

(/)

Bark House

PROJECT PROFILE



(/where-we-work/north-carolina/)2015

[SOLAR ELECTRIC \(/PROJECTS?CATALOG=105\)](#)

Like Share Tweet

[Bark House \(http://barkhouse.com/\)](http://barkhouse.com/)

Two arrays will produce upwards of 32,293 kilowatt hours of clean electricity a year for Bark House, a business that strives to be as sustainable as possible. The roof of the main building is filled with ninety three 235 watt Kyocera photovoltaic modules. This array is grid-tied through three SMA 7000 watt inverters and a sell-meter as part of Progress Energy's Commercial SunSense Program. A smaller 5 kW system is mounted on a processing barn across the street. Twenty 240 watt modules and a SMA Sunny Boy 5000 watt inverter feed it to the grid as a generating partner with NC GreenPower.

See feature from our [May 2012 Newsletter \(http://www.mynewsletterbuilder.com/email/newsletter/1411334425\)](#) for more.



()

Contact Sundance today for a free evaluation

CONTACT US

Stay Connected. Sign up for our newsletter

email address

SUBMIT

11 Salem Hill Road Weaverville, NC 28787

Weaverville: 828.645.2080 | Raleigh: 919.252.0016 | Greenville: 864.764.4709

[Career Opportunities \(/careers\)](/careers)



[\(https://www.facebook.com/Sundance-Power-Systems-306602720440/\)](https://www.facebook.com/Sundance-Power-Systems-306602720440/) [\(http://twitter.com\)](http://twitter.com)

[\(https://ashevillehba.com/\)](https://ashevillehba.com/) [\(http://www.wncgbc.org/\)](http://www.wncgbc.org/)

[\(https://www.ncgreenpower.org/\)](https://www.ncgreenpower.org/)

[\(http://www.energync.org/\)](http://www.energync.org/) (

[http://www.scsolarcouncil.org/\)](http://www.scsolarcouncil.org/)

ncGreenPower
Balance your impact on the environment.



Western North Carolina
Green Building Council



**NC SUSTAINABLE
ENERGY ASSOCIATION**

Like 1

Tweet SHARE   



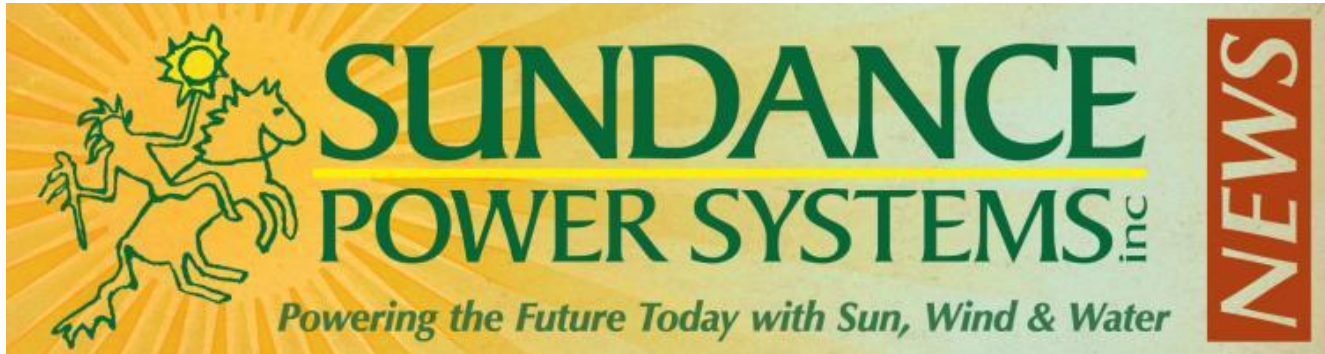
To receive email from Erika Schneider, add erika@sundancepower.com to your [safe sender list](#)

[View as Web Page](#)

[Subscribe](#)

[Send to a Friend](#)

 Share SHARE   



Welcome to the May 2012 edition of "Sundance Power News."

We hope you will find our monthly newsletter to be informative, useful and fun. We do not use this mailing list for anything else and never share recipients' addresses. You may officially subscribe, unsubscribe or forward to a friend anytime by clicking on the links at the bottom of the page. Please help us to spread the word about Sundance Power Systems and renewable energy. We would love to hear your feedback!



The Home of Richard Cobb and Amy Waters

On twenty beautiful acres below Roan Mountain and bordering the National Forest, Richard Cobb and his wife Betsy Waters live in a home that often produces more energy than they use. Self-built in 1995 by Richard, a contractor, the beautiful structure doesn't lack modern conveniences, or beauty. Rather, it was constructed efficiently to harmonize with the resources on site. When Richard was planning the home, a large cherry tree naturally passed on, gifting Richard with beautiful wood which he trimmed the interior out with and made flooring. It also gave up a nice clearing for the home, allowing for enough sunlight to support solar energy systems.

The home's passive solar design includes an attached greenhouse and solarium with glazed roofing. A custom-built solar hot water system, designed by Greg Baer, sits directly underneath the upper half of the glass roof where the sun's energy is collected in the form of heat by absorption plates. This system not only generates hot water for domestic use and for a hot tub, but it also supports the home's hydronic radiant floor heating system. Between the passive solar gain and the thermal system, the heating demand is greatly reduced. A woodstove is usually ample for providing heat during cloudy cold periods, but Richard did install a high-efficiency propane boiler for back-up. Rarely is this called for, and he's on the fourth year on one full tank!

As for electrical generation, a bold rushing stream has been spinning a micro-hydro turbine since it was installed in 2000, and Rich estimates that it produces between 12-15 megawatt hours of electricity a year. With 185 feet of head (vertical drop between intake and turbine) the system runs at 66 pounds of pressure. Fed into 4-inch penstock at a simple intake in a small pool surrounded by boulders, the flow rate ranges from upwards of 450 gallons a minute to a minimum of 20 gallons during extreme dry periods. 800 feet of penstock carry the diverted water to the turbine house, where nozzles shoot it at the 3 phase- 240 volt turbine by Thompson and Howe Energy Systems, transforming the force of flowing water into electricity. 1,000 feet of wire carries it up to the house, where it interfaces with a Schneider inverter. This system is interconnected to French Broad EMC, but when the utility is down a back-up battery system of 690 amp hours is enacted.

In This Issue...

[May 2012](#)

[Residential Spotlight: The Home of Richard Cobb and Amy Waters](#)

[Commercial Spotlight: Bark House](#)

[Energy Current](#)

[Employee Spotlight: Kim Salvesen](#)

[Community Connections: Just Economics](#)

Sundance Power Systems

Please contact us at:

(828) 645-2080
11 Salem Hill Road
Weaverville, NC 28787

with offices in Raleigh and Greenville, SC

Also, be sure to check out our website for more information and resources.

www.sundancepower.com

Visit us on Facebook

Fan us on [Facebook](#) where we are having fun posting updates, photos, and commentary. This is proving to be a great way to keep in touch with our friends in between our monthly newsletters.

After a nice rainy period this Spring, the water is flowing strong, and Rich reports that he sold 1,000 kW hours of electricity last month, and used only 90. Being a net-producer is exciting, especially when the energy is coming from such a beautiful source. From the bottom of the turbine house, the water is returned to the stream where it continues its flow.

(Sundance is grateful for our relationship with Richard that has been established over the years. He has been the builder on many homes we have worked on, including Dave and Sierra's own addition, and his company, South Face Builders, was engaged to build the pole barn at Bark House. Currently, he is working on an exciting Biochar project with us. Look for a feature on this in the future!)



Commercial Spotlight: Bark House

571 tree seedlings grown for 10 years sequester the amount of carbon that is offset by the solar electric systems recently installed by Bark House in Spruce Pine, NC. Another equivalency figure that EPA's offset calculator gave that is particularly relevant in this instance is that the combined system capacity of 25 kW will offset the amount of carbon sequestered annually by 4.7 acres of pine or fir forest. How many poplar trees this equates to I wasn't able to figure, but it is this lovely deciduous tree upon which Chris and Marty McCurry have built their thriving business over the course of the last 22 years.

The inspiration for using bark as siding came from the historic structures in Linville, NC where Chestnut bark was used in several buildings nearly 100 years ago. When the McCurry's delved into reclaiming bark from Poplar that was being harvested in the area for their first project, they found themselves reengineering the process to produce shingles that would be durable (they can last up to 100 years) as a building material in modern construction. This involved redesigning bark spuds, the tool used in stripping bark from the tree, from examples found in antique stores, to formulating the kiln drying process.

Using material that was previously a waste and turning it into a valuable product is gratifying to Chris and Marty, but they are committed to a larger picture of sustainability as their Gold level [Cradle to Cradle Certification](#) attests. This rating system, created to support companies in creating products that are "more good" rather than "less bad," assesses a product on 5 categories- material reutilization, material health, clean water, social responsibility, and renewable energy. Chain of Custody certification from the Forestry Stewardship Council verifies that the bark coming in from their hundreds of vendors, who have received training in sustainable forestry, is done responsibly. 90% of the material they receive comes from within 100 miles, which has had a positive economic impact on the region which has lost most of its textile industry. Natives of the region, Chris and Marty are active in community revitalization projects and are proud of the impact their business has had on local economic development.

As to renewable energy, thanks to a NC Green Business Fund Grant awarded in 2011, Bark House was able to take the next big step and go solar, having previously tackled efficiency measures. The two arrays will produce upwards of 32,293 kilowatt hours of clean electricity a year, which accounts for the electricity used in their operations for saws and other tools, the kilns, and in the office, according to Marty. The roof of the main building is filled with ninety three 235 watt photovoltaic modules, manufactured by Kyocera. A ballasted racking system by SolarDock tilts the modules to 25° for optimal generation. To reduce wind loading, this racking system is closed from behind, with venting that allows air to circulate. This array is grid-tied through three SMA 7000 watt inverters and is metered through a sell-meter as part of Progress Energy's Commercial SunSense Program. A smaller 5 kW system is mounted on a newly constructed pole barn across the street, which functions as a processing facility. Twenty 240 watt modules are neatly flush-mounted to the roof on Unirac racking, and a SMA Sunny Boy 5000 watt inverter feeds it to the grid. This array is a generating partner with NC GreenPower.

Bringing solar into their operations has been a natural progression of the McCurry's

Sundance is on Solar!

Our on-site solar electric system is powering much of our operations with free, clean, and renewable energy from the sun. Check out [Sundance's Sunny Portal](#) web-link for performance monitoring and see why we believe in solar!

Calendar of Events



Green Drinks- Clean Energy: NC & our Future

Wednesday, May 16th
5:30 – 7:30 pm

Asheville Green Drinks is pleased to host Joan Walker for a presentation on the North Carolina Sustainable Energy Association and the NC Energy Industry. Come learn about how clean energy has evolved over the past several decades, where we are going, and what you can do to ensure we get there. More details can be found [here](#).

Downtown After 5

Friday, May 18th
5:00 – 9:00 pm

The first of the summers' free music concerts, May's Downtown After 5 kicks off with Velvet Truckstop and Kellin Watson opening the show. We're looking forward to powering the stage with solar for another great season of good clean fun! Hope to see you there! [DTA5 info~](#)

Green Drinks- Asheville Beyond Coal

Wednesday, May 23rd
5:30 – 7:30 pm

Join Bruce Nilles, the Sierra Club's Senior Director of the national Beyond Coal Campaign, to help launch Asheville Beyond Coal! This campaign will call on Progress Energy to protect human health and the environment by retiring the Asheville coal plant and replacing the power with clean energy solutions. Come find out how you can join us in creating a clean energy future! More info [here](#).

Green Energy Tips

Wednesday, May 30th

commitment to sustainability, and likewise, Bark House's product line has also seen expansion. Today, a full line of architectural elements crafted from trees of various species are sold globally. Check out this [video](#) to see how Bark House shingles were used on ASU's award-winning Solar Homestead, or pick up a copy of Chris' beautiful book, co-authored with Nan Chase, *'Bark House Style; Stustainable design from Nature* for a visual treat. Of course, their website, www.barkhouse.com, is full of information if you'd like to learn more.



Energy Current

Net Metering and the relationship between power producers and consumers is a pretty hot topic these days. If you are a FBEMC member, you know that their position on Net Metering is harmful to those members that are trying to produce clean, renewable energy. To make changes to policy, here in our mountains, please visit our "Action You Can Take" section to sign a petition to board members of FBEMC.

Rocky Mountain Institute just posted an article on this topic last week as a Guest on Greentech Media. It is reprinted here in its entirety.

The Net Energy Metering Debate- Symptom of a Much Deeper Issue
By Ned Harvey & Virginia Lacy of Rocky Mountain Institute

Greentech Media's recent post, "[Solar's Net Metering Under Attack](#)" illustrates the growing debate over the sustainability of policies meant to grow our renewable future. In this case, net energy metering (NEM) was the focus of a spirited debate between Travis Bradford, founder of the Prometheus Institute for Sustainable Development, and Westinghouse Solar CEO, Barry Cinnamon, at the [GTM Solar Summit](#) in Phoenix, AZ last week.

At Rocky Mountain Institute, we agree that these issues are critical as the market for distributed renewables continues to grow, as we expect it will – and believe it should. The bottom line: Cinnamon and Bradford are both right. And on at least point, they agree: Net metering is only a symptom of a much deeper challenge.

The U.S. electricity system is changing (and a customer becoming a power generator is only one example). Our 21st century technology is colliding with institutional structures that have remained relatively unchanged since the 20th century. In fact, both Cinnamon and Bradford identified the real issues at play: taking a renewed look at the costs and benefits of distributed generation, the fair allocation of these costs and benefits, and rethinking the underlying rate structures and business models that pit utilities against the growing demand for clean, green, distributed generation.

Both sides of this argument would benefit by starting to collaborate to design the electrical system of the future. This is likely to be the only way to reach a shared understanding and mechanisms for identifying real costs and values of distributed resources and design effective market-based mechanisms for sharing them.

Several key points must be considered in this debate. Currently, full retail net metering is an extremely effective mechanism to promote solar adoption and drive near-term scale and cost reduction in the PV industry. However, as penetration rates grow and customer behaviors change in the coming years, NEM is simply insufficient. While some customers may not be paying their fair share for services they receive from the grid, others may not be receiving the value of the power they're supplying. As a first step, it's time to start rethinking how we recognize, calculate and allocate real costs and value in our electricity system.

To engender a cost-effective, reliable and affordable system, neither side

3:30 – 5:00 pm

The Asheville Chamber of Commerce is hosting this panel led by Joan Walker of the NC Sustainable Energy Association. Learn tips for greening your business (from financing advice to easily identifiable and quick to implement) and see how "going green" is a great way to improve your bottom line and protect the environment. The forum is free to all Chamber members, but please do [register](#).

Burton Street Community Day

Saturday, June 2nd
2:00 – 8:00 pm

You're invited to get your jam on at Burton Street with the good folks at Green Opportunities. Come ready to celebrate community and support an inclusive green economy~ activities include dance party, talent showcase, and food catered by Go Kitchen Ready, and the raffle for an electric bike.

This is a free event for the whole family. Check out more details [here](#).

Green Drinks- Green Gauge with the WNCGBC

Wednesday, June 13th
5:30 – 7:30 pm

Join the Western North Carolina Green Building Council at Green Drinks and learn about Green Gauge, their newest program designed to help evaluate efficiency upgrades to existing homes. More details coming soon [here](#).

Downtown After 5

Friday, June 15th
5:00 – 9:00 pm

June's DTA5 promises lots of fun with Space Capone, playing a mash-up of 1970s grooves and 1980s funk. Asheville's Secret B-Sides open, and Katy's Kids and MANNA Food Bank will benefit from the wristband sales. Come on out and dance to some solar-powered tunes in the streets of Asheville.

NABCEP Certification Opportunities

Grayson Newell, our Field Operations Manager, has worked with A-B Tech in helping them become certified for NABCEP entry level Photovoltaic and Solar Heating Exams and will be teaching the following courses:

Solar Heating (Week Option) June 25-29

Solar PV (Weekend Option) May 18-20

Solar PV (Week Option) August 6-10

should sweep the other's perceptions of the costs or benefits under the rug.

The growth of distributed generation represents a fundamental shift in the formerly one-way power system from both a technical and institutional perspective. To make optimal investments and reduce total system costs, we must recognize the interaction with the larger system: the grid. Although the total amount of energy demanded from the grid is smaller through efficiency and on-site renewable generation, the solar customer's demand profile could change substantially. On smaller timescales, such as hours, day and weeks, the amount of grid power that must be imported or exported could fluctuate considerably. In fact, a solar customer's peak demand on the grid could be when he or she is exporting power.

It's critical to create complementary signals and incentives for customers to be able to respond to system needs and accrue the value they could bring. Without the right signals, this may also have unintended negative consequences for the development of other distributed grid technologies, such as advanced demand response technologies or distributed storage provided by electrical vehicles.

These are tough problems, and we don't pretend to have all of the answers. To start to tackle these and other issues standing between our present reality and the potential for our electricity system, [RMI \(Rocky Mountain Institute\)](#) is working with diverse partners to reevaluate the regulatory construct to most effectively align utility and societal goals and incentives, and harmonize business models of utilities and distributed resource developers to support the long-term sustained growth of renewable industries through an initiative dubbed the Electricity Innovation Lab launching this summer.



Employee Spotlight on Kim Salvesen

This month we are swinging our spotlight to shine on Kim Salvesen, our Office Administrator. Kim began on a temporary basis, and as we soon could not imagine Sundance without Kim, became permanent recently.

Kim is a November baby, born in Seattle, WA. Kim has three brothers that she does not get to see enough, and two grown sons, Ryan and Blake Salvesen, of whom she is very proud of. Kim's sons enjoy giving back to the community and helping others.

Kim has been educated in Construction Accounting as well as Garment Construction. Additionally, Kim took an upholstery class and now finds that she must always be working on something.

Kim is inspired to work in the renewable energy field by "finding inspiration and a vision of improving life through reduction of waste and reuse of materials that most would think has outlived its use or life".

Kim did a little bit of the standard list of questions and then provided us with some insights beyond just her current music.

So- on to some of the list and some insights on Kim:

Vision for the planet: I dream of people who have realized what our planet truly is and instead of filling it with our waste or draining the resources, all understand the respect and fragility we need to apply to all we do to it. I walk to work every day and am thankful I get to do that.

Reading right now: Just finished "Darwin's Radio"

Favorite scent: Wisteria keeps me sniffing

Favorite pastime or hobby: I am always sewing something, I love working on furniture and reupholstery.

And more from Kim:

I have floated the Yakima River every August for 13 years.

I have been to the top of Rattlesnake Mt. and Mt. Baker in WA.

Camping out in the wilderness is always a favorite.

All courses are 40 hours, and will include the entry level exam at the end of each course For more [details](#) contact: Haven Hanford at 254-1921, Ext. 5858 or hhanford@abtech.edu

Kudos to Chris Larson



Congratulations to Asheville Architect Chris Larson for receiving Fine Homebuilding's 2012 Eergy-Smart-Home Award for his beautiful work in designing the Donehower Residence in Candler.

To see what makes this home so efficient read the Fine Homebuilding [article](#) , or watch the [video](#) in which Chris and the Donehows share how this project evolved. May they stand as an inspiration to all!

Both Chris' home and the Donehows' have been featured in previous Sundance newsletters, Check them out if you'd like to see more about how they have integrated solar energy into their homes:

[October 2010](#) and [February 2010](#)

Cool Energy Tip

Some tips to save energy in the garden this year:

- Plant natural grasses and shrubs that are native to your area and do not require a lot of extra water in the summer.
- Plant shade trees in the yard, by roadways and in vacant lots to combat the rising CO2 production.
- Plant native wildflowers in vacant lots, roadsides and other public areas so that the grass will not have to be mowed as often.
- Collect rain water in a rain barrel or cistern for watering plants, garden and landscaping.
- Looking for an easy way to save energy? Reduce your landscape watering schedule. Experts say that most yards are over-watered.
- Water lawns early in the morning and long enough for a deep soak to encourage deep root growth.
- Plants and grasses grow slowly in the cooler weather. Reduce your watering schedule accordingly.

I can spend all day beach combing.

Picking wild berries and mushrooms is a favorite.

I have some long-time friends since I was young; we have managed to get together for some fun at least once a year even though we all live far apart.



Community Connections: Just Economics

This month we are featuring the work of Just Economics, a wonderful effort that is based in Buncombe County but has the potential to impact lives beyond Western North Carolina. The mission of Just Economics (JE) is to educate, advocate, and organize for a just and sustainable economy that works for all in Western North Carolina. JE was born out of the Asheville-Buncombe Living Wage Campaign, an effort that initially began in 2000, but took root in 2006. This coalition of faith, labor, and community groups succeeded in passing the first living wage ordinance in our region, which guarantees Asheville City employees a living wage. JE realized that the city ordinance was just a start and in 2007, JE became the organizational home for the Asheville-Buncombe Living Wage Campaign. We raised funds for an office and staff, and—with support from foundations, local organizations, and a growing membership—we are running an expanded living wage campaign and becoming an effective voice for economic sustainability and justice in our region.

Together, our members are working to shape the economic development of Western North Carolina in a way that benefits everyone and promotes a sustainable future. We aim to have a membership that reflects the diversity of our community, with an intentional focus on leadership from low-wage workers and others most affected by the issues we work on. At this point in time, JE works primarily in three areas: Policy Advocacy, Living Wage Employer Certification Program and Community Education and Leadership Development.

Sundance Power Systems recently became certified as a Living Wage Employer and we are so excited to be part of such an important effort! At this point in time, Just Economics has the largest certification program in the country! And, there are more than 275 Living Wage Certified Businesses at this time and the projection is for over 300 by years end. The program is completely free and voluntary.

For more information on Just Economics or to get involved, visit www.justeconomicswnc.org additionally, you will be able to sign the petition for a living wage!

- Keep an eye on the weather report and turn off your automatic irrigation system when rain is predicted. Keep it off for a week after the rain stops. Even longer in the winter.
- As a general rule, lawns only need watering every 5 to 7 days in the summer and every 10 to 14 days in the winter. A hearty rain eliminates the need for watering for as long as two weeks.
- Check your sprinkler system and timer on a regular basis to be sure it is operating properly and giving you the right coverage.
- Install a rain sensor device or switch which will override the irrigation cycle of the sprinkler system when adequate rainfall has occurred.
- Use a "soaker" hose rather than a sprinkler, where possible. Less water is required because the water is concentrated on the soil nearer the roots and there is less evaporation.
- Water in the early morning or late afternoon to avoid evaporation. Avoid watering on windy days.
- Convert to a drip irrigation system that waters specific plants and avoids water waste.
- Looking for ways to save energy? Use electric instead of gas powered lawn and garden equipment, as they create less pollution and are usually more energy efficient.
- Buy a new push mower for your lawn. They are quiet, non-polluting and you won't have to drive to the gym.
- Use "hand" pruners, clippers and other yard tools rather than gasoline or electric-powered ones.
- One idea on how to save energy is to keep the cutting edges sharp on your gasoline and electric-powered yard equipment. The equipment will cut more efficiently and use less energy.
- Also, dull cutting edges tend to fray grass blades and increase water evaporation from the grass plants.
- If you reduce fertilizing the lawn, you'll have to water less and cut the it less frequently.
- Raise the lawn mower blade to at least three inches. A lawn cut higher encourages grass roots to grow deeper, shades the root system and holds soil moisture better than a closely-clipped lawn.
- Leave lawn clippings after mowing to fertilize the grass, or collect the clippings and use them for mulch.

- You can save money and do your lawn a favor by using a mulching lawn mower instead of bagging and carting off grass clippings. The mulched clippings fall back to the soil and add nutrients.
- Mulch your planting beds to retain moisture in the soil. Mulching also helps to control weeds that compete with plants for water.
- Use a broom to clean the sidewalks and driveway. Using a hose to clean these surfaces wastes hundreds of gallons of water.
- Sweeping the sidewalks and driveway instead of using a noisy, polluting, blower is a good tip on how to save energy.
- Regularly check all hoses, connectors and spigots for leaks. Install new hose washers when needed.
- Plant native plants that are adapted to your area. They require less water and maintenance, and look great.
- If possible, use the grey water from the laundry and shower for irrigation in the yard.
- Choose the small solar powered lights for your landscape lighting. They're easy to find online or in garden stores and are just one way how to save energy in the garden.

Action You Can Take Now

This month, sign the petition at <http://www.change.org/petitions/fbmc-allow-net-metering-of-renewable-energy-for-members> .

This petition is directed to the board of the French Broad Electric Membership Cooperative and points out all the reasons why net metering should be the standard policy. Thanks!

Sundance Power Systems, Inc • 11 Salem Hill Road • Weaverville • NC • 28787

<http://www.sundancepower.com>

 [Subscribe](#) · [Unsubscribe](#) · [Preferences](#) · [Send to a Friend](#) 



Powered By [MyNewsletterBuilder](#)

[Report Spam](#)