



REQUEST FOR PROPOSALS

RENEWABLE ENERGY PLAN DEVELOPMENT

RFP No. 20-024

ISSUE DATE:

Date: May 22, 2020

ISSUING DEPARTMENT:

**County of Durham Purchasing Division of Finance
7th Floor / 201 East Main Street
Durham, NC 27701**

Proposals will be received until 2:00 P.M., Eastern Time on June 11, 2020. The purpose and intent of the Request for Proposals (RFP) is to solicit proposals from qualified firms to provide a Renewable Energy Plan Development.

All inquiries concerning the Scope of Services, Proposal Submission Requirements or Procurement Procedures should be directed to:

Hilda W. Williams, Senior Procurement Specialist

Purchasing Division

Email: purchasinggroup@dconc.gov

Telephone: (919) 560-0054

Proposals shall be mailed to the Issuing Department shown above, and the envelope shall bear the name and number of this Request for Proposals (RFP). It is the sole responsibility of the Proposer to ensure that his/her Proposal reaches the Purchasing Division by the designated date and hour indicated above.

In compliance with this Request for Proposals and to all the terms and conditions imposed herein, the undersigned offers and agrees to furnish the goods and services described in accordance with the attached signed proposal.

Firm Name: EcoShift Consulting, LLC

Date: 6/8/20

Address: 126 Bonifacio Pl. Ste G

By: Kristin Cushman

Monterey, CA 93950

(Name Typed/Printed)

Phone: (831) 277-0167

(Signature in Ink)

VENDOR APPLICATION & W-9



Vendor Application

IT IS CRITICAL TO THE COUNTY THAT YOU COMPLETE ALL DATA - PLEASE PRINT OR TYPE
(A W-9 FORM IS REQUIRED AND MUST BE SUBMITTED WITH THIS FORM)

1. Vendor Name: EcoShift Consulting
- Do you require a 1099? Yes ☐ No ☒
2. Mailing address for payments: 126 Bonifacio Pl. Ste. G
Monterey, CA 93940
3. Mailing address for purchase orders, proposals and bids: 126 Bonifacio Pl. Ste. G
Monterey CA, 93940
4. Contact Person Kristin Cushman Phone #: (831) 277-0167
Email: kristin@bluestrikeenvironmental.com Fax #: N/A
5. In what City and State is your firm licensed? Monterey, CA
If licensed in NC, indicate County (for tax purposes) N/A
6. Indicate your firm's organizational type:
Individual ☐ Partnership ☐ Corporation ☒ Governmental Agency ☐ Other _____
7. Is your firm a large business? Yes ☐ No ☒ 8. Is your firm a small business? Yes ☒ No ☐
9. Is your firm 51 percent or more owned and operated by a woman? Yes ☒ No ☐
If yes, with what governmental agencies are you certified? SAM, SBA
10. Is your firm 51 percent or more owned and operated by a minority? Yes ☐ No ☒
If yes, with what governmental agencies are you certified? _____
Identify appropriate minority group:
Black American ☐ Native American ☐ Hispanic ☐ Asian/Pacific ☐ Asian Indian ☐
11. Is your firm incorporated? Yes ☒ No ☐
12. Is your firm a not-for-profit concern? Yes ☐ No ☒
13. Is your firm a handicapped business concern? Yes ☐ No ☒
14. Give a brief description of goods or services your firm provides:
Sustainability consulting services in the fields of waste, energy, the built environment, etc.

Signature: Kristin Cushman

Title: CEO

Print name: Kristin Cushman

Date: 6/8/20

If you have any questions concerning this form, call Durham County Purchasing Division - (919) 560-0051.

FOR DEPARTMENT COMPLETION (Prior to Vendor Distribution)

Email to:

or

Fax to:

Department Contact Email

Department Contact Fax No.

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

► Go to www.irs.gov/FormW9 for instructions and the latest information.

Print or type.
See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

Kristin Cushman

2 Business name/disregarded entity name, if different from above

BLUE STRIKE ENVIRONMENTAL, INC.

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC

☐ C Corporation

☒ S Corporation

☐ Partnership

☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ►

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

126 Bonifacio Pl. Ste. G

6 City, state, and ZIP code

Monterey, CA 93940

Requester's name and address (optional)

Durham County

200 East Main Street

Durham NC 27701

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

____ - ____ - ____

or

Employer identification number

82-2686814

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign
Here

Signature of
U.S. person ►

Date ► June 8, 2020

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding*, later.

Attachment D

NON-COLLUSION AFFIDAVIT

State of North Carolina
County of Durham

Kristin Cushman, being first duly sworn, deposes and says that:

1. He/She is the CEO of EcoShift Consulting, the Proposer that has submitted the attached proposal;
2. He/She is fully informed respecting the preparation and contents of the attached Proposal and of all pertinent circumstances respecting such Proposal;
3. Such Proposal is genuine and is not a **collusive** or **sham** Proposal;
4. Neither the said Proposer nor any of its officers, partners, owners agents, representatives, employees or parties of interest, including this affidavit, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Proposer, firm or person to submit a **collusive** or **sham** Proposal in connection with the contract for which the attached Proposal has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Proposer, firm or person to fix the price or prices in the attached Proposal or of any other Proposer, or to fix any overhead, profit or cost element of the Proposal price of any other Proposer or to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the County of Durham or any person interested in the proposed contract; and
5. The price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Proposer or any of its agents, representatives, owners, employees, or parties in interest, including this affidavit.



Signature of Proposer

6/8/20

Date

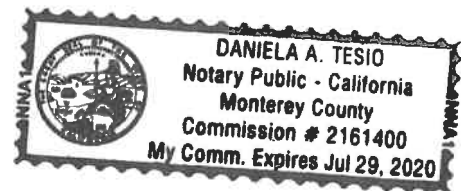
Subscribed and sworn before me,
this 8 day of June 2020

(Seal)


Notary Public

Notary Public

My Commission Expires: July 29, 2020



Attachment F

AFFIDAVIT OF COMPLIANCE

**STATE OF NORTH CAROLINA
COUNTY OF DURHAM**

**AFFIDAVIT OF COMPLIANCE
with N.C. E-Verify Statutes**

I, Kristin Cushman (hereinafter the "Affiant"), being duly authorized by and on behalf of EcoShift Consulting (hereinafter "Contractor") after first being duly sworn hereby swears or affirms as follows:

1. Contractor understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with Article 2 of Chapter 64 of the North Carolina General Statutes; and
2. Contractor understands that an "Employer", as defined in NCGS§64-25(4), is required by law to use E-Verify to verify the work authorization of its employees through E-Verify in accordance with NCGS§64-26(a). The term "Employer" does not include State agencies, counties, municipalities, or other governmental bodies.
3. Contractor is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in the state of North Carolina. (mark Yes or No)
 - a. YES ____
 - b. NO X
4. Contractor will ensure compliance with E-Verify to the extent applicable and will ensure compliance by any subcontractors subsequently hired by Contractor to perform work under Contractor's contract with Durham County.

This 8 day of June, 2020.

Kristin Cushman

Signature of Affiant

Print or Type Name: Kristin Cushman

State of California
County of Monterey

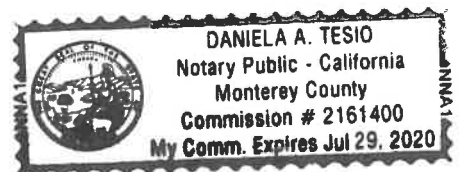
Signed and sworn to (or affirmed) before me, this the

8 day of June, 2020

My Commission Expires:

July 29 2020 Daniela Tesio
Notary Public

(Affix Official/Notarial Seal)



Affidavit A

ATTACH TO BID

N/A

State of North Carolina AFFIDAVIT A - List of the Good Faith Effort

COUNTY OF DURHAM

Affidavit of ECOSHIFT CONSULTING
(Name of Bidder)

I have made a good faith effort to comply under the following areas checked:
(A minimum of 5 areas must be checked in order to have achieved a "good faith effort")

- ☒ 1-Contacted minority businesses that reasonably could have expected to submit a quote and that were known to the contractor, or available on State or local government-maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- ☒ 2-Made the construction plans, specifications and requirements available for review by prospective minority businesses or providing these documents to them at least 10 days before the bids are due.
- ☒ 3-Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- ☒ 4-Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority business.
- ☒ 5-Attended pre-bid meetings scheduled by the public owner.
- ☒ 6-Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- ☒ 7-Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- ☒ 8-Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the Bidder's suppliers in order to help minority businesses in establishing credit.
- ☒ 9-Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- ☒ 10-Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cashflow demands.

