Age

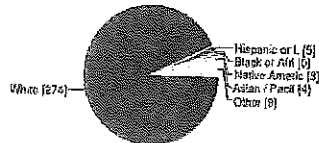


<18	2	1%
18-24	66	20%
25-34	77	24%
35-44	79	24%
45-54	54	17%
55-64	39	12%
>64	10	3%

Are you a student...

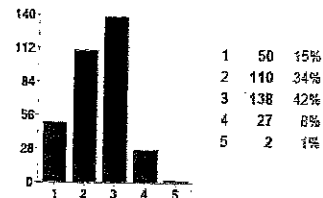


Ethnicity origin (or Race): Please specify your ethnicity.

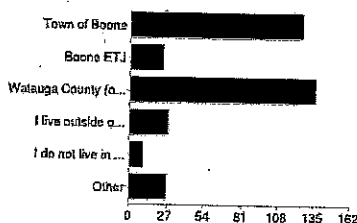


White	274	84%
Hispanic or Latin	5	2%
Black or African American	0	0%
Native American or American Indian	3	1%
Asian / Pacific Islander	4	1%
Other	9	3%

How would you rate current Boone sustainability initiatives?

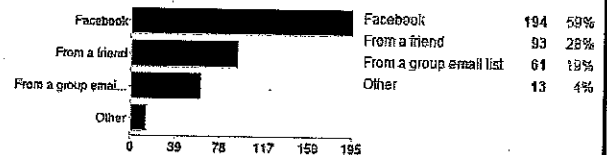


I live in....



Town of Boone	126	39%
Boone ETJ	24	7%
Watauga County (outside the Boone etj)	136	42%
I live outside of Boone, but I own property or a business within the Town of Boone	28	9%
I do not live in Boone, but I am visitor.	10	3%
Other	27	8%

How did you hear about this survey?



Averaged Score of Survey Responses:

- 4.74695122 A Greenway corridor from downtown Boone to the Blue Ridge Parkway.
- 4.495412844 Watershed restoration plan in partnership with Watauga County.
- 4.493710692 Local incentives for energy efficiency and energy production.
- 4.476489028 Fast permitting process for rainwater/greywater system installation.
- 4.449541284 Encourage private/public investment in a community center with a focus on winter farmer's market and other local food initiatives (possible ideas include a commercial kitchen, a cannery, low-income community garden, and a food hub to highlight local entrepreneurs).
- 4.444444444 Curbside composting program for restaurants
- 4.431610942 Point source pollution study within town of Boone.
- 4.411042945 A yearly festival to celebrate local foods and our farmers, with workshops for the general public and for businesses to develop skills in the culinary arts, agriculture and value-added food production.
- 4.37694704 On-bill energy improvement financing program.
- 4.346749226 New community owned renewable energy project (wind turbine or solar).
- 4.343558282 Allow the expansion of farmers markets into already existing spaces and/or help create a more "Indoor" feel to the current structures.
- 4.312883436 Solar Covered Parking on Queen St
- 4.278287462 Expand of existing conservation and toilet rebate program.
- 4.27244582 Research grants for student/faculty monitoring of local streams and rivers.
- 4.216981132 Publish local sustainability oriented workshops and events on Town of Boone website. Create a page on Town of Boone website with a calendar of local events and a monthly e-newsletter to give access to programming already occurring around sustainability in identified areas.
- 4.206153846 Solar bus stop and energy usage information kiosk
- 4.194444444 Mini-grants to local food and related businesses and organizations for education initiatives on the benefits of local food, issues of food accessibility, and nutrition.
- 4.18404908 Inventory of carbon pollution for Town of Boone to identify highest energy users and savings potential.
- 4.180685358 Education & outreach initiative for conservation and/or renewable energy.
- 4.164037855 Sustainability internship program- intern for Town of Boone departments to help work on issues & sustainability.
- 4.148148148 Revive the Boone Bike Initiative
- 4.132492114 Integrate low-flow fixture design requirements into Unified Development Ordinance (UDO) for new construction and renovation.
- 4.051987768 Investigate the feasibility of creating a low-cost plastic bag fee to decrease landfill waste and increase the use of multi-use bags.
- 4.042944785 Creation of a gardening tools lending library.
- 3.996855346 Extend living wage certification and promote businesses on map of town.
- 3.987654321 Public Bike Maintenance Station
- 3.975077882 Extend green business certification and promote businesses on map of town. Photo: Sustainable Raleigh Map
- 3.81595092 Electric Vehicle Receptacle/Charging Station
- 3.79204893 Bike Corral/Parking Shelter
- 3.303125 Billboard to display carbon-offsets, renewable energy, and other initiatives.
- 2.451807229 How would you rate current Boone sustainability initiatives?

Individual Responses From Public Survey OCT 2014:

If you had to choose just ONE sustainability initiative for Boone to pursue next year, what would it be?

- 1) End single-use plastic bags in Town of Boone
- 2) Plastic Bag fee
- 3) Community center and community owned renewable energy shelter.
- 4) Focus in projects that give locals something we can use right now and daily like the greenway expansion. Do not waste money on studies, research, etc. We are smart people we do not need studies to tell us what we need. Lets have something to show for the money we spend, something we can use. I am not knocking the studies but think we should focus on real and usable projects in the short term.
- 5) Encourage private/public investment in a community center with a focus on winter farmer's market and other local food initiatives (possible ideas include a commercial kitchen, a cannery, low-income community garden, and a food hub to highlight local entrepreneurs.
- 6) I believe all of these are wonderful ideas, some of them I am beyond excited about such as the Greenway Trail to the Parkway, I believe many community members will be very excited about this idea. I believe this creates a sense of ease to our everyday hectic lives and individuals can go off on a wonderful long bike ride to escape into our beautiful landscape.
- 7) Reclaiming food from restaurants/ASU cafeterias, etc., to feed the hungry (via Hospitality House, Oasis, etc.)
- 8) Watershed protection and restoration
- 9) Extending and connecting the Greenway to town!!!!
- 10) Gardening Tools Lending Library
- 11) Electric car charging station.
- 12) Green way corridor from Boone to Parkway
- 13) So many choices! Curbside composting for restaurants.
- 14) Extend the farmers market
- 15) More Greenway / Bike commute paths
- 16) Initiate or increase collaboration with the Watauga County Economic Development Commission to encourage E.D. initiatives which prioritize the commission's goals as promoting economic development activities which foster environmentally friendly, socially conscious, economically rewarding (for both employer and employee), and culturally appropriate businesses. An added emphasis must be placed on locally based business and entrepreneurship which have a proven, vested interest in the Boone, Watauga, and High Country area and should be preferred in order to sustain the long-term economic vitality of the community.
- 17) Extend sidewalks wherever the AppalCart runs - I see people walking in the ditch in the dark and rain along 421 and worry for everyone's safety!
- 18) Safe sidewalks and bike paths within downtown city limits at least. A community center would be amazing.
- 19) Solar Covered Parking
- 20) Year round farmers market like Asheville.
- 21) I don't think this could be accomplished in one year, but the thing I would most love to see would be the extension of the greenway to the downtown area (and the blue ridge parkway). It's already hard enough to bike in Boone with all of the hills, but dealing with traffic makes it even worse. As far as easier to set up initiatives, I really like the public bike maintenance station and the tool-library (could be extended to non-garden tools as well) for their usefulness and immediate potential for impact.
- 22) Charging stations
- 23) Support a community center!
- 24) Food
- 25) Winter indoor site for Farmers Market.
- 26) Maybe the one that says: Encourage private/public investment in a community center with a focus on winter farmer's market and other local food initiatives (possible ideas include a commercial kitchen, a cannery, low-income community garden, and a food hub to highlight local entrepreneurs.

- 27) this one ! Encourage private/public investment in a community center with a focus on winter farmer's market and other local food initiatives (possible ideas include a commercial kitchen, a cannery, low-income community garden, and a food hub to highlight local entrepreneurs.
- 28) Greenway expansion!
- 29) Community center / community owned renewable energy project
- 30) Education & outreach initiative for conservation and/or renewable energy!
- 31) So many wonderful and important ideas--how to choose just one? I'd suggest instead looking at several low-investment ones as well as one BIG one, How about car charging station along with sustainability workshops, sustainable map, wage map, and encouraging year-round farmers' market etc.
- 32) Get rid of the mixed-use requirement in the UDO to allow more dense student housing close to campus.
- 33) potential energy initiatives
- 34) greenway bike trail through Boone to BRP
- 35) Decrease energy use and CO2 emissions in automobile use. Encourage alternative transportation.
- 36) Incentives for residential retrofits, including loans and tax breaks.
- 37) Initiatives that involve research/studying/education/conservation of our water resources.
- 38) Promotion and incentives for businesses that obtain NC Green Travel recognition. Additional promotion on the TDA website and workshops for businesses on how to obtain the recognition from the state.
- 39) More walkable town! Sidewalks are grossly insufficient in many areas of this town.
- 40) Curbside Composting
- 41) greenway trails and support local farmers
- 42) Alternative energy incentives and promotions plus assistance for low-income families... weatherization, solar, etc.
- 43) Local incentives for energy efficiency and energy production
- 44) Public green community center with solar or wind, and a weekly winter farmers market space!
- 45) Water conservation
- 46) Curbside composting for restaurants or lending library for garden tools. Also, the watershed pollution identification and restoration initiative would be fabulous.
- 47) Stop the selling water bottles throughout the town and possibly the university.
- 48) I really like the idea
- 49) Increase recycling/composting
- 50) Anything to do with creating more bike lanes!
- 51) Greenway Trails
- 52) MORE SIDEWALKS!!! I almost get hit by cars speeding everywhere and it is SCARY!!!
- 53) Bike lanes. This problem is serious and needs to be addressed aggressively.
- 54) Public Utilities/Works Infrastructure. Parking in Boone is a nightmare, Sewer upgrades, storm water.
- 55) Greenway and sidewalks throughout the town.
- 56) Anything Solar or Hyrdo projects. Keep building more Greenway miles.
- 57) Either curbside composting for restaurants or a winter farmer's market (which should be allowed to occupy existing structures, for simplicity and comfort's sake).
- 58) Expansion/creation of curbside recycling and composting.
- 59) Rainwater recycling would be incredibly efficient and really a blessing to this area. With the amount of rain we get, it's silly to not be using it in our homes. Some sort of program to support this would be idea.
- 60) Local incentives for energy efficiency and energy production.
- 61) Potential FOOD initiatives OR Waste
- 62) Expand farmers market during winter and allow more parking areas.
- 63) Extend the greenway so that we can go almost anywhere in town by bicycle/feet safely.
- 64) Queen Street Solar Parking Shelter
- 65) investment in walking areas including sidewalks, bike paths, greenway, etc.
- 66) Winter farmers market, commercial kitchen community center.

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2015

SESSION LAW 2015-86
SENATE BILL 25

AN ACT TO CLARIFY WHEN A COUNTY OR MUNICIPALITY MAY ENACT ZONING
ORDINANCES RELATED TO DESIGN AND AESTHETIC CONTROLS.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 160A-381 is amended by adding new subsections to read:

"(h) Any zoning and development regulation ordinance relating to building design elements adopted under this Part, under Part 2 of this Article, or under any recommendation made under G.S. 160A-452(6)c. may not be applied to any structures subject to regulation under the North Carolina Residential Code for One- and Two-Family Dwellings except under one or more of the following circumstances:

- (1) The structures are located in an area designated as a local historic district pursuant to Part 3C of Article 19 of Chapter 160A of the General Statutes.
- (2) The structures are located in an area designated as a historic district on the National Register of Historic Places.
- (3) The structures are individually designated as local, State, or national historic landmarks.
- (4) The regulations are directly and substantially related to the requirements of applicable safety codes adopted under G.S. 143-138.
- (5) Where the regulations are applied to manufactured housing in a manner consistent with G.S. 160A-383.1 and federal law.
- (6) Where the regulations are adopted as a condition of participation in the National Flood Insurance Program.

Regulations prohibited by this subsection may not be applied, directly or indirectly, in any zoning district, special use district, conditional use district, or conditional district unless voluntarily consented to by the owners of all the property to which those regulations may be applied as part of and in the course of the process of seeking and obtaining a zoning amendment or a zoning, subdivision, or development approval, nor may any such regulations be applied indirectly as part of a review pursuant to G.S. 160A-383 of any proposed zoning amendment for consistency with an adopted comprehensive plan or other applicable officially adopted plan. For the purposes of this subsection, the phrase "building design elements" means exterior building color; type or style of exterior cladding material; style or materials of roof structures or porches; exterior nonstructural architectural ornamentation; location or architectural styling of windows and doors, including garage doors; the number and types of rooms; and the interior layout of rooms. The phrase "building design elements" does not include any of the following: (i) the height, bulk, orientation, or location of a structure on a zoning lot; (ii) the use of buffering or screening to minimize visual impacts, to mitigate the impacts of light and noise, or to protect the privacy of neighbors; or (iii) regulations adopted pursuant to this Article governing the permitted uses of land or structures subject to the North Carolina Residential Code for One- and Two-Family Dwellings.

(i) Nothing in subsection (h) of this section shall affect the validity or enforceability of private covenants or other contractual agreements among property owners relating to building design elements."

SECTION 2. G.S. 153A-340 is amended by adding new subsections to read:

"(1) Any zoning and development regulation ordinance relating to building design elements adopted under this Part, under Part 2 of this Article, or under any recommendation made under G.S. 160A-452(6)c. may not be applied to any structures subject to regulation



under the North Carolina Residential Code for One- and Two-Family Dwellings except under one or more of the following circumstances:

- (1) The structures are located in an area designated as a local historic district pursuant to Part 3C of Article 19 of Chapter 160A of the General Statutes.
- (2) The structures are located in an area designated as a historic district on the National Register of Historic Places.
- (3) The structures are individually designated as local, State, or national historic landmarks.
- (4) The regulations are directly and substantially related to the requirements of applicable safety codes adopted under G.S. 143-138.
- (5) Where the regulations are applied to manufactured housing in a manner consistent with G.S. 153A-341.1 and federal law.
- (6) Where the regulations are adopted as a condition of participation in the National Flood Insurance Program.

Regulations prohibited by this subsection may not be applied, directly or indirectly, in any zoning district, special use district, conditional use district, or conditional district unless voluntarily consented to by the owners of all the property to which those regulations may be applied as part of and in the course of the process of seeking and obtaining a zoning amendment or a zoning, subdivision, or development approval, nor may any such regulations be applied indirectly as part of a review pursuant to G.S. 153A-341 of any proposed zoning amendment for consistency with an adopted comprehensive plan or other applicable officially adopted plan. For the purposes of this subsection, the phrase "building design elements" means exterior building color; type or style of exterior cladding material; style or materials of roof structures or porches; exterior nonstructural architectural ornamentation; location or architectural styling of windows and doors, including garage doors; the number and types of rooms; and the interior layout of rooms. The phrase "building design elements" does not include any of the following: (i) the height, bulk, orientation, or location of a structure on a zoning lot; (ii) the use of buffering or screening to minimize visual impacts, to mitigate the impacts of light and noise, or to protect the privacy of neighbors; or (iii) regulations adopted pursuant to this Article governing the permitted uses of land or structures subject to the North Carolina Residential Code for One- and Two-Family Dwellings.

(m) Nothing in subsection (l) of this section shall affect the validity or enforceability of private covenants or other contractual agreements among property owners relating to building design elements."

SECTION 3. This act is effective when it becomes law. The act clarifies and restates the intent of existing law and applies to ordinances adopted before, on, and after the effective date.

In the General Assembly read three times and ratified this the 10th day of June, 2015.

s/ Daniel J. Forest
President of the Senate

s/ Tim Moore
Speaker of the House of Representatives

s/ Pat McCrory
Governor

Approved 10:00 a.m. this 19th day of June, 2015

- 67) Combine these: Encourage private/public investment in a community center with a focus on winter farmer's market and other local food initiatives (possible ideas include a commercial kitchen, a cannery, low-income community garden, and a food hub to highlight local entrepreneurs. New community owned renewable energy project (wind turbine or solar). Part education center, part tourist attraction, part energy source. Space could be used for events or to house a food hub or other sustainability initiatives. PHOTO: The Green Britian Community Center hosts events for 200, along with a full scale wind turbine containing an observation deck at the top. Since 2004, over 150,000 people have made the 20-story climb to the observation deck.
- 68) Curb side composting
- 69) Mini grants to local food and related businesses.
- 70) Greenway Corridor from downtown to Blueridge Parkway.
- 71) Solar array above queen street parking
- 72) Reduce the excessive amounts of waste bags used.
- 73) Work on extending the Greenway to get more people outdoors.
- 74) Motivation for shops & companies to aggressively reduce energy use. Use education and competition to get local businesses to be energy star rated.
- 75) Expansion of the greenway.
- 76) Creek restoration
- 77) Farmers make a inclosed area for market.
- 78) Bike Maintenance Station
- 79) Working on food Education and more support for the Farmers Market.
- 80) GREENWAYS
- 81) fee for plastic bag
- 82) So many great ideas here! In the next year, I'd love to see plastic bags be taxed or removed from town.
- 83) Town wide restaurant composting pickup
- 84) Too hard! But I would say either the plastic bag initiative, or one of the water reduction encouragement measures (low-flow requirements on new construction + better incentives for retrofitting existing buildings, especially hotels and restaurants).
- 85) Electric vehicle charging stations!! And, because i think this is equally important, I would LOVE to see curbside composting for EVERYONE!!!
- 86) Solar
- 87) greenway trail - boone to blowing rock! Would love to have this for running and biking
- 88) sustainable power. Wind and solar.
- 89) Greenway expansion
- 90) To become a bike friendly community, offering more bike paths to ride for children and adults.
- 91) "Community center and/or community owned renewable energy project." This project is large but I think a community center devoted to sustainability and community events is a much-needed community resource that is lacking in Boone. A place for people to gather, learn, grow, and share. A highly visible (by residents, tourists, and students) commitment to long-term sustainable development and practices in Boone. Plus, such a community center could be home to many of the other projects listed on this survey (education, festivals, gardens, tool lending library, Boone Bike Initiative).
- 92) I think that the transportation initiatives would be very beneficial in a few ways: 1) it will decrease the carbon footprint of the town and individuals, 2) decrease air and noise pollution, and 3) it will alleviate traffic problems, promoting more sustainable transportation choices because of increased safety (and general kindness). Several of the options seem like low-cost, high-benefit initiatives and the town could knock several out very quickly. Additionally, once people become conscious of the cost of transportation to the environment and how to improve quality of life, more initiatives could gain more support due to automatic/free education and outreach. Everyone travels, transportation is a good start.
- 93) Initiatives to educate the community on bike laws, put bike racks downtown and expand the reach of bike lanes in the community
- 94) A community center with all of the above listed possibilities would be nice.
- 95) More pedestrian friendly cross walks, more bike friendly. Both would encourage more in-town residents to consider walking. I honestly do not feel safe crossing Blowing Rock Rd in front of campus, or River's St. I would also like to see

the Farmer's Market, Boone Jaycee Park, Horn in the West, Daniel Boone Native Gardens, Strawberry Hill Arboretum get an entire makeover.

- 96) water conservation
- 97) Bike Maintenance Station in downtown area
- 98) Anything that can improve the town's usage of alternative energies and/or educational programs to incentivize and encourage using less energy. So the town can use less and be greener about when it does.
- 99) Bike lanes, bike paths, more greenway and bike safety around town along with pedestrian walking paths and shortcuts marked and mapped to help folks get out and explore neighborhoods.
- 100) alternate energy programs
- 101) A close and walking distance farmer's market. I'd be much more willing to buy farmer's market food if I could get to it easily.

Please tell us your thoughts, ideas, suggestions etc in the space below.

- 1) Traffic flow/transportation
 - 2) Community centers offer an opportunity for all ages to recreate & educate. Together we can move forward w/ our goals of sustainability!
 - 3) All of these ideas are so exciting. We can do them all. I would be/am so proud to live in such a place...
 - 4) I love the efforts by the county to shred plant waste for mulch. I'd like to see it divided into leaf waste (for garden compost), small wood waste (for mulch), and large hardwood waste (for use as firewood).
 - 5) We should start from the ground, or underground, up. Let's fix the sewer pipes in Boone. We could improve the power lines or put them under ground when addressing the crumbling sewer pipes. Let's get some more lights on Kings street (it's dangerously dark!). Let's give the people back that other lane on Howard street and take imminent domain on the stretches where folks would not let us put a side walk before. No one uses that "sidewalk" properly anyway. It's totally stupid! We also need to build all our parking lots up...at least 2 stories, if not three. We could use some of this money to take back our parking meters. If Boone owned and operated the meters we would have enough money in a year to build up the decks and so on and so forth. And finally, let's enforce downtown Boone landowners to either improve their properties so that they can be rented, or condemn them. The town looks half abandoned!! It's embarrassing. Thanks for asking.
 - 6) EDUCATION TOB website should be an up-to-date source of information on Town related information. It should also provide links to other non-government initiatives or events within the town that is accurate and representative of all efforts within the community. It's identity should be clear as a site for the government role of the TOB. If it is to serve as a public relations site for the town and the area it should do so by having links to ongoing postings of other organizations rather than trying to represent them directly. Our website was improved upon but has a long way to go in representing the latest and greatest ways to provide information to community residents.
 - 7) Please, please make Boone easier for bikers. This town is small and it wouldn't be hard to make it bike friendly (like Carrboro). Anything to encourage people to drive less. Think of how much less congested 105/321 intersection would be if we had less cars constantly going around! Or even if App made it more appealing for students to bike!
 - 8) Bolivia just passed the "Law of Mother Earth" which gives rights to our planet as a living system. It would be a step in the right direction if communities could draft their own laws that reflect what Bolivia has done. I believe this is something we should do in Boone. Perhaps one day the state and country could also back these laws. Here is a link to the article. <https://www.minds.com/blog/view/370619333145006080/bolivia-passes-law-of-mother-earth-which-gives-rights-to-our-planet-as-a-living-system>
 - 9) This survey detailed some great initiatives with many potential projects which can certainly help improve the sustainability of Boone. But the 'highly approve'/'highly disapprove' options did not exactly allow the survey-taker to express exact sentiments for the individual project. For example, while I certainly approve of bicycle maintenance stations, I do not believe that placing these as a high priority on the town's list will do a great deal to enhance the sustainability of the community. While they will certainly improve quality of life and provide a service to certain residents it does not necessarily address the basics of sustainability. Also, I believe a greater emphasis must be placed on the local built environment and promoting infill growth and walkability of existing neighborhoods. While I completely understand that property owners' rights to develop their property is an extremely strong right that they have to exercise, codification and policy can help to promote new urbanism type growth which doesn't promote urban sprawl. Also, coordination with the Watauga County Planning Officials can help to mitigate this impractical pattern
- Boone Sustainability Task Force Report Nov. 2014

of development. The suggestions focusing around water resources are a great starting point and contain a nice foundation for promoting sustainability.

- 10) Transportation issues including the legality of human powered transportation and promotion of sustainable transportation options including the infrastructure for bike lanes, sidewalks, appalcart, and other methods of alternative transportation
- 11) Would like to see a bigger effort to educate folks on the fact that we CAN recycle all forms of plastic in this county at the Watauga service center (including hard plastics aka 3-7). Many folks, even more sustainably-minded ones, do not know this, and I think it's vital to keeping our rivers and oceans clean. Also, start recycling process for plastic BAGS, like Lowes Hardware offers (and encourage to recycle not just plastic grocery bags, but plastic bag wrap on food products and other packaging).
- 12) Make sure this survey goes beyond the "sustainably minded" Boonies! We need understand the opinions of those who might be adverse to sustainability to keep the movement moving forward.
- 13) We should build a new recreational facility that is energy efficient as possible, unlike the current pool complex that runs multiple heaters all winter long in an attempt to keep an uninsulated, metal building of mostly sliding glass doors swelteringly hot.
- 14) Also look into financing and green investments for the town. Many towns and cities have chosen to divest their monies out of coal/fossil fuels, etc. (ie Seattle <http://mayormcginns.seattle.gov/next-steps-on-fossil-fuel-divestment/>) There is an on-campus club Fossil Free App State working on a campaign to get the university to either divest or create positive sustainable investments, and we would love to work with you! Contact: Olivia Sanders and other officers at fossilfreeappstate@gmail.com
- 15) Not a big fan of the plastic bag initiative alone. If there were bring-your-own-bag bags being given out for free then it might be more feasible. As it is, people would just get mad that they have to pay for their plastic bags, whatever the cost.
- 16) Not anything to crowd already crowded public spaces such as solar panels over King Street parking. What is the cost vs. benefit of this? How many years of solar energy in this cloudy region will it take to offset the resources spent to construct solar panel parking awning and other similar structures? Electric Vehicle chargers - seems like would be waste considering low number of rechargeable cars, and don't think this installation would increase chance of a user to purchase a car. I like the community based ideas - a real change/movement will sprout from connection within the community - cooperation and idea spread. greenway trails - how many habitats will this fragment?
- 17) More community gardens.
- 18) Great job!
- 19) More greenways!!!!!!!!!!
- 20) I believe the 11th tenet should be beautification. Through all of our new construction and retro- and upfits, we need to keep a keen eye on making our town beautiful. Our overhead powerlines are hideous. They block so many gorgeous views of our mountain viewshed. Daylighting Boone Creek. All. The. Way. Through. Town. Wind turbine on Howard's Knob, which I realize is the county's land but still a feasible project that appears to be attributed to the TOB. Create a low-rise ordinance to prevent gargantuan buildings from altering the viewshed, or at least allow TOB to be able to nix a project due to its viewshed impact, including App State. Separate biking paths from roadways. People have too many other things to pay attention to these days. We need to up the safety game! Have the TOB make a commitment to go carbon neutral by X date. Cover buildings in PV. Make Howard Street a walkable pathway with green and communal space from Appalachian Street to Water Street. Make business owners that have dilapidated buildings pay a fine for unimproved spaces, and earmark that money for TOB beautification projects ONLY. I'm not a fan of giving money to research project b/c too often the research doesn't get built upon nor does it see the light of day (get shared). This is a comment about one of the prior initiatives in the survey. Create a "craft" center that is co-owned by the TOB and all businesses that choose to be located within it's walls. This craft center would be a LEED certified building with LOTS of natural light and provide a view to nature. It would house the farmers market and other local craft vendors and be open all year long. Connect sidewalks ALL THROUGH town. Thank you for allowing us the opportunity to provide feedback about the place we call home! All statements are rooted in love of humanity and our shared environment. Thank you!
- 21) PUT IN BIKE LANES!
- 22) There was no mention of tailgating.
- 23) Grants for renewable energy and efficiency improvements to be made on local downtown Boone business buildings. Rooftop community gardens. Indoor community greenhouse facility.

- 24) Recycling (curb side). Larger bins. Boone now picks up all types of recycling (they recently added aluminum, plastics #3-6). The blue bins are too small. We now need larger recycle bins and smaller trash bins. 2) I believe you got one of the transportation initiative wrong. Before we build bike maintenance stations and bike shelters we need bike lanes on the road or a bike corridor/greenway that serves/weaves the whole town not just a section. Boone is not very "biker friendly" at this time. 3) Recreation is major reason folks visit out area and is a sustainability concept. Can we include more recreating areas in Boone to serve locals and visitors? I.E. Hiking trails in Town to Howards Knob, etc, a Frisbee golf course, a tubing trail on the New river, a network of trails (bike and hiking) to link all sides of town (interconnection). Maybe partner with other groups to work on this???
- 25) Advertise where to get money from aluminum cans, other recyclables.
- 26) The most important thing to me is to improve the water infrastructure so that there isn't a need for another intake on the New River. Ending leaks in the supply of existing water systems, implementing effective water conservation efforts for all connected to the water system and strongly encouraging less water use by subscribers to the system to make the best use of the current water supply. No water for non-residents unless the ETJ is brought back where controls can be placed on growth.
- 27) I believe these initiatives will also provide economic advantage to the community(jobs, etc...)
- 28) I think rain water collection is going to be the way forward to help solve Boone's water issues.
- 29) The bike initiatives look great. They all need to be paired with making both bike and pedestrian use in/around Boone re roads, paths more safe and enjoyable, and to find ways of further reducing autos (possibly like ASU limiting cars to older students; expanding/incentivizing Appalcart and PART bus use). Tuition/fees break for ASU students who leave cars behind? Proactive strategies desperately needed for outreach and sustainable community conversations to help address/bridge political, socioeconomic, generational, "town-gown," and "native-non-native" divides in the community. A facilitated "our common future" series? Figure out ways to include unemployed and homeless populations in dreaming up and implementing initiatives. Investigate/propose cooperative businesses.
- 30) I really like the idea of having the farmer's market available all year. A large part of our individual footprint originates in our diets and I'd love to see the local food movement continue to gain momentum.
- 31) The town could really make a name for itself as a green travel destination, which would help our local economy! We need to have regulations in place that protect the natural beauty of our community. I didn't see any initiatives for purchasing green space for the sake of having green space in our community, for example. Again, Boulder, CO has done this with an open space tax. Residents and tourists pay it because they love the natural beauty of their community and they understand that their tourism economy DEPENDS on protecting that beauty! That's why we have tourists and the students at App who fuel out local economy in so many ways, and it is so frustrating that local developers don't seem to understand that if they make Boone ugly, we will not be a big tourist destination, and we will miss the opportunity to brand our town as a sustainable tourist destination and as a healthy, caring community that attracts students and faculty to the university! It's for our children that we need to take this seriously, for the land and the people.
- 32) The bike ideas are good but I think the first step is providing a more bike-friendly environment through bike lanes and paths and some driver education.
- 33) Bike Lanes!
- 34) Town of Boone can save electricity by not having so many streetlights.
- 35) Some of the things mentioned here are already underway. It would be great to see the Town of Boone supporting these already existing initiatives. Thanks for putting this survey together! Great work!
- 36) Local food and helping our farms is very important. Finding places for farmers markets that are affordable for local farmers and stay dedicated to our farmers is crucial. Greenways are a great way to get people into our environment. I hope that we continue on a sustainable path. We need to catch up!
- 37) One thought, concerning the billboard: I think a really cool place for such a thing would be above the Footsloggers raft shop. They have a very visible rooftop space that, at the moment, acts simply as a stage for a brick wall and ventilation/exhaust systems. I think it would give a cool urban appeal if we had a billboard in that location, which also happens to be very central.
- 38) The bike corral and maintenance station is a nice idea, but we really need to address the lack of bike lanes before going there. Also, surely there are communities who capture and filter rainwater for drinking. Has this been explored?
- 39) Appalcart is great. Boone is a horrible place to ride bicycles. The recent addition of sidewalks has been fantastic.

- 40) We are a green business that has been trying to do business in the town of Boone for two years! We have tried to get help from council members and the current mayor when he was a council member. We rent goats for weed control, but due to the livestock ordinance have been denied the clearance to rent to customers within the town limits. The goats are only there for a short time and make no noise nor do they cause any pollution. We would like to speak to someone about a way to make this possible in 2015. We are a sustainable business and feel that maybe the focus and funds of this initiative should be focused on ways to increase tourism and help businesses survive.
- 41) Wide spread, creative use of public, commercial and ASU spaces (greenway, parks, street medians, open spaces, lawns at public & commercial buildings, etc) for planting & growing edibles openly available for anyone. Use public dollars to create initiatives in public space; ASU dollars for ASU spaces; some kind of grant mechanism for private commercial property owners to do the same. "Bee Safe" Campaign particularly toward lawn care companies & their residential & commercial customers to shift mindsets around what a beautiful lawn should look like. Include real dangers of weed eradication and shifting notion to reality that a beautiful lawn is one full of "weeds" clovers, and other natural habitats for pollinators and other critters.
- 42) Stop painting stripes on roads for bikes. I'm a cyclist, and they are dangerous. We need to construct bike paths that are physically separated from the road.
- 43) I installed (direct) solar water heaters, and they work more than expected. Working on solar air heaters (all low tech, but easy to build and install by oneself)
- 44) Let's buy the land above Boone and make a great green space overlooking town. Land is for sale now! Allow bouldering, play and fun at the park already there- that not a lot of folks visit. Now is our chance. We missed the opportunity 15 years ago let's fix that problem now.
- 45) Don't get so carried away with spending money on energy efficiency that you spend more money than you get back. Additionally, try to make an effort to reach out to the county for sustainability options. There is a lot of untapped knowledge from farmers that have had to live simply for generations. You would be surprised... Simple is better!
- 46) I would like to see the Town quit spending so much of our tax money on the Town Attorney, and fighting with the County, ASU, and Developers. The money saved could be spent on the above items or improving Howard Street. I think the Town needs to spend less time on drafting new regulations to limit development they don't want. The time would be better spent developing initiatives for the type of development they want.
- 47) Outreach seems the most important to me to create a foundation for all of the other projects to be built off of. The more people involved, the more likely the projects will succeed!
- 48) Community gardens, monthly clean-ups and volunteer days, tons of King at business owners also live downtown --- ask them!!
- 49) I hope one day we might get a YMCA.
- 50) everything on this survey is a fantastic idea, ecologically, but also economically. Personally, i believe any of these ideas could become a very successful business with the right business plan.
- 51) Adequate Downtown parking! Instead of building a solar sheltered parking area on Queen St. which does nothing to elevate the lack of parking, maybe the focus should be on adding a solar sheltered parking DECK which would provide the Downtown area with more parking spaces. Just a thought.
- 52) We need to become an earth friendly community. We should offer more pesticide free food and a more chemical free environment.
- 53) safe ways for non-motorized transportation,
- 54) This isn't on the list and I know I am jumping in maybe too late to make a new suggestions, but....I think it would be great if we had park and ride parking lots in strategic areas of the county outside of downtown, that the appalcart would pick people up from. So that you could drive only a few minutes from home to a semi-central location out in the county and get picked up by the bus and take the bus around town (or to a central location in town where you can jump on a different bus).
- 55) Watauga County needs to do everything it can to be self sufficient.
- 56) Most of the items in your survey could/should be done by private businesses, groups and individuals. Quit forcing the taxpayers to pay for your hippy fantasies.
- 57) As a runner, I really like the idea of extending the Greenway and I like the idea of community gardens. Everything else that I was asked to rate above should not be paid for with tax dollars. Private investments should be how these ideas germinate, and if they don't, it's because the interest isn't there.
- 58) Local incentives for energy efficiency and energy production. OR Community Center

- 59) While I love many of the projects, if teaching about energy/energy-use to college freshman has taught me anything, it is that they are thoroughly uninformed, even misinformed at times, about their impacts on the environment through their use of energy. Education is ESSENTIAL to moving forward. We can have all the pretty RE projects you could think of, but until people understand WHY they are important, and HOW they will help foster a cleaner, greener, more sustainable community, I don't feel that their effect will be that great. Other than leading many to complain about the "waste of money" on some solar panels, or bike stations, etc.
- 60) No mention of native plant initiatives. This is critical to keeping habitats, preventing erosion and to saving energy costs (fewer lawns and more native plantings = less mowing). Thanks for doing the survey. Cool ideas!
- 61) Improvements to bus routes - expanded bus routes would be great. Ban on bottled water? Enhancing beekeeping infrastructure to support new beekeepers? Banning certain pesticides or pesticide forms from use in the area? Building up a farm land trust so that people can afford to farm land that's here without paying developer's land prices.
- 62) Queen street solar canopy sounds like a great idea, same with the bus stops. Great stuff, best of luck y'all!!
- 63) A park for kids near King Street.
- 64) Would love to see existing stream beds restored and integrated into the beauty and active lifestyle of the town rather than diverted into storm drains. For example, incorporating open streams and green-space with a Greenway Trail rather than underground storm system (like from Boone Mall, past McDonalds all the way to campus on 321).
- 65) More opportunities to access the farmers market, including a small winter market.
- 66) Don't just choose projects or systems that will get good press for the Town of Boone, or visually look good for tourists. Choose projects that you think would be the best for the town of Boone, its residents, and the environment. Focus more funding on the Farmer's Market (i.e. staying open later, better parking, better location, and above all making it more profitable for the farmers!). Bike lanes and biker safety are very important! Making biking longer distances (i.e. on 421 or 321) safer, so people aren't afraid that they'll be hit by cars (it happens all the time!) Just don't green-wash everything, throw PV panels up in high-traffic places, get an electric car station just to say you have one. How many people in this town actually have electric cars anyways? More farm to school initiatives with elementary, middle, and high schools. Involve the ASU students.
- 67) As you can see by my answers, I believe that the majority of these initiatives should be pursued. Anything that helps our community become better stewards of our resources is worth consideration and action.
- 68) Food and agricultural land issues are most important to me.
- 69) Watauga county and Boone is doing well with beginning to incorporate wind and solar power energy. Keep it up!!! I would really like to see more of it in town and give locals discounts and incentives for using these.
- 70) Storm water runoff is a huge issue that needs to be addressed. Flood events in the past few years have been dangerous and resulted in excessive erosion largely due to the overly culverted and constrained Boone Creek.
- 71) I think it is awesome that we are finally making changes towards the sustainability movement!
- 72) Bike parking (simple metal frames)
- 73) Increased recycling education
- 74) Soup kitchens and pantries
- 75) The greenway trail and year round farmers market would be the most visible and practical of the initiatives in my opinion. The greenway could decrease parking congestion downtown
- 76) I'm always amazed at the amount of litter along our roadways and waterways. Much of it could be recycled. Maybe an anti litter campaign. Also more recycle barrels in parks and green ways.
- 77) I have nothing against bicycle travel, but people riding need to obey the same traffic laws as others. There needs to be more policing of this problem that bicyclists do not obey traffic laws.
- 78) Since the sustainability movement relies on education to spread, whichever ones Boone decides to go with should be highly advertised and should actually make a difference. Seeing small changes here and there really get to people.
- 79) An important aspect of this is to make it inclusive - too much in Watauga County I see the "tree-huggers vs. locals" dynamic. Education in the schools, community outreach, and non-partisan communication that addresses how these initiatives benefit every citizen in the community are important to gain long-term support.
- 80) More education for the entire public...young and old, so all can understand fully how we as a community can save the beauty of our beautiful mountain town, county and region ..
- 81) Conservation initiatives for energy, water, food need to be promoted widely. Town of Boone needs to get over its inactivity. We have been waiting for example for Howard Street improvements for 20 years. We need something

people can see the way of imagination and creativity. Too many run down lots/buildings along Blowing Rock Road and Howard St. tell people the town is stagnant.

- 82) Making our town more walking and bike friendly will also improve the health and sustainability of our residents. See previous answer about neighborhood walking paths and shortcuts.
- 83) Earlier I said that I support electric vehicle charging stations, but that is only the case if renewable energy is expanded. EVs only switch from using oil to coal, and that is not enough.
- 84) Teaching the old guys new permaculture stuff, like Gorilla's gardening.
- 85) Re: publicizing education initiatives, relying on town's website is insufficient--need to make it easier for people to see. In addition to e-newsletter, have a dedicated facebook page and be sure to publicize on Todd's calendar, newspapers, etc.
- 86) Please find another spot for recycling besides the Daniel Boone Native Garden parking lot. It is very difficult to access on Saturday mornings, when I typically take out my garbage due to my work schedule.
- 87) We need more green space that is readily accessible from downtown and more green space to connect the whole town together. A greenway from downtown to the existing one would be great. Also, the current greenway seems to have a lot of space that is heavily managed, i.e. just a big swath of grass... Can there not just be trees there
- 88) I work for WAMY Community Action, Inc. and we gets calls almost every day from folks who need their homes weatherized, but do not qualify for our grant program. We do offer energy audits to anyone based on a sliding scale, but many cannot afford to get the work done.
- 89) Boone isn't a bike friendly town. If we are going to invest in bike promotion we should increase bike lanes, bike safety and walkability first.
- 90) If we can choose the source of the electricity, such as coal, nuclear, solar, wind, etc. (since the cost is different from each other, say, if someone choose 30% as coal, 40% as solar, 30% as wind, the person pay accordingly and visibly supports renewable energy movement, or someone who cannot afford to high cost energy can choose low cost combination.), and show the statistics, we will see the affordability of town. Encouragement such as tax reduction often lead unfair movement of tax money.
- 91) I think the festival would be a good start to make people aware of the issues and what Boone can do to counter these issues. This would also be a great opportunity to emphasize local farmers and community members who are trying to make changes and make Boone sustainable.
- 92) Many good ideas shared here.
- 93) I learned a little about what's ailing the world through the Sustainable Development program here at App. I don't claim to have all the answers but I'm led to believe that the root of all solutions is based in the agricultural system. By addressing the means by which an individual and a town's food is procured, you address all of the Tenets of Sustainability included above. The amount of resources it takes to provide food for a community has increased drastically over the last century and that is the major difference between self-reliant communities of the past and those we have now. I don't mean we need to revert to turn of the century style agriculture, just that since then, the amount of water, energy (primarily from fossil fuels), pollutants, and transport time needed to complete the agricultural cycle has increased. The sustainability crisis arises from this increase. By reducing the inputs needed and the physical distance between the production of food and the people who will eat it, we can reverse this trend, revive the better parts of community life from the past, while maintaining the advances in technology and civil rights our generation prides itself on. I suggest and will work for any systematic readjustment of Boone's food network that favors small-scale, organic methods of agriculture. The town provided composts bins, which is excellent- what about recycled rain barrels? More partnership with the ag center to incentivize teachings on sustainable farming techniques. More opportunities like the farmers market to make a living from sustainable agriculture. Provisions for urban and rooftop agriculture in the zoning ordinances. Partner projects between appropriate tech retrofit businesses and gardeners for whole house/yard renovations. Thank you for providing this survey, I look forward to seeing what's going on and would love to help how I can. I'm glad the town is looking at these issues seriously and I encourage you to look at these problems as a connected whole instead of individual obstacles to achieve.
- 94) More pedestrian friendly cross walks, more bike friendly. Both would encourage more in-town residents to consider walking. I honestly do not feel safe crossing Blowing Rock Rd in front of campus, or River's St. I would also like to see the Farmer's Market, Boone Jaycee Park, Horn in the West, Daniel Boone Native Gardens, Strawberry Hill Arboretum get an entire makeover.
- 95) Make the Appalcart bus fleet 100% hybrid buses.

- 96) Reduce / stop wasteful spending on "research" and "initiatives" ... Either do or don't do. Encourage more public support of these "initiatives" - there's no reason for everyone to pay for projects used by few... Solar parking roof??? Solar bus stops?? Those who bike are already equipped and relatively few (outside of college kids) - they can buy cell phones and laptops, let them fix their own bikes. Stop trying to make Boone fit into some metro-fantasy.
- 97) I think that it is important for the town to quit dressing the part of a sustainable community and start acting on it. The university takes up much of the town's priorities, and it is not fair for Boone to label itself as a progressive community when the priorities do not reflect that.
- 98) Elkland Art Center is seeking to develop a local food/sustainability puppet show. Let's work together!

327 responses

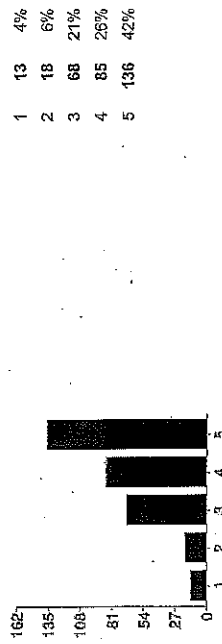
[View all responses](#)
[Publish analytics](#)

Summary

Potential TRANSPORTATION Initiatives

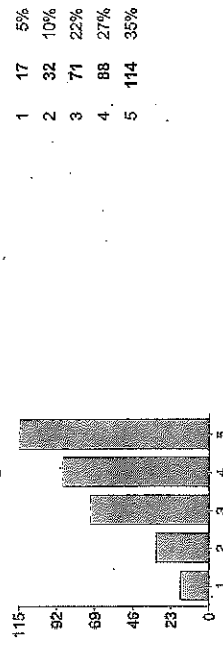
Bike Maintenance Station

Public Bike Maintenance Station



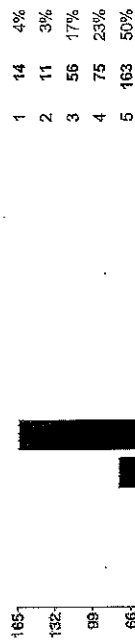
Bike Corral Shelter

Bike Corral/Parking Shelter



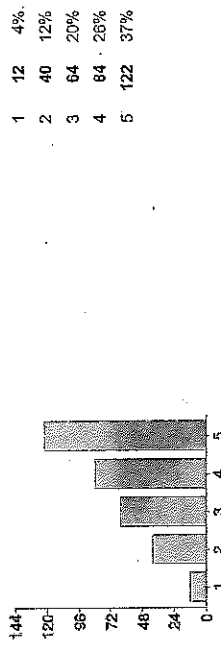
Boone Bike Initiative

Revive the Boone Bike Initiative



Electric Vehicle Charging Stations

Electric Vehicle Receptacle/Charging Station



Greenway Trails

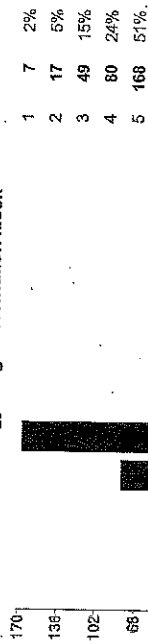
A Greenway corridor from downtown Boone to the Blue Ridge Parkway.



Potential ENERGY Initiatives

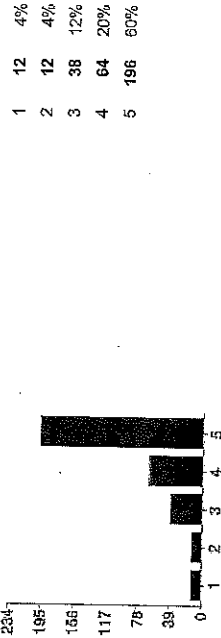
Solar Bus Stop

Solar bus stop and energy usage information kiosk

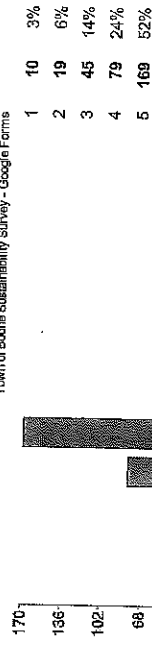


Solar Parking Shelter on Queen St

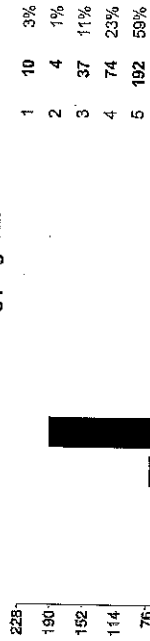
Solar Covered Parking on Queen St



Inventory of carbon pollution for Town of Boone to identify highest energy users and savings potential.



On-bill energy improvement financing program.



Local incentives for energy efficiency and energy production.



Community center and/or community owned renewable energy project.

New community owned renewable energy project (wind turbine or solar).

11/14/2014

Town of Boone Sustainability Survey - Google Forms



Education & outreach initiative for conservation and/or renewable energy.



Potential WATER Initiatives

Expand of existing conservation and toilet rebate program.



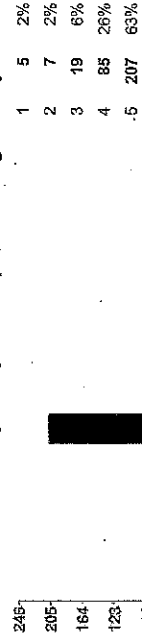
Point source pollution study within town of Boone.

11/14/2014

Town of Boone Sustainability Survey - Google Forms



Watershed restoration plan in partnership with Watauga County.



Research grants for student/faculty monitoring of local streams and rivers.



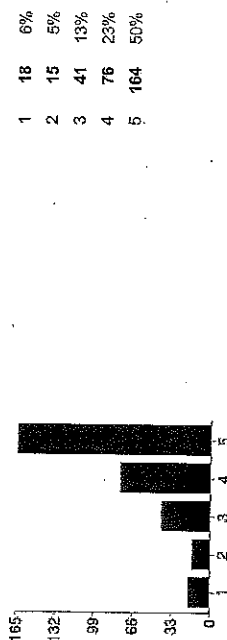
Fast permitting process for rainwater/greywater system installation.

11/14/2014

Town of Boone Sustainability Survey - Google Forms



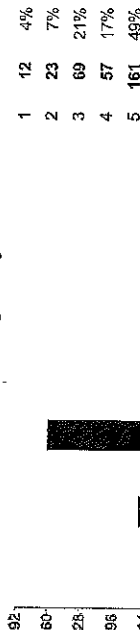
Integrate low-flow fixture design requirements into Unified Development Ordinance (UDO) for new construction and renovation.



Potential FOOD initiatives

Garden tools lending library

Creation of a gardening tools lending library.



Mini-grants to local food and related businesses and organizations for education initiatives on the benefits of local food, issues of food accessibility,

https://docs.google.com/forms/d/1X_TyGvqWHzpZpIvcmMRCsJcD81KZ9gHUYKqmMw/analytics

7/42

11/14/2014

Town of Boone Sustainability Survey - Google Forms

and nutrition.



A yearly festival to celebrate local foods and our farmers, with workshops for the general public and for businesses to develop skills in the culinary arts, agriculture and value-added food production.



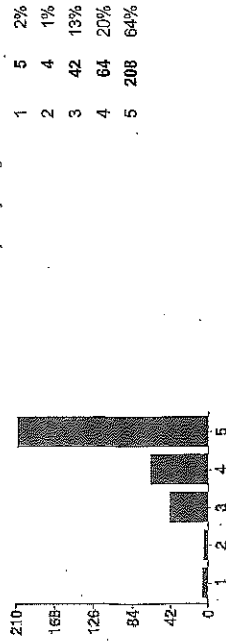
Allow the expansion of farmers markets into already existing spaces and/or help create a more "indoor" feel to the current structures.



Encourage private/public investment in a community center with a focus on winter farmer's market and other local food initiatives (possible ideas include a commercial kitchen, a cannery, low-income community garden, and a food hub to highlight local entrepreneurs.

https://docs.google.com/forms/d/1X_TyGvqWHzpZpIvcmMRCsJcD81KZ9gHUYKqmMw/analytics

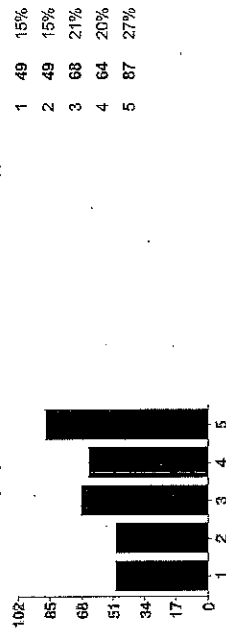
8/42



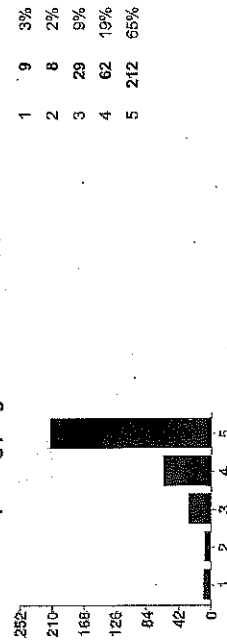
Investigate the feasibility of creating a low-cost plastic bag fee to decrease landfill waste and increase the use of multi-use bags.



Billboard to display carbon-offsets, renewable energy, and other initiatives.

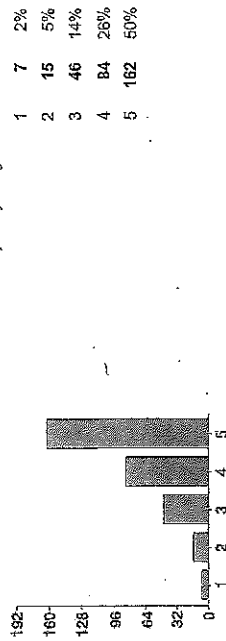


Curbside composting program for restaurants



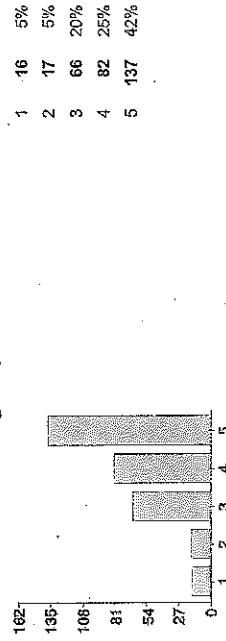
Potential Education Initiatives

Publish local sustainability oriented workshops and events on Town of Boone website. Create a page on Town of Boone website with a calendar of local events and a monthly e-newsletter to give access to programming already occurring around sustainability in identified areas.



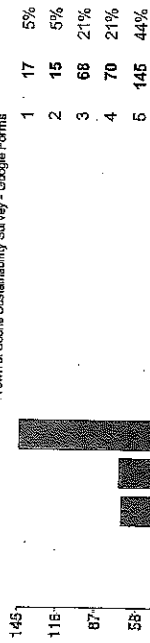
Promotion of sustainable practices on map/ walking tour.

Extend green business certification and promote businesses on map of town.
Photo: Sustainable Raleigh Map

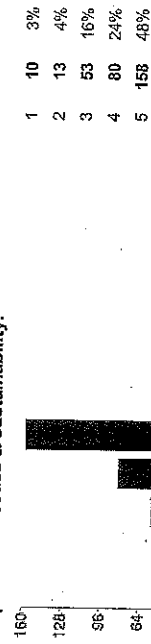


Extend living wage certification and promote businesses on map of town.

Town of Boone Sustainability Survey - Google Forms



Sustainability internship program- intern for Town of Boone departments to help work on issues & sustainability.



And Finally,...

If you had to choose just ONE sustainability initiative for Boone to pursue next year, what would it be?

Opportunities for residents who live in apartment buildings and other places where composting is unrealistic to compost and dispose of it (to a community garden?)

A Greenway corridor connecting downtown Boone.

Solar Bus Stop

Any of the bike measures- especially one to incorporate a way to get students/community members second hand, street, Boone appropriate bikes and teach them how to maintain that bike.

expansion of farmers market

the greenway corridor

Curbside composting. Period.

Increase walking and bike paths

Food Education Initiative

The Greenway to the BRP project

Boone 2017 Sustainability, Economics, and the Environment Committee Recommendations

2017 Task Force Members:

Chair: Benjamin Scarboro

Community Members: Harvard Ayers, Grace Cochran, Quint David, Christian Gentry, Bailey Winecoff

Town Council Representatives: Charlotte Mizelle, Jennifer Teague

Council Charge to Committee:

1. Establish both short and long-term goals and recommendations that the Town of Boone may implement to improve the sustainability and resilience of our community. Maintain and update these goals, as approved by council, in a publicly accessible place on the town website.
2. Conduct public focus groups and surveys on various areas of sustainability-related issues, research and debate methods of community improvement, and present the town council with those recommendations and findings as they are finalized.
3. Establish a yearly public sustainability forum, to be held each Fall quarter at a minimum, that representatives and citizens may participate in for the purpose of reporting effectiveness of current measures and receiving broad public input for new measures.

Recommended actions for Town Council consideration:

- 1) It is the recommendation of the 2017 Boone SEE Committee that town council move to have town staff prepare a basic report investigating the costs and feasibility of integrating the following measures into the town of Boone (see below) for action consideration at the council budget retreat.
- 2) It is also recommended that town staff be free to include additional sustainability items they feel may be easily and cost-effectively achieved. (example: fast permitting for rainwater systems, expanding toilet rebate program, purchasing efficient vehicles etc.)

Area	Short-Term Goal	Long-Term Goal
Transportation	Promote town wide League of American Bicyclist Bike Month for May, and install bike shelter/maintenance Station in public location.	1. Review existing highway expansion plans, and 2. create greenway/green infrastructure plan.
Energy	Another public/private solar project like in the Depot st. parking lot, preferably on the Greenway or other high-traffic location in town.	1. Investigate PACE financing. 2. Put together the energy action plan from the 2030 plan action items list, and include 100% renewable sources for Boone by 2030.
Water	Water meter replacement program. Many gallons are wasted due to freezing of lines and this would eliminate much of that.	1. UDO change for 30% of new parking to be permeable. 2. Review of storm-water and runoff quality requirements.
Food	Curbside Composting Program. Coordinate with Appalachian State program and involve county school system if possible.	Community center with a focus on winter farmer's market and other local food initiatives.
Education	Information and links on TOB website outlining sustainability-oriented plans and initiatives from the TOB and local community organizations.	Collaborative and yearly sustainability focused community workshop held around earth day in April. Official TOB Earth Day events.
Environment	Investigate Boone participating in the bee city usa certification, and review of town-wide tree plans.	Monitor and manage carbon emissions and compile a zero carbon report similar to Asheville

The First 'on the Ground' Work of 'The Boone Clean Energy Project'

For the 2015-16 year, Boone used about 2.0 million kWh of electricity from New River Light and Power (NRL&P), and about 5.5 million kWh of fossil fuel, gasoline and diesel. Exclusive of electricity purchased from Blue Ridge Energy, Boone used about 7.5 million kWh of energy in the 2015-16 fiscal year. The purpose of The Boone Clean Energy Project is to provide the 7.5 million kWh that the Town needs by transitioning to solar energy for both regular electricity needs and for vehicle fuel (electricity) needs for the electric vehicles. The 2.0 million kWh of electricity that is currently produced in Duke Energy power plants (all is from fossil fuels like coal, natural gas, and also from nuclear), and all 5.5 million kWh of fuel energy that is currently produced for vehicle use (gasoline and diesel) will also be replaced by solar electricity.

We are fortunate to have a grant from the Town of Boone of \$100,000 for the 2018-19 fiscal year. The first installment of solar electricity will come from several sources including from a 200 to 500 kWh (0.2 to 0.5 MWH) array of solar panels to be installed locally. The bulk of the Town electricity needs (7.5 MWH) will likely come from the new NTE solar project to be constructed in eastern North Carolina. We are in process of talking with NTE about the purchase of the solar electricity from that facility when it is completed and when NRL&P has changed energy suppliers from Blue Ridge Energy to NTE, which is set for 2022.

On the EV front, we hope to purchase a Ford Fusion Hybrid (electric and gasoline) Sedan (\$27,000), plus a Ford Fusion Hybrid Police Responder Sedan (\$35,000), plus two hybrid (electric and human power) electric bicycles (\$5,600), also for police use. These four vehicles will total \$67,600 which will come from our Town grant of \$100,000.

Below is a recommendation of the SEE Committee for the purchase of the four electric vehicles, two hybrid electric cars and for two hybrid bicycles.

The SEE Committee Recommendation for the Purchase of two Hybrid Electric Cars and Bicycles.

The SEE Committee recommends that the Town of Boone purchase four electric vehicles, two cars and two bicycles. The two cars recommended are the Ford Fusion Hybrid Police Responder Sedan, which runs on plug-in electricity and gasoline. The second car is also a Ford Fusion Hybrid Sedan that also runs on both fuels, but is not outfitted with police gear. We will buy both cars from the North Carolina state contract. The purchase price on state contract of the police sedan is \$35,000, and the other sedan without police gear is \$27,000. The two hybrid-electric bicycles are for police use and will cost \$5,600 for the two. The total cost of the four vehicles is \$67,600. This amount will be paid from the \$100,000 grant from the Town of Boone 2018-19 fiscal year budget, leaving \$32,400 in the grant fund for The Boone Clean Energy Project.

Marlene Crosby - Please send today to SEEC

From:

To: "'Marlene Crosby'" <Marlene.Crosby@townofboone.net>

Date: 2/15/2019 10:55 AM

Subject: Please send today to SEEC

Cc: "'John Ward'"

Marlene-- Please send this out to the Sustainability Committee. I will have the recommendation mentioned herein to you in a few minutes. Please send this recommendation out as well to the SEEC and ask that it be added to the Monday evening agenda. Thank you so much as this is very important. I hope this is not a problem—let me know if so—828-262-5238. Again many thanks. Harvard

From: Harvard Ayers

Sent: Friday, February 8, 2019 8:45 PM

To:

Cc: 'Marlene Crosby' <Marlene.Crosby@townofboone.net>

Subject: Moving ahead this year with The Boone Clean Energy Project

A bit of history of The Boone Clean Energy Project. It began in the spring of 2017 with your Town of Boone intern, Tyler Cook, and mine intern, Jason Mask, and myself. For about 90 days, the three of us put together a 16—page description which we called our Renewable Energy Assessment Report of the project. We looked closely at the electrical usage of the Town and also at the type of vehicles that the Town uses. All of you likely have this report.

At first, we thought of producing the 7 MW of solar energy needed by the Town with a 35 acre field with the requisite 21,000 solar collectors, the same kind we see on buildings in Boone. But this outlay for construction would be quite expensive (\$8-\$10 million) plus we would have to handle our own system maintenance. We are now instead, looking at the purchase of solar energy directly from a utility (NTE) which will replace Duke Energy as New River Light and Power's electricity supplier in three years. NTE plans to build a large solar energy system in eastern NC—likely in Brunswick County, near Wilmington. We will of course stay with New River L & P which would allow

us to maintain our current electricity delivery system as we have it today. We have a way to go on developing this plan, but it is a promising possibility. Further, solar energy has fallen a great deal in cost in recent years, and it is expected to continue to fall. It is already less expensive than coal energy and of course, nuclear.

The fuels currently used by the Town's 100+ vehicles include only diesel and gasoline. We found that if we used renewable fuel for these vehicles, we could take advantage of their much higher efficiency as compared to fossil fuels—vehicle efficiency is based on how much of the fuel's energy gets to the drive-wheels. The numbers tell the story: 1) fossil fuels—17-21%; 2) solar and wind—59-62%. These numbers mean that some 80% of fossil fuel energy is lost to friction, whereas renewable fuels, only about 40% is lost. Further, with solar and wind energy, **we would produce little or no climate-causing greenhouse pollution (carbon)**. Thus, we decided to transition to renewables over the dozen years of the project by purchasing a number of electric vehicles every year over that time span. This works quite well given that the Town purchases about five vehicles annually. With the Boone regular budget paying for these vehicles as usual, the additional cost of 5-10% for the electric option would be the only charge borne by the Clean Energy Project. Like the cost of solar energy, the price of batteries is going down every year. The best estimates we have seen say that the EVs will thus be on a par with internal combustion vehicles by 2025.

Based on these facts and many more from the Assessment Report, we then produced the following, A Proposal to Transition Town of Boone Energy Use from 100% Fossil Fuels and Nuclear to 100% Clean Renewable Energy in All Energy Sectors by the end of 2030.

This is the proposal that the Town intern, my intern, and I laid out for our Town's energy future. And in May-June of 2018, the Sustainability Committee recommended that the Town provide funding for this project and the Council provided \$100,000 for that purpose.

At this time, it is appropriate for our Committee to look to carrying out the above Proposal the Council and the SEEC has already approved. John and I have recently been researching the purchase of electric cars that our Town can begin using this fiscal year. Our recommendation would be that we look at the purchase of two EV. One is a Ford Fusion Hybrid (electric and gasoline.) The second is a Ford Fusion Hybrid Police Responder. I asked Marlene yesterday to send a link out to all on this email of such a pursuit-rated hybrid. I will send out a draft recommendation to the Committee for the Council that they authorize this purchase. It will contain the cost data. I

recommend that we take this up on our Monday, February 18 meeting.
Thanks to all. Harvard

Marlene Crosby - Fwd: Boone Energy Action Plan

From: Quint David
To: Marlene Crosby <Marlene.Crosby@townofboone.net>
Date: 2/18/2019 2:49 PM
Subject: Fwd: Boone Energy Action Plan
Attachments: TOB Energy Action Plan 2_18_2019.pdf; TOB Energy Action Plan 2_18_2019.xlsx

All,

Attached updated energy action plan. Took a minute to get into a format I liked that we could present to the council.

We should also review the document based on our 2017 goals to present for budget purposes. With the unknown cost of partnerships it is hard to budget, but we can set the 10,000ft goals here. I included Harvord's electric vehicles for discussion. I would argue we should also budget a level 2 ev charger or we may not have a place to plug them in.

We should create similar documents next month for our greenhouse gas inventory and mirror gov coopers 40% reduction targets by 2025.

Thanks,

--

Quint David

Town of Boone Sustainability, Economics, and Environment Committee Municipal Energy Action Plan

02/18/19

Chair: Quint David	Members:	Ben Scarborro, Christian Gentry
Vice Chair: Harvord Ayers		Nancy LaPlaca, Lee Ball
		John Prickett, Nicholas Stover
Town Council Rep: Marshall Ashcraft, Sam Furguele		

Original Resolution:	100% clean energy resolution made Dec 15, 2016.
SEEC Plan Approval:	100% renewable sources for Boone by 2050 made Aug. 17, 2017
Current Goal:	100% Municipal Renewable Energy by 2030

Boone Municipal Energy Inventory:		Completed 6/7/2017 using 2014 year budget.	
Electricity			
water utility	524k	70.81 %	
Non-water	216k	29.19 %	
total		\$740,000.00	
NG/Propane			
water utility	153k	88.44 %	
Non-water	20k	11.56 %	
total		\$173,000.00	
Gas/Diesel			
water utility	49k	19.92 %	
Non-water	197k	80.08 %	
total		\$246,000.00	
Total all energy cost			
water utility	726k	62.64 %	
Non-water	433k	37.36 %	
total/yr		\$1,159,000.00	

Action Steps:

1. Estimate Solar Required for 100% goal:

Approximately 5Mw for electricity, and 5Mw to offset fossil fuel use

2. Estimate Solar Cost:

At \$2 per watt and 10Mw, approximately \$20 million.

3. Investigate Funding Sources:

Water Fund/Bond- about 62% of Boone energy cost is water utility related.

Action: Town staff should investigate 62% cost share with utility rates.

General Fund/Bond- about 38% of Boone energy cost is not water related.

Action: Town staff should investigate 38% cost share with general fund.

Partnership- New River L&P or others may be able to partner to build solar with no direct capital cost to the town.

Action: Town staff should investigate power purchase agreement terms, public/private partnership opportunities, and compare to bond issue costs for presentation at budget.

4. Implement budget action for funding source:

a. yearly set-aside general fund for solar/sustainability at 50k to fund 'visible' projects.

b. Utility rate adjustment for 62% solar cost.

c. General fund rate adjustment for 38% solar cost.

Note: cost adjustments may not be needed, depending on final power purchase terms.

5. Monitor Progress with yearly report presented at budget hearing.

Note- about ~10% of goal must be achieved each year to meet 2030 timeframe.

Note- New River project at 500kw is 10% of electricity goal, and 5% of total goal.

Boone NC Municipal Utility Expenses

First Compiled 6-7-2017 by Quint David for Sustainability, Energy, Environment Committee

Updated 2-17-2019

Numbers are approximated.

	2014 Actual:	Electricity	%electricity	NG/Propane	%NG	Fuel/Gas	%fuel
Dept/Div							
Dept 400 Gov Body	944		0.13		0.00		0.00
Dept 401 Admin			0.00		0.00	1,600	0.65
Dept 402 Finance			0.00		0.00	30	0.01
Dept 403 Tax collection			0.00		0.00		0.00
Dept 404 Legal			0.00		0.00		0.00
Dept 405 Elections			0.00		0.00		0.00
Dept 406 Fire Station 1	9,301		1.26	1,600	0.92		0.00
Dept 407 Blowing Rock Rd E	14,498		1.96	803	0.46		0.00
Dept 408 Brown bldg	12,046		1.63	11,287	6.52		0.00
Dept 409 Jones House	3,168		0.43	242	0.14		0.00
Dept 410 Town Hall Bld	15,171		2.05		0.00		0.00
Dept 415 Fire Station 2	5,272		0.71	1,656	0.96		0.00
Dept 417 Post Office	5,730		0.77	2,913	1.68		0.00
Dept 420 Fire Station 3	1,828		0.25	661	0.38		0.00
Dept 500 Public Safety			0.00		0.00	86,626	35.19
Dept 350 Fire Dept			0.00		0.00	27,353	11.11
Dept 360 Planning			0.00		0.00	6,449	2.62
Dept 600 public works			0.00		0.00		0.00
Div 401 Street Dept	148,188		20.01		0.00	45,255	18.38
Div 404 Fleet Maintenance			0.00		0.00	2,199	0.89
Div 405 Facility Maint			0.00		0.00	27,554	11.19
Div 801 Public Utilities			0.00		0.00	1,200	0.49
Div 802 Water Ops	21,879		2.95		0.00	20,050	8.14
Div 803 Sewer	8,882		1.20		0.00	20,050	8.14
Div 804 Water Treatment Pl	160,235		21.63		0.00	3,024	1.23
Div 805 Waste Water Treat	333,589		45.04	153,986	88.93	4,793	1.95
Total		\$740,731.00	100.00	\$173,148.00	100.00	\$246,183.00	100.00
est price per unit		0.1 kwh		2.5 gal		2.25 gal	
est units		7,407,310.00		69,259.20		109,414.67	

Total Electricity=	\$740,731.00	Total Fossil Fuel=	\$419,331.00
		Total All Energy=	\$1,160,062.00

Town of Boone Sustainability, Economics, and Environment Committee

Budget Recommendations

02/18/19

Chair: Quint David	Members: Ben Scarborro, Christian Gentry
Vice Chair: Harvord Ayers	Nancy LaPlaca, Lee Ball
	John Prickett, Nicholas Stover
Town Council Marshall Ashcraft, Sam Furguele	

SEEC Plan Approval: 08/17/17

Area	Short-Term Goal	Long-Term Goal	Budget
Transportation	Promote town wide League of American Bicyclist Bike Month for May, and install bike shelter/maintenance Station in public location.	1. Review existing highway expansion plans, and 2. create greenway/green infrastructure plan.	\$2,000.00
Energy	Another public/private solar project like in the Depot st. parking lot, preferably on the Greenway or other high-traffic location in town.	1. Investigate PACE financing. 2. Put together the energy action plan from the 2030 plan action items list, and include 100% renewable sources for Boone by 2030.	\$20,000.00
Water	Water meter replacement program. Many gallons are wasted due to freezing of lines and this would eliminate much of that.	1. UDO change for 30% of new parking to be permeable. 2. Review of storm-water and runoff quality requirements.	\$0.00
Food	Curbside Composting Program. Coordinate with Appalachian State program and involve county school system if possible.	Community center with a focus on winter farmer's market and other local food initiatives.	\$10,000.00
Education	Information and links on TOB website outlining sustainability-oriented plans and initiatives from the TOB and local community organizations.	Collaborative and yearly sustainability focused community workshop held around earth day in April. Official TOB Earth Day events.	\$5,000.00
Environment	Investigate Boone participating in the bee city usa certification, and review of town-wide tree plans.	Monitor and manage carbon emissions and compile a zero carbon report similar to Asheville	\$1,000.00
Total			\$38,000.00

Harvord's Request:	
	Ford Fusion Hybrid \$27,000.00
	Ford Fusion Hybrid Police Sedan hybrid \$35,000.00
	Two Electric Bikes for Police \$5,600.00
	Total \$67,600.00

Total Total \$105,600.00

*Potential 2020 goal: All non-emergency or construction vehicles to be hybrid/ev by 2030? And use normal vehicle budgets?

Solar first: If we priced out our need to install 7 MW of solar capacity (7,000 kW), counting on the basis of today's cost, \$2,000/kW, Boone would pay about \$12,000,000 for the solar. On the other hand, if we take the predicted 2025 cost of about \$1,000/kW, we would pay about \$7,000,000 or perhaps less over the dozen years;

EVs second: The cost savings of EVs would also be significant, but a bit harder to calculate given the long time period and the newness of the industry. Since Boone would project the cost of combustion vehicles as their needs for the future, and since electric vehicles will be equal to those costs by about 2025, over the period of the project, electric