In accordance with GS 143-128.2(d) the undersigned will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon execution of a contract with the Owner. Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: 6-10-20 Name of Authorized Officer: KRISTIA CUSHMAN

Signature: [Signature]

Title: CEO



State of North Carolina, County of _____
Subscribed and sworn to before me this ____ day of _____ 20__
Notary Public _____
My commission expires _____



Response to:
RENEWABLE ENERGY PLAN DEVELOPMENT RFP NO. 20-024
Durham County

PRESENTED BY:



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Cover Letter

County of Durham, Purchasing Division of Finance
Hilda W. Williams
7th Floor / 201 East Main Street
Durham, NC 27701

June 11, 2020

Dear Ms. Williams,

EcoShift, together with our partners at Optony, are pleased to submit a response to RFP#20-024 for Renewable Energy Plan Development for Durham County. Our team brings an exact match of the skills needed to create an actionable plan that will allow Durham County to achieve its ambitious goal set by the County Commission for transitioning from fossil fuel-powered operations to 80 percent clean, renewable energy by 2030 and 100 percent by 2050. Specifically, we offer:

History of experience in facilities and community-level analysis: The team of EcoShift Consulting and Optony, Inc. has a long history of partnering to develop clean energy and sustainability plans that deliver tangible value to our community partners. This includes multi-layer analysis of municipal and community facilities, robust stakeholder engagement, and recommendations based on best practices and emerging technology considerations. Together, our teams work seamlessly to deliver best-in-class results.

Advanced energy knowledge with diverse and deep experience. We strive to bring the leading edge of renewable energy planning into each project, enabling the most cost-effective progress towards energy goals. Outcomes include carbon neutrality plans, electric vehicle and building electrification, battery energy storage, microgrid technology, and smart energy zoning. Energy democracy is a priority in all our work.

National best practices tailored to reflect Durham's local needs and context. Our team has extensive experience working together with mutual clients including municipalities, universities, private sector clients, and community choice energy providers in the states of CA, WA, TX, NY, NV, CO, MD, VA and PA..

A flexible and collaborative approach. Our team is focused on turning strategic renewable energy resolution goals into detailed action plans with data driven metrics for successful implementation. Stakeholder engagement is prioritized in all of our planning efforts.

Our team has partnered to offer Durham County a select team of experts who will bring unique insights and recommendations to Durham County's staff. We appreciate the opportunity to submit this proposal. Please reach out at any time with follow-up questions to kristin@ecoshift.com.

Sincerely,



Kristin Cushman, CEO
EcoShift Consulting, a division of Blue Strike Environmental

Signed Forms

The following pages contain the required forms listed below:

- a) Proposal Form
- b) No Proposal Reply Form (if applicable)
- c) Addendum Acknowledgement Form
- d) Non-Collusion Affidavit Form
- e) Affidavit of Compliance (E-Verify) Form
- f) Vendor Application/W-9 Form g. MWBE Forms:
 - i. Affidavit A – List of the Good Faith Efforts
 - ii. Affidavit B – Intent to Perform Contract with Own Workforce
 - iii. Affidavit C – Portion of Work to be Performed by Certified MWBE Businesses

Attachment A



PROPOSAL FORM

RFP No. 20-024

In accordance with the attached instructions, terms, conditions, and Scope of Services we submit the following proposal to the County of Durham.

Task A: Research and Evaluation	\$ 30,575
Task B: Framework for Evaluation and Prioritization	\$ 740
Task C: Plan Development	\$ 14,400
Task D: Staff Support	\$ 2,500

TOTAL PROPOSED COST

\$ 49,955

(Total Proposed Cost in Writing)

The above Total Proposed Cost should be based on being awarded the entire project.

I certify that the contents of this proposal are known to no one outside the firm, and to the best of my knowledge all requirements have been complied with.

Date: 6/8/20

Authorized Signature: 

Kristin Cushman

Name

CEO

Title

EcoShift Consulting

Firm Name

Attachment C

ADDENDUM ACKNOWLEDGEMENT
RFP No. 20-024

Receipt of the following Addendum is acknowledged:

Addendum no. N/A Date N/A

Addendum no. _____ Date _____

Addendum no. _____ Date _____

Addendum no. _____ Date _____

Addendum no. _____ Date _____

Signature:  Date: 6/8/2020

Kristin Cushman, CEO

Title

EcoShift Consulting

Name of Firm

Executive Summary

Our team commends the County for pursuing aggressive carbon neutrality goals, and understands that the County has its work cut out for it: According to the 2019 Sustainability Report by Duke Energy, Durham County was served by an electricity mix composed of 31% coal, 16% nuclear, 38% natural gas/fuel oil and only 6.45% solar, wind or hydroelectric generation. This same report forecasts 90% fossil and nuclear electricity sources by 2030. However, there are many potential solutions. Collectively, our team has helped hundreds of cities, counties, housing districts, schools, and water districts worldwide with project feasibility and clean energy planning, including the identification of a vast quantity of energy projects through evaluation, procurement, development, or a combination of these tasks—totaling nearly 3,000 megawatts.

Our team's project management approach is to begin with the end goal in mind, focusing on 80% clean energy by 2030 and 100% by 2050. Each phase will contain strategic initiatives whose combined effects will enable the County to reach its goals within your definitions and parameters. From the very beginning of the process, our team will engage with County staff and other important stakeholders to ensure that the final Plan is an actionable, relevant document that can guide all efforts to meeting the County's renewable electricity goals.

For community options, it will be necessary to monitor ongoing North Carolina PUC proceedings closely to see how community solar rules unfold. Depending on the favorability of those rules, the County may want to look into serving as an anchor tenant to one, or several, community solar projects. The combination of on-site and community solar may be able to meet the needs of both the County and community by providing both groups with clean energy that is consumed close to where it's produced, reducing transmission costs.

When looking at the current options in front of the County, different approaches will be needed for the municipal and community sectors. For County operations, based on the options described in the County's *Cost considerations for transitioning Durham County operations to renewable fuels* whitepaper, the project team will begin with an analysis of solar + storage options available to the County. Right-sized solar + storage options have the potential to provide the County with flexibility, resiliency, and cost savings. Key questions to answer will be: What is the right amount of solar capacity for various County-owned facilities and property; What is the right amount of battery storage for the system; How can different potential value streams (energy arbitrage, peak shaving, etc.) be stacked to provide maximum ROI and flexibility?

Natural gas can be more difficult to eliminate, and will likely require a phase-out program designed to replace existing heating sources and appliances with vetted electric options once their useful life ends. The County should follow the progress of the Neuse River Resource Recovery Facility closely to help determine the feasibility of on-site biogas production.

Our team also has extensive experience with waste diversion, zero-waste event design, and grant management of various waste diversion programs. Although generally not one of the highest energy-consuming sectors, effective waste diversion can have multiple co-benefits including positive effects on human health, land use, and biogas production.

For all the options listed above, policy factors will be paramount. Since North Carolina is a Dillon's Rule state, Durham County has limited options in what it can enact unilaterally. This means coalition-building with community groups, neighboring Counties, national non-profits, like-minded Counties around the country, and other stakeholders will be key to creating leverage. By engaging these types of groups early and often, it's possible to create momentum and put pressure on state representatives to create the conditions necessary for success. Our team can assist in this process by conducting or guiding the County through complex policy analysis. This analysis can include modeling future energy prices (including electricity, natural gas, and biogas), EV and electric appliance prices, REC prices, and fossil fuel prices. This type of layered analysis can help inform the County's optimal path forward, minimize risks and volatility, and give the county flexibility in how it uses and adds to its asset base.

Our team is well-positioned and has decades of experience in enacting the types of measures and analysis described above. We are confident we can guide the County through this process in the most realistic, cost-effective way possible.

Corporate Overview



Primary Role: Project Manager

Address: 4112 Summit Rd., Norton, OH 44203

Phone: 831-277-0167

Email: kristin@ecoshift.com

Representatives: 3

EcoShift Consulting offers award-winning strategy, research, technical analysis, communications, and organizational development services in sustainability, climate change, and clean energy. We specialize in energy and sustainability planning, carbon accounting, life cycle analysis, strategic electrification, and green technology solutions.

Our staff has worked for over a decade supporting state mandated programs for climate related activities with a focus on waste, the built environment and advanced energy programs. We have been on the forefront, designing program activities, creating best practices and innovating policy and reporting frameworks, and have solid industry knowledge that allows us to translate goals and objectives into actionable work plans.

EcoShift works with various cities, counties, universities, community choice aggregators, and private sector clients to determine carbon neutrality roadmaps and local renewable energy deployment. Although we specialize in distribution technology solutions, our strength is to articulate these technical elements to stakeholders. Our vision is to bridge the gap between climate action planning and the local communities where those plans are implemented, effectively aligning planning goals with community priorities.

EcoShift brings a unique resume of credentials that enable our firm to be an asset to Durham County. EcoShift is a Women-Owned Business and Small Business Enterprise. Our offices are located in California, Ohio and Florida, and **one of EcoShift's principal shareholders lives in Durham, NC and works for the City of Durham.**



Primary Role: Energy Feasibility Analysis and Energy Modeling

Address: 650 Franklin Avenue, Brooklyn, New York, 11238

Phone: 267-886-2223

Email: sam.hill-cristol@optonyusa.com

Representatives: 3

Optony provides support to both private and public clients; from banks and utilities, to cities, counties, schools, water agencies and community choice aggregators. However, Optony prides itself on its experience and expertise in serving public agencies in particular. For over a decade, Optony has assisted hundreds of clients worldwide with renewable energy planning and program development and has been instrumental in renewable energy developments totaling nearly 3,000 MW, through services in site evaluation, procurement, policy development, or a combination of these tasks. Due to Optony's expertise and market-leading projects, the company was recognized by the Silicon Valley Business Journal as one of the very best energy service companies in the region, and the company's projects have won awards from the Interstate Renewable Energy Council, Acterra Business Environment Awards, and the Governor of California.

From the outset of its creation, Optony's name has been synonymous with clean energy feasibility studies for government agencies. Optony was regarded as the go-to consultancy by the US Dept. of Energy, US Environmental Protection Agency, and Metropolitan Washington Council of Governments. In recent years, Optony has come to specialize in the creation and communication of complex community-wide strategic energy and emission reduction plans. As Optony's work has evolved into the field of battery energy storage, microgrids, building electrification, electric vehicles and community choice aggregation, we have used this sector and technology specific expertise, combined with a detailed strategic planning approach, to create comprehensive plans for a range of carbon and energy goals. As mentioned elsewhere in this proposal, Optony has supported the creation of local government Renewable Energy Plan Developments in countless cities from coast to coast.

Approach

As the second-largest producer of solar resources behind California, North Carolina is a leader in clean energy. This comes largely from utility-scale solar, but the state is also home to a budding wind generation industry. This means the infrastructure is in place for Durham County to greatly expand its renewable energy consumption and generation capacity. The state has been a progressive policy leader, passing the Southeast's first renewable portfolio standard, the Renewable Energy and Energy Efficiency Portfolio Standard (REPS).

The Durham County Board of Commissioners released an Appendix to their November 2018 Resolution, entitled *Cost considerations for transitioning Durham County operations to renewable fuels* whitepaper, which outlines a baseline of potential fossil fuel alternatives. From this baseline of alternatives, the team's next management approach is to develop phases of scenario analysis, continuing with the end goal in mind. Our team will start with the Renewable Energy Plan's final goal for transitioning from fossil fuel-powered operations to 80 percent clean, renewable energy by 2030 and 100 percent by 2050 and work backwards to build step-by-step incremental strategic energy plan phases.

Each phase will contain strategic initiatives whose combined effects will enable Durham County to reach its goals within the County's parameters.

1. **Reduce building electricity consumption** with on-site generation, energy efficiency, and renewable thermal alternatives;
2. **Explore renewable options** such as physical plant community solar, or community wind options to replace all electricity that is fossil or nuclear powered;
3. **Focus on building electrification**; which may include replacing all building thermal energy sources with heat pump water heaters, solar-source heat pumps, or renewable fuels such as renewable gas (digester/landfill), or renewable diesel. For transportation decarbonization the team may offer vehicle-to-grid concepts.
4. **Deploy green fleet vehicle replacement "purchasing standards"** in advance of new like-for-like fleet vehicle purchases. This clean vehicle purchasing standard will support prioritizing appropriate (tier 1, tier 2, tier 3 etc.) choices for electric, hybrid, or alternative non-fossil alternatives as drivers become more accustomed and new vehicle types (especially heavy-duty) become commonplace and commercially available.
5. **Leverage carbon credits or renewable energy certificates** as a last alternative depending on costs.

Continued operation of critical facilities and services provided by the County is vital to **respond effectively to climate threats**. It is important that infrastructure upgrades and adaptation plans be made to prepare not only for catastrophic events such as fires and flooding. Energy security is a critical consideration in resilient infrastructure planning. Failure in the energy system can lead to cascading failures of services such as water, communications, medical equipment, emergency response, plant and pumping/telemetry controls, etc. As part of the Renewable Energy Plan, the project team would suggest the development of a plan element to address and prevent energy disruptions and respond and recover from energy emergencies related to climate change.

Because our team regularly goes far beyond high-level generalities, our Renewable Energy Plan methodology is a perfect match for this scope of services. For example, after a set of strategies has been developed our team will guide the County in drilling down to specific actions and metric criteria for each of the developed strategies. These specific details for each strategy allow the County to follow a concrete time frame for strategy completion driven by the feasibility and costs of each action within Durham County.

Since our team works for local governments on a daily basis, we understand that the County will need to access our team virtually anytime. Ms. Kristin Cushman, EcoShift CEO, will make this project a priority, serving as the key liaison to Durham County. Working alongside Byron Pakter, Optony CEO, she envisions leading regular project updates via a one-hour project management call with County staff.

Task A: Research and evaluate options for Durham County to meet the renewable energy goals.

The Plan's targets and actions will be designed to guide the County toward its ambitious goal to transition from fossil fuel-powered operations to 80 percent clean, renewable energy by 2030 and 100 percent by 2050.

The importance of County feedback to this team cannot be overstated for this project. As such, there will be an initial kick-off meeting, to fully identify all County-specific goals for the project as well as the status of existing initiatives. The project kick-off will take place in the form of a meeting between the team and key County staff, including the County's assigned Sustainability Manager for this project. During the meeting, the County will reaffirm that there have been no changes to the goals and objectives presented in this RFP, after which the team will present an initial list of potential renewable energy strategies based on the team's previous project experiences and best practice research cataloguing climate actions and results of counties similar to Durham. These strategies will then be discussed and considered for inclusion in the analysis and prioritization process. The project kick-off will also identify any formal data requests needed to conduct later analysis and Renewable Energy Plan creation.

Since our team works closely with local government staff from across the country, our team can supply a wealth of information and best practices with Durham County. Our team regularly attends federal, state, and local policy meetings of dozens of government and regulatory agencies, which keeps us engaged at the forefront of the renewable energy revolution.

Identify reasonable energy efficiency targets for facilities and vehicles/ equipment.

- Gather historical data on municipal energy usage to calculate gaps in renewable generation needed; Work with Energy Services Contractor (ESCO) and Durham's local software partner to align interpretation of data;
- Determine the appropriateness of each proposed target for Durham County;
- Assess the proposed targets and project cost ranges, along with potential internal and external funding sources;
- Prioritize each target, including estimated starting date and duration and relevant quantitative metrics (MWh of energy, MW capacity of power, tons GHG, etc.);
- Establish milestones for verification and revaluation of the Renewable Energy Plan over its lifetime.

Identify and assess renewable energy generation, energy storage, and fuel switching opportunities and approaches to achieve identified strategies or scenarios including identification of appropriate locations for renewable energy and/or storage installations or implementation to include county owned/operated lands or facilities.

- Conduct a high-level solar-siting survey to identify potential locations for medium/large-scale renewable energy development and battery locations;
- Weigh the regulatory and technical feasibility, including barriers and recommendations for overcoming them;
- Assign County staff position or agency responsible for potential implementation with key first steps for getting started;
- Review County historical data to determine peak load pockets;
- Cross-reference potential strategies with available capital capacity.

Assess applicable traditional or non-traditional funding opportunities or financing strategies for implementing renewable energy projects such as:

- Designate a carbon credit price internal to County operations; departments can either pay into the fund or reduce department carbon footprint by designated amount (internal admin version of commercial Energy Impact Offset Fund at City of Boulder, Pg. 31)
- Leverage agency resources to expand electricity resiliency outcomes for all regional climate planning efforts;
- Engage commercial investments in resource protection and planning of infrastructure deployment;
- Identify local, state and federal funding available such as:
 - Local Government Partnership Funds

- Utility locational resource RFPs and funds
- Self-Generation Incentive Program incentives
- Demand Response Technical Incentives and Utility Demand Savings
- Qualified Energy Conservation Bonds
- Clean Renewable Energy Bonds
- Renewable Energy Credits
- State and federal grant, loan and tax incentive programs
- SBA 504 Loans

Task B: Develop a framework and/or recommendation for assessing and evaluating renewable energy proposals from vendors.

Our team has experience guiding organizations through the procurement process, most recently helping MCE Clean Energy (the first Community Choice Aggregation, located in the San Francisco Bay Area) with procurement of a contractor for Battery Energy Storage Solutions. This process included vendor outreach, RFP development, internal stakeholder engagement, and project management. We're able to provide high-level assistance to the County through a framework or set of recommendations that can take the County through the process of securing renewable energy resources.

From our experience, joint procurements between the County and other local government agencies (cities, transit, schools, water treatment, etc.) can help to spur excitement in the region and build momentum for other peer agencies to implement clean energy projects like solar, solar, thermal, and energy storage. Bulk purchasing among multiple jurisdictions has also shown to reduce pricing for participants.

Task C: Develop a descriptive path forward for achieving goals of using 80% clean, renewable energy by 2030 and 100% by 2050.

Once the County-approved shortlist of renewable strategies and possible funding options have been identified (Task A), the team will begin assigning costs of each strategy to determine estimated budgetary and goal-achievement impacts. The team will align strategies with any climate and energy planning reports previously conducted by the County, including the 2018 Durham County Sustainability Report and associated recurring master plan updates.

Recommend methods, metrics, and reporting tools to measure and quantify progress towards goals.

Using our team's specialized modeling framework (Refer to Figure A for an example from a previous project), our team will begin a business-as-usual scenario that includes the impact of existing and potential new renewable strategies. Examples include but are not limited to:

- Building natural gas consumption

- Building electric consumption
- Vehicle and equipment fueling volume (gallons)
- Vehicle and equipment fueling costs (gasoline and diesel)
- Electric vehicle charging costs (both kWh and kW)
- Electric vehicle chargers cost (installation and repair)
- Emissions from waste generation
- Total on-site generation capacity

Identify 5-year progress benchmarks through 2050.

EcoShift's non-proprietary process can establish 5-year reporting milestones for up to 25 years. This baseline will act as the benchmark to which recommended strategies are appended to meet 2030 and 2050 goals, and it will take the form of a visual graph representing the current trajectory towards established goals.



Scenario Builder

To create a new scenario, first specify the name, author, and description. Add energy efficiency, renewable energy, transportation, and capital projects in their respective scenario builder sheets. Then set global economic assumptions and energy costs, and use voluntary offsets to offset remaining emissions. Finally, save as a new scenario or overwrite the last saved scenario

1. Define current scenario • 2. Select projects • 3. Set global assumptions • 4. Adjust GHG instruments • 5. Save scenario

Scenario name:

Author:

Description:



Load previous scenario definition

Clear

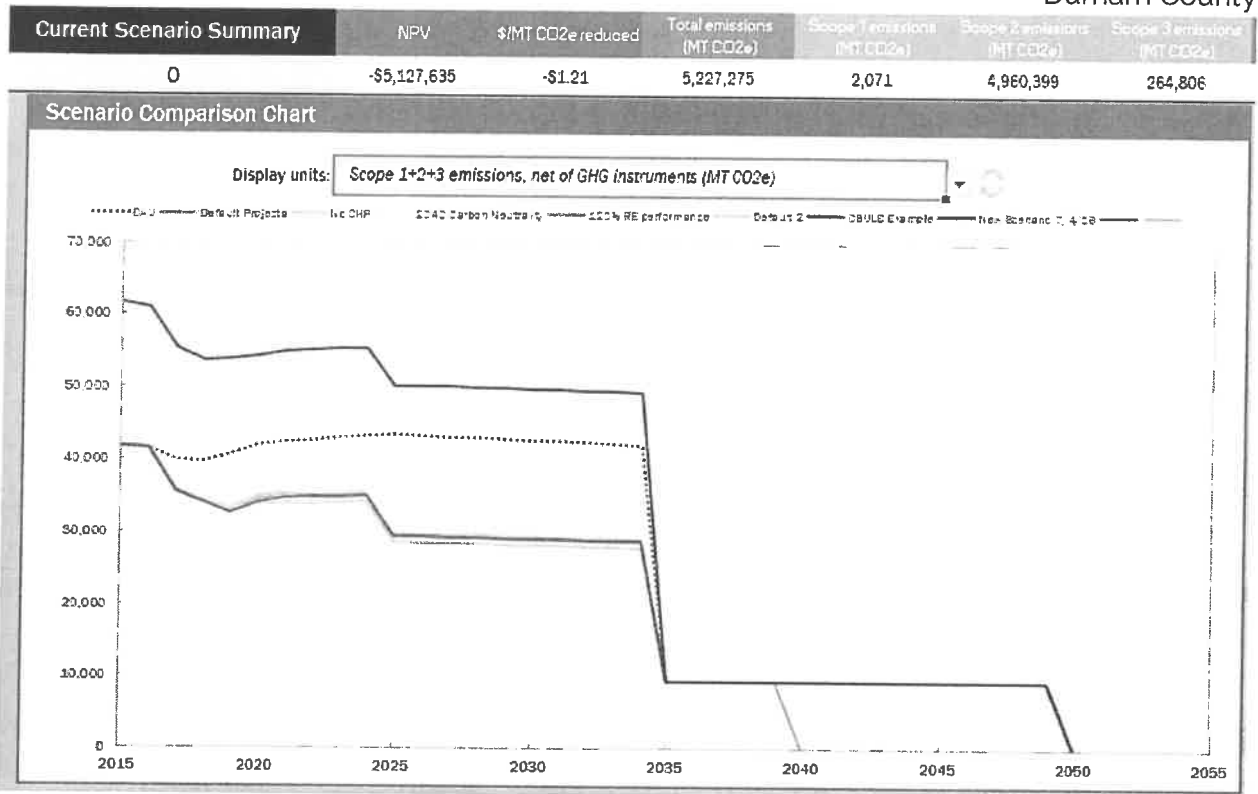


Figure A illustrates a potential analysis format.

Estimate each proposed measure's cost and benefit, where possible, and include internal and external factors that would affect costs and benefits (e.g. battery storage costs fall below \$x/kw, Duke Energy's renewable mix reaches xx%, biogas from NC hog farms becomes commercially available, etc.).

Our team's modeling frameworks allow suites of user defined programs and/or projects to be prioritized based on financial performance (incl., Net Present Value, Internal Rate of Return), as well as other key performance metrics (KPIs). This analysis allows for the ranking of programs most appropriate to implement within the County (Refer to Figure B). Based on the modeling options selected, sensitivity analysis can be conducted to compare the relative impacts of changes in various prices, energy mix, or emerging technology adoption. At the conclusion of the project, the team will hand the model will be handed off to the County in an unlocked version to allow additional modeling and analysis over time.

- Estimate staff and monetary costs and goal-achievement impacts of proposed strategies;
- Gather cost and impact calculations for previous and ongoing County renewable electricity deployment efforts, as is relevant;
- Potential areas of analysis include: monetary costs, full-time equivalent (FTE) staffing and administrative needs, key barriers and work-arounds, generation impacts, and ability to include disadvantaged communities and promote social equity and economic development.

KEY		BEST PERFORMING SCENARIO FROM EACH SECTION IS BOLDED		
✓	Neutrality Achieved by 2025	Capital Outlay	Scope 1 Cap & Trade Emissions reduced	Scope 1 + 2 GHG Emissions reduced
X	Neutrality Not Achieved by 2025			
●	Low	\$3M to \$29M	0 to 60K	-77K to 13K
●	Medium	\$29M to \$55M	60K to 120K	13K to 104K
●	High	\$55M to \$80M	120K to 180K	104K to 195k
NPV		Scenario NPV	Energy Efficiency NPV	Renewable Energy NPV
▼	Large, negative amount	-\$23M to -\$11.5M	-\$20M to -\$10M	-\$11M to -\$5.5M
▼	Small, negative amount	-\$11.5M to \$0	-\$10M to \$0M	-\$5.5M to \$0
▲	Small, positive amount	\$0 to \$16.5M	\$0M to \$11.2M	\$0M to \$1.6M
▲	Large, positive amount	\$16.5M to \$33M	\$11.2M to \$23M	\$1.6M to \$3.2M

Figure B: Sample Scenario Comparison Chart.

Estimate timeline of implementation for recommended measures.

- Build business-as-usual renewable deployment timeline to create development baseline;
- Our team will approach the Plan with an efficient task order and approximate task timeline which have been proven successful in previous comparable work on strategic plan development;
- Timeline will be broken into 5 year increments measured out until 2050.

Identify how recommended actions could positively impact socially and economically vulnerable residents and businesses to help Durham toward greater social equality. In addition, identify how actions might negatively affect populations so that impact can be avoided or mitigated.

- Develop a Plan with a focus on social justice and equity by identifying vulnerable populations and ensuring they benefit from the measures implemented through the Plan. This can be accomplished through stakeholder engagement, listening to the concerns of affected groups, and developing criteria to rank positive impacts;
- Suggest Plan elements that prevent energy disruptions and allow communities to respond and recover from energy emergencies related to

climate change. Vulnerable populations are the most affected by energy emergencies;

- Establish reduced rate structures or consider microgrid options that could directly benefit disadvantaged communities;
- Include negative effects that might impact disadvantaged communities and consider alternate options;

Identify opportunities for community partnerships with private businesses, utility companies, renewable energy providers, non-governmental organizations, and other relevant parties within the County to meet goals.

- Identify obstacles and/or opportunities to develop public/private partnerships that could support Plan goals and funding gaps;
- Work with private businesses and utility companies to establish rebate programs or engage around concepts such as Smart Energy Business Districts;
- Build education around Plan by leveraging outreach efforts of non-governmental organizations.

Task D: Support County staff for public meetings or presentations and development of educational and outreach materials related to the plan or plan development process, as needed.

Our team has extensive experience designing and implementing comprehensive and cost-effective community engagement strategies for public agencies and private organizations. Our expertise includes planning, facilitating, and hosting stakeholder engagement events including Focus Groups, Workshops, Symposiums, and Webinars. In 2017, our team led the mobilization of over 60 community and labor organizations in the development of East Bay Community Energy's Local Development Business Plan. In 2018-19, our team led the stakeholder outreach for the Strategic Energy Plans for the cities of Santa Barbara, Goleta and Carpinteria as well as the County of Santa Barbara and currently, our team is leading outreach for Snohomish County's Clean Energy Plan.

This experience means our team is well-prepared to assist with the creation of presentations and outreach materials related to the planning process. This outreach will be critical to achieving the buy-in needed from the County by diverse stakeholders to make the implementation of the plan a success.

Final Deliverables

A clear process for creating the Plan that includes ample opportunity for internal stakeholder engagement.

- Host a project Kick-off Meeting with key department staff. Meeting agenda will be determined by the Team and the County beforehand, (Refer to Task A) and a primary goal of the meeting will be to ascertain the County's clean energy goals and potential barriers to those goals. The Kick-off meeting will include a presentation by the Contractor to County staff of best-practice strategies from similar local governments or organizations.
- Interview or survey a minimum of ten (10) key internal stakeholders to assess their goals and potential barriers to those goals.. Interview or sample five (5) community members for this same purpose, if appropriate. The interview or survey questions will be determined by the team and the County.
- Engage the community and/or internal County staff by releasing a comment period to allow stakeholders to weigh in on the draft Renewable Energy Plan.

An engaging Action Plan that is easily understandable by the general population and clearly lays out the path forward to reaching renewable energy goals in an economically responsible and socially equitable way.

The final Plan will be delivered as five components:

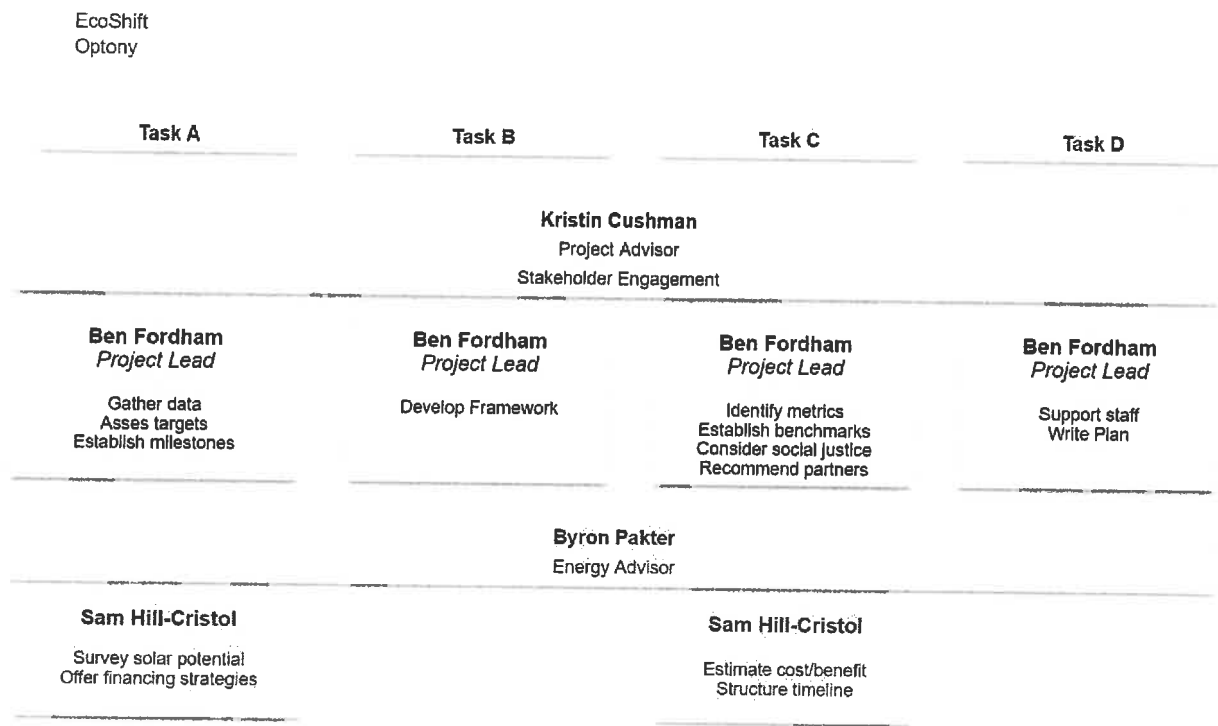
- An executive summary of the recommended strategic Plan actions, with key steps and projected impacts;
- A detailed description of proposed strategies for each goal, including charts, timeline, and evaluated criteria. This Plan will not be more than 80 pages but may have additional appendices beyond the 80 pages;
- An appendix of research methods and data sources;
- A numerical model of the Plan strategic actions timeline in a practical color-coded spreadsheet format which will include dynamic charts and relational formulas, so that staff can manipulate the inputs and observe how adjustments to program operating budgets and focus will change expected results;
- The Plan will be presented in a format that is visually appealing, easy to understand, and can easily be translated to a variety of media for different audiences. (Electronic versions that can be posted on-line, printed by the Sustainability Office, and edited by the County in the future).

An executive summary of the Action Plan (Electronic version that can be posted on-line and printed by the Sustainability Office).

- An executive summary of the recommended strategic Plan actions, with key steps and projected impacts; This summary will be created for on-line and print purposes.

Organization and Staffing

The project team includes a diverse group of key personnel with substantial experience in the skills, subject matter and specific subtasks necessary to complete this project successfully.



Resumes for each project team member are included in [Appendix A: Resumes](#).

PRIME CONSULTANCY KEY STAFF



Kristin Cushman

Ms. Cushman is the co-founder and CEO of EcoShift Consulting. Her focus is to build climate mitigation strategies that combine community priorities with local greenhouse gas reduction projects. Ms. Cushman has built lasting and effective public-private partnerships to leverage combined resources and build innovative programs. Her work focuses not only on reducing local greenhouse gas emissions, but also creating jobs and new economic opportunity. Her complex, multi-stakeholder programs have led to electric vehicle adoption, environmental certifications for local and national events, Green-e certified renewable energy and carbon-offset transactions, and the development of unique state funded public private program design. Ms. Cushman manages the Monterey Bay Regional Climate Action Compact, a 21 jurisdiction member network that provides innovation and resources to the Monterey Bay region. Prior to EcoShift, she co-founded a non-profit organization that launched multiple energy and climate initiatives in the state of California. Ms. Cushman incorporates social and environmental justice and inclusion as a cornerstone of her work.



Chris Sentieri

Chris Sentieri is a clean energy, climate change and sustainability policy consultant and program manager for EcoShift Consulting. Mr. Sentieri has extensive knowledge regarding GHG quantification and mitigation planning, stakeholder engagement, community organizing, and public policy development. His areas of expertise include Community Choice Aggregation and related local clean energy programming options, systems- level planning, distributed energy resource planning, and microgrid technologies. He works to accelerate the transition to a more resilient & sustainable ecosystem by fostering market & policy solutions that pave the way for integrated, community-focused energy planning & rapid deployment of advanced clean energy infrastructure. Mr. Sentieri has over 10 years of experience in Climate Action Planning (CAP) and mitigation including GHG quantification and forecasting, reduction measures, and tracking through the use of advanced data analytics.



Ben Fordham

Mr. Fordham has experience in resource, business, and environmental sustainability consulting across diverse sectors including transportation, waste, and renewable energy. His professional expertise includes environmental reporting, life cycle assessment, market and policy analysis, financial analysis, stakeholder engagement, business and strategy development, and marketing. He has worked extensively in projects involving greenhouse gas quantification and reporting.

Most recently, Mr. Fordham has completed quantitative analysis, scenario-level modeling, and capital projects Life Cycle Costing module creation for Cal Poly San Luis Obispo, and served as Project Manager for the development of a Campus Sustainability Plan & Carbon Neutrality Roadmap for California State University Monterey Bay. He has completed certified GRI Standards training.

SUB-CONSULTANCY KEY STAFF



Byron Pakter

Mr. Pakter currently serves as Chief Executive and Director of Program Development at Optony. In this role, he focuses on developing strategic partnerships to bring innovative solutions to complex municipal energy planning challenges. Mr. Pakter sits on the Western Regional Energy Generation Information System Stakeholder Advisory Committee (WREGIS-SAC) and tracks renewable energy technology, markets, and state policies across the West. He is lead author of multiple community-wide renewable energy, grid impact planning and emissions reductions studies. He has used his experience in statistical aggregation and computer programming to develop proprietary analysis techniques and Optony's software modeling tools for financial risk and performance and program performance scenarios, as well as energy storage sizing and performance tools. Mr. Pakter has worked with many California cities to plan and analyze the role of advanced energy in their communities and guide local governments in leading by example to advance the clean energy transition. He specializes in helping local energy programs succeed in terms of economic benefits to the community and direct cost benefits to the budget of local agencies. Prior to Optony, Mr. Pakter served as an Energy and Economics Policy Analyst at the Berkeley Energy & Climate Institute. He holds a Bachelor of Science in Mechanical Engineering and a Master of Engineering in Advanced Energy Technologies from the University of California, Berkeley.



Sam Hill-Cristol

Mr. Hill-Cristol currently serves as a Project Manager and Energy Analyst at Optony. Mr. Hill-Cristol has worked in all facets of the renewable energy -- public policy nexus and uses that experience to interface with public and private stakeholders in order to catalyze clean technology deployment at the local level. Prior to joining Optony, Mr. Hill-Cristol served as the Sustainable Energy & Transportation Associate at Alameda County, where he led the County's efforts to overcome the charging constraints hindering efforts to achieve mass deployment of electric vehicles in their fleet. He is the lead author of a white paper analyzing how energy markets could support utility scale battery storage in New England, which was published by a lead energy consultant in the region. He holds a Bachelor of Arts in Environmental Studies, with Honors, from Brown University.



Maddie Julian

Ms. Julian currently serves as EV and Energy Storage Program Specialist for Optony. Throughout her academic and professional career, she has developed an interest in electricity market design as it relates to electric vehicles, renewable energy and battery storage. Her master's thesis project focuses on incentivizing electric vehicle charging in non-residential segments to utilize renewable energy and support a low carbon grid. She holds a master's degree at UC Santa Barbara's Bren School of Environmental Science &

Management, specializing in Energy and Climate.

Previously, she worked with Berkeley's California Public Interest Research Group chapter, as well as the California Solar and Storage Association, advocating for the advancement of distributed solar resources. Additionally, at Southern California Edison she was a member of both the Energy Procurement & Management, and Customer Programs & Services departments, contributing to projects in areas ranging from analytics to project management and policy discussions. Her responsibilities focused on electric vehicle charging data analysis, utility-scale battery storage market research and project proposal evaluation for local capacity requirements.

Qualifications and Experience

The following is a list of similar projects demonstrating the project team's expertise in the areas required for successful execution of the Renewable Energy Plan Development for Durham County's Scope of Work. References are provided after the project description.

RELEVANT EXAMPLE PROJECTS (ECOSHIFT)

Clean Energy Plan (2020 - Present)

Client: Snohomish County, WA



PROJECT DESCRIPTION

The plan will identify strategies to achieve a 100% clean electricity goal by 2030 and a 100% clean energy goal by 2045 for all County government operations. Contract will launch in the Fall.

Reference: Lisa Dulude, Division Manager Office of Energy and Sustainability

Email: Lisa.Dulude@co.snohomish.wa.us **Phone:** (425) 388-3965

Budget: \$50,000

Team: EcoShift and Optony

Campus Sustainability and Energy Plan (2019-Present)

Client: California State University Monterey Bay



PROJECT DESCRIPTION

California State University Monterey Bay pledged carbon neutrality by 2030 by signing the Second Nature Climate Commitment. To help identify pathways to achieve carbon neutrality, EcoShift and Optony are collectively writing the Campus Sustainability and Energy Plan. The sustainability element of the plan identifies 27 goals and 59 strategies that relate to overall campus operations, addressing all Scope 1, 2 & 3 emissions. The Energy element compares energy scenarios that provides different roadmaps to reduce 100% of the campus' energy emissions. Energy scenarios include the formation of a CSU-wide Community Choice Aggregator (CCA), the conversion of CSUMB's Central Plant to an electric heat pump system and exploring distributed energy for buildings outside the campus core.

Reference: Mike Lerch, Director Energy & Utilities

Email: mlerch@csumb.edu **Phone:** (831) 582-3739

Budget: \$50,000

Team: EcoShift and Optony

Lancaster Advanced Energy Community Project (2019-Present)**Client:** City of Lancaster**PROJECT DESCRIPTION**

The City of Lancaster, CA set a goal to become the first ZNE city, defined as producing or procuring more electricity within city limits from renewable sources than is consumed within the City. To support this goal and the additional priorities set forth by the city, the partnership of Zero Net Energy Alliance, Energy Solutions, Olivine, Gridscape Solutions, and Blue Strike Environmental (parent company to EcoShift) to develop a suite of solutions to support the community in reaching their goals, which have been funded by the California Energy Commission's Advance Energy Community grant program. EcoShift Consulting is a core member of the team, leading the advanced metering, rate and tariff design, and retail billing process development to enable two community-scale microgrids, which will provide clean energy and resilience to 276 Zero Net Energy Affordable Homes. These microgrids include solar + storage, as well as other smart, dispatchable assets, which will be integrated into a virtual power plant to allow wholesale market participation. All of the assets deployed through this project will be integrated with LCE's operations and procurement planning and execution.

Reference: Richard Schorske, Executive Director- Zero Net Energy Alliance**Email:** Richards@znealliance.net **Phone:** (415) 310-2407**Budget:** \$200,000**Carbon Neutrality Climate and Energy Analysis (2017-Present)****Client:** Cal Poly, San Luis Obispo**CAL POLY****PROJECT DESCRIPTION**

Cal Poly SLO is currently utilizing the University of California Santa Cruz (UCSC) Climate & Energy Scenario Analysis (CESA) Tool, which allows users to input measures, set scenario parameters and assumptions, visualize from one scenario to another, and save scenarios for future analysis. Campuses using the tool can project scenarios and conduct rapid financial analysis based on existing, planned, and future carbon mitigation measures, such as lighting upgrades, envelope upgrades, HVAC, renewable energy, transportation, etc. Buckets of projects can be prioritized based on financial performance, as well as other qualifiers, and the CESA Tool allows tracking of project performance after implementation.

Cal Poly SLO can integrate data from the Energy Information System to support scenario planning efforts, with the goal of having a smart tool with flexible planning dashboards that quantifies carbon reductions and financial performance over time. The CESA Tools allows flexibility in assumptions, projects emissions to 2055, and offers various graphical outputs that show how measures roll up over time.

Reference: Eric Veium, Energy & Sustainability Analyst- Cal Poly, San Luis Obispo**Email:** eveium@calpoly.edu **Phone:** 805-756-5397**Budget:** \$78,000

Carbon Neutrality Climate and Energy Analysis (2017-2018)
Client: California State University Long Beach



PROJECT DESCRIPTION

In the Fall of 2017, CSULB engaged a team of consultants, Glumac, ARC Alternatives, EcoShift, and Seed Consulting Group, to develop a Clean Energy Master Plan (CEMP) for the campus. The intent of the CEMP project was to develop a strategic roadmap for GHG emission mitigation measures to not only reduce CSULB's Scope 1 & 2 emissions, but also drive operational savings and improve campus facilities and infrastructure. The findings of this CEMP will help guide CSULB's energy strategy over the next 12 years as the institution works toward becoming carbon neutral by 2030. This engineering study included a robust assessment of campus energy sources, demands, and utilization to identify clean energy alternatives and strategies to improve the efficiency of campus operations.

Reference: Shawn Cun, Energy & Utilities Manager - CSULB

Email: shawn.cun@csulb.edu **Phone:** (562) 370-3442

Budget: \$65,000

Local Development Business Plan (2015-2017)

Client: East Bay Community Energy



PROJECT DESCRIPTION

EcoShift's staff led a team of consultants including Optony to prepare a first of its kind business plan to provide local development in EBCE territory. The Local Development Business Plan (LDBP) creates a comprehensive framework for accelerating local DER deployment while maximizing local benefit in Alameda County through the CCA model.

An example of the type of analysis included in this project is the robust integrated data platform created to assess the opportunities for energy efficiency programs to benefit EBCE and the customers and communities it serves. The LDBP Project Team assembled this platform using a comprehensive energy data management system called Solvryn Enterprise. Using this advanced, open architecture suite of tools, the LDBP Team built a sophisticated analytical foundation that leverages a massive historical energy consumption data set received from PG&E under the CCA Info Tariff (including 2 full years of AMI interval data), along with historical local weather station data, CAISO market (Day Ahead and Locational Marginal) pricing data, County parcel data, portfolio and rate structure data, geospatial data, socioeconomic data, and environmental indicator data. Using this integrated data analytics platform enabled a detailed study of the unique energy supply and demand dynamics within Alameda County that has identified significant opportunities for cost-effective EE programs that deliver substantial value for EBCE and its customers.

Our team was the senior project manager and stakeholder engagement coordinator for the project, and we were responsible for work products including development of the final plan.

Reference: Taj Ait-Laoussine, Vice President, Technology and Data Analytics at EBCE

Email: taitlaoussine@ebce.org **Phone:** (925) 579-1569

Budget: \$60,000

Team: EcoShift and Optony

Carbon Neutrality Climate and Energy Analysis (2015-2016)

Client: University of California Santa Cruz



PROJECT DESCRIPTION

In the course of one year, EcoShift and ARC Alternatives developed a complex yet flexible Scenario Analysis Tool in Excel format, compiling the historical and projected energy demands and costs, GHG instrument pricing, writing logic and macros to process data and calculations, and providing output tables and graphs with metrics like NPV, Cost/MT CO₂e, payback, debt service ratio, and others used for decision-making. The Scenario Analysis Tool enabled the consultant team to identify the most cost-effective, attainable strategies for (a) achieving UC system-wide and UCSC climate and energy goals, and (b) avoiding Cap and Trade regulation or minimizing its cost to the campus. Strategies included combinations of the four mechanisms identified in the UC President's Directive. Other recommendations included some implementation of thermal energy storage, cogeneration turndown, improvements to district systems, and behavior and operational changes.

Reference: Christina Thomure, Climate Action Manager - UC Santa Cruz

Email: cthomure@ucsc.edu **Phone:** (831) 459-2681

Budget: \$65,000

RELEVANT EXAMPLE PROJECTS (OPTONY)

100% Renewable Electricity Strategic Energy Plan (2018-2019)

Client: City of Santa Barbara



PROJECT DESCRIPTION

Optony was selected to provide strategic planning services to plot a pathway for the City of Santa Barbara to reach its goal of 100% Renewable Energy by 2030. A foundation of the SEP approach was to determine the exact barriers and solutions that were the most important for the City to address. This process was structured around an analysis of gaps preventing the City from reaching its renewable energy goals. After evaluating current city goals and identifying gaps, Optony used a stakeholder engagement process to gather key information and enable formation of specific, relevant strategies. The strategic planning services and strategies provided by Optony consisted of a range of tasks including policy development and prioritization, impact modeling, energy modeling, municipal budgeting, staffing assessments and Distributed Energy Resource (DER) site assessments. The project demonstrated Optony's ability to pivot from site-specific technical analysis to higher level strategic planning and create cohesive product for its client.

The Strategic Energy Plan was adopted unanimously by the City Council, with accompanying budget, in August 2019.

Reference: Alelia Parenteau, Energy Program Supervisor at the City of Santa Barbara

Email: AParenteau@SantaBarbaraCA.gov **Phone:** 805-564-5474

Budget: \$215,000

Team: EcoShift and Optony

Strategic Energy Planning Services (2018-2019)

Client(s): County of Santa Barbara, City of Goleta, City of Carpinteria



PROJECT DESCRIPTION

Optony was selected to provide strategic planning services to help the County of Santa Barbara, the City of Goleta and the City of Carpinteria identify opportunities to increase the development of distributed energy resources (DER) and utility-scale renewable energy (USRE) projects, thereby improving electricity reliability and resiliency for residents and businesses.

All three Strategic Energy Plans identified barriers to local renewable development and offered a range of solutions in five program areas: regulatory, financial/funding, utility, county facilities and education/public awareness. Strategies and tasks within these program areas included policy development, staffing and municipal budgeting, energy and impact modeling, and community outreach. Additionally, Optony provided detailed, technical

assessment and financial analysis for solar + storage development at 50+ municipal and private sites. These analyses included consideration of the impact of shifting TOU rates on DER feasibility, as well as research on battery energy storage safety and permitting protocols required for development under AB 546. The project highlighted Optony's site-specific, technical aptitude as well as their comprehensive approach to energy planning.

The Strategic Energy Plans for the Cities of Carpinteria and Goleta were recently finalized and adopted by their respective City Councils in July 2019. The County SEP was adopted, with budget for implementation, in September 2019.

Reference: Marisa Hanson-Lopez, Senior Program Specialist at the County of Santa Barbara

Email: mhanson@co.santa-barbara.ca.us **Phone:** 805-568-3530

Budget: \$180,000

Team: EcoShift and Optony

Government Fleet Vehicle
Electrification Study. (2019-2020)



BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

A HEALTHY BREATHING ENVIRONMENT FOR EVERY BAY AREA RESIDENT

Client(s): City of Fremont under nine-county Bay Area Air Quality Management District Grant

Project Highlights: Fleet Transition Plan and Assessment for Vehicle Electrification, Partial Electrification (hybrid, PHEV, auxiliary), and Renewable Fuels; DER (Solar + Storage) Site Assessment & Modeling, Financial Modeling and DEcision-making Tool Development

PROJECT DESCRIPTION: Optony was selected to lead a team of consultants and a fleet telematics software analytics provider to conduct a fleet electrification assessment; and to create a facilities solar energy upgrade plan (with battery storage) to expedite the building and circuit integration of any associated new electrical load from vehicle battery charging. In the end the consultants will complete a systematic assessment of all currently operational fleet of vehicles of all departments, including, but not limited to, Law Enforcement, Public Works, Fire, Community Services, Community Development, and other department "pool cars". The assessment will review relevant vehicle data in the City's records including available vehicle data downloaded from Fremont's FASTER Asset Solutions, as well as any telematic data available. This data includes vehicle makes, models, ages, purchase dates, repair costs, maintenance, fuel type and costs, and miles travelled for use in fleet analysis including benefit/cost assessment. The data query and compilation will be supplemented by interviews with appropriate supervisors and staff to better understand the data including how vehicles are used and the anticipated future mobility needs of each department. The project also convenes a working group and builds publicly-available decision-making tools for both vehicle selection and site energy upgrade screening.

Reference: Rachel DiFranco Sustainability Manager & Smart City Co-Facilitator at City of Fremont

Email: Rdifranco@fremont.gov **Phone:** 510-494-4451

Budget: \$275,000

**Solar and Battery Energy Storage Siting & Procurement Local
Government Agency Support (2015-2019)**



Client(s): South County Regional Wastewater Authority (Joint Powers
Authority of Morgan Hill & Gilroy)

PROJECT DESCRIPTION: Optony was selected to provide independent energy advisory and procurement support for two new energy projects at the water authority's principal facility. Optony aided in the development, distribution, and review of the contract solicitation. The firm provided development support, including RFP creation, for the water authority's solar and battery energy system which is over one megawatt in size. The evaluation and feasibility scope of work includes site inspection, energy impacts assessment, technical specifications development, risk identification, proposal review, and vendor selection. Optony continues to provide interconnection negotiation support, construction quality management, schedule management support, and performance analysis for these projects.

Reference: Saeid Vaziry, Environmental Programs Manager of South County Regional Wastewater Authority

Email: saeid.vaziry@ci.gilroy.ca.us **Phone:** (408) 846-0202

Budget: \$30,000

Sustainable Energy & Economic Development Fund (2012-present)

Client(s): Multiple Public Agencies in Napa, Marin, Sonoma, Santa Cruz,
San Benito, Monterey, Nevada & El Dorado County



SEED FUND

PROJECT DESCRIPTION

The SEED Fund utilizes a public-private revolving endowment to defer all upfront costs of clean energy assessments and enable financial savings through collaborative portfolio procurement across multiple sites for cooperating government organizations. Optony is recognized as a national leader in this space and was selected to provide technical and financial evaluation, feasibility assessment, client education workshops, and manage the procurement process. The SEED Fund is run in partnership with Strategic Energy Innovations, a non-profit organization based in San Rafael, California. Through managing the SEED Fund since 2012, Optony has proven its unique ability to manage completion of technical DER feasibility assessments for multiple jurisdictions across many sites in a given region.

Optony manages client intake and the entire project development lifecycle including, RFP creation, PPA negotiation and feasibility analysis. Round One of the SEED Fund brought together fourteen public agencies in the counties of Napa, Marin, and Sonoma, including the County of Sonoma and the City of Cotati, both participants in this RFQ. This led to the reduction of project risk and project costs as judged and reflected by the participants. SEED Fund Round Two was held in the counties of Santa Cruz, San Benito, and Monterey and was led by the County of Santa Cruz. The second round resulted in multiple megawatts of new renewable generation contracts and is in the final contract approval stages with renewable energy systems providers. The solicitation of bids for solar plus battery energy storage in

SEED Fund Round Three is expected in the next few months and includes many participation public agencies or public utility districts in the Sierra Nevada mountains..

Program Reference: Nathan McKenzie, Program Manager at Strategic Energy Innovations

Email: nathan@seiinc.org **Phone:** (415)-507-1432

Client Reference: Carol Johnson, County of Santa Cruz

Email: Carol.Johnson@santacruzcounty.us **Phone:** (831) 454-2000

Budget: \$8,000,000 over two development rounds

Renewable Electricity & GHG Roadmap (2018)

Client(s): City of Lafayette, Colorado



PROJECT DESCRIPTION

The City of Lafayette set a community-wide goal to achieve 100% renewable electricity by 2030 and 80% emissions reductions by 2050. Optony was selected to develop an action-oriented Roadmap which includes analysis and strategies to simultaneously guide the City toward achieving both goals.

Using Optony's well-practiced and dynamic approach to clean energy road mapping, the firm first presented an initial list of clean energy and emissions reduction strategies and worked with City stakeholders to determine a shortlist of key strategies for the City. Following this process, Optony iterated feedback from both City staff and the community's energy sustainability advisory committee to flesh out and quantify each strategy. The modeling result is a detailed Excel-based tool, built for easy implementation, and includes dynamic inputs which are adjustable by City staff annually (or semi-annually) to track progress as the strategies are implemented. The plan is unique in that it leverages actions which catalyze renewable electricity development to create new opportunities, which then empower Lafayette to more easily achieve its longer-term emissions reduction goal (via home electrification, electric vehicles, hybrid solar thermal, etc.). Importantly, all the strategies in this document are developed in close coordination with the current and forecasted utility context and are designed to operate within the constraints of Colorado's regulated energy sector. By combining a focus on distributed generation with existing utility programs, Optony is creating a roadmap that operates within the current regulatory environment while prioritizing local development within Lafayette. The roadmap was developed in less than four months and is being finalized with the intention to present to council in September of this year.

Reference: Tammy Tucker, Recreation & Facilities Specialist at the City of Lafayette

Email: tammy.tucker@cityoflafayette.com **Phone:** 303-661-1472

Budget: \$30,000

Team: EcoShift and Optony

Electric Vehicle Facility and Infrastructure Master Planning
(2015-2018)



Client: Alameda County

Project Highlights: Storage Sizing & Financial Performance Modeling

PROJECT DESCRIPTION: Optony worked with the Transportation Department of the County's General Services Agency to solve EV charging infrastructure planning and implementation problems in the County's rapidly expanding fleet of electric vehicles. As the County continues to add more electric vehicles to its fleet (nearing 100, to date), they have also added many EV chargers to sites and buildings that were never anticipated to support the additional electric load. Optony worked with the County to review these electrical impacts, and design both cost saving and building electrical solutions to enable further EV charger expansion at the County's principal fleet hosting and maintenance site. Battery energy storage systems are a viable solution that respond to EV circuit overload while providing simultaneously solutions to high utility demand charges caused by these spikes in EV charger load. To aid the County in battery procurement, Optony created a proprietary model of battery performance and used this model to cost-optimize the battery system specification against the EV charger current and forecast load at both public and private chargers owned by the County. The project showcases Optony's ability to perform detailed and customized battery storage modeling.

Reference: Phillip Kobernick, Programs Manager at Peninsula Clean Energy (formerly Logistics Services Manager for Alameda County)

Email: pkobernick@peninsulacleanenergy.com **Phone:** (866) 966-0110

Budget: \$35,000

Regional Renewable Energy Procurement (R-REP) (2013-2018)

Client: Alameda County, City of Fremont, 17 other Bay Area public agencies



Project Highlights: DER Site Assessment, DER Financial Feasibility Analysis, PPA Negotiation

PROJECT DESCRIPTION: Optony was selected by the County of Alameda and other Bay Area public agencies to guide a group of 19 public authorities through the process of a detailed collaborative energy procurement—the largest in the nation. Optony assisted in the completion of over 200 site feasibility assessments and in the creation and distribution of Request for Proposal documents covering roughly 190 sites. Optony performed myriad of specific services including, but limited to:

- Financial analysis of various project financing options;
- Supported agency staff in presentations to Councils and Boards;
- Reviewed and commented on prospective PPAs for solar + storage microgrids at City of Fremont Fire Stations, which were then executed and built under the California Energy Commission's EPIC grant program;
- Reviewed solar monitoring to ensure full operational ability after construction;
- Liaised with the relevant utility company to move agency accounts onto the utility rate schedules most advantageous to the agency.

For the R-REP project participants, Optony provided independent energy advisory support and led the technical analysis of vendor proposals. The firm helped convene and served on the advisory panel for the selection committee. Optony played a central role in moderating vendor interviews and developing proposal evaluations. Optony also served as a lead in contract negotiations with multiple contractors and public partners and the firm was proud

to achieve some of the most advantageous contract terms available for the buyers. As projects proceeded into construction, Optony continued to guide projects through design, engineering, and permitting; to manage communication and administration; to resolve unexpected project obstacles; to help enforce project budget; and to assure project quality and schedule throughout construction and system commissioning.

Reference: Caroline Judy, Director, General Services Department at the County of Sonoma (formerly Acting Director of Alameda County General Services Agency and Lead of R-REP Project)

Email: Caroline.Judy@sonoma-county.org **Phone:** (707)565-8058

Budget: \$650,000

Municipal Solar Strategy (2017)

Client(s): City of Boulder, Colorado



PROJECT DESCRIPTION

The City of Boulder has long been a frontrunner in sustainable development and resource protection through its Climate Commitment, and extraordinary defense of open spaces. In 2017, Optony and Boulder-based partner Colorado Energy Group (CEG) developed a citywide local energy masterplan that includes a focus on solar plus storage for the City's own facilities. This plan was the first community-wide solar strategy created for a city in Colorado.

The project began by presenting dozens of strategy options to multiple City departments and to the broader community at a public workshop. Within a few weeks of launching the project, the strategy grabbed media attention on a front-page article in Boulder's principal daily news service. After completing modeling and analysis, the project team refined the original list of options down to ten final recommendations. Optony also began investigating the new concept of local renewable energy credits as a channel for incentives directly linked to measurable ongoing clean energy production within the local jurisdiction. Performance-based incentives for local energy production assure that systems continue to be operated and maintained at top performance. The final delivered strategy contains a balance of statistical resource mapping and impact assessment, with a pragmatic set of local policies and programs. The plan's concrete and specific targets and actions are designed to guide the City to its ambitious goal of a resilient carbon-free electricity system by 2050 with a target goal of 175MW of total local generation. Project strategies were designed to be implemented in phases in consideration of the City's staff bandwidth and community appetite for new renewables.

Reference: Yael Gichon, Energy Strategist & Project Manager at the City of Boulder

Email: gichony@bouldercolorado.gov **Phone:** 303-441-3878

Budget: \$50,000

Tab 7. MWBE Participation

EcoShift is a Women-Owned Business and Small Business Enterprise.
EcoShift is a business that is at least 51% owned and controlled by a woman.
Kristin Cushman owns 60% of the stock.
Our offices are located in California, Ohio and Florida.

Tab 8. Conflict of Interest

None

Project Cost and Timeline

Hours Allocation						
Staff	Hourly Rate	Task A	Task B	Task C	Task D	TOTAL
Kristin Cushman (Project Advisor)	\$ 200	5	0	5	5	15
Ben Fordham (Project Lead)	\$ 185	90	4	40	4	138
Byron Pakter (Senior Energy Advisor)	\$ 225	4	0	2	0	6
Sam Hill-Cristol (Policy Analyst)	\$ 185	65	0	30	0	95
TOTALS		164	4	77	9	254

BUDGET OUTLINE	
Tasks	Fee
Task A: Research and evaluate options to meet renewable energy goals	\$30,575
Task B: Develop framework and/or recommendations for assessing and evaluating renewable energy proposals	\$ 740
Task C: Develop descriptive path for achieving goals of 80% renewable energy by 2030 and 100% by 2050	\$14,400
Task D: Support County staff for public meetings and development of education and outreach materials	\$ 1,740
Travel allocation	\$ 2,500
TOTAL FEE	\$49,955

Project Schedule									
Tasks	Aug. 2020	Sept. 2020	Oct. 2020	Nov. 2020	Dec. 2020	Jan. 2021	Feb. 2021	Mar-21	Apr-21
Task A: Research and evaluate options to meet renewable energy goals									
Task B: Develop framework and/or recommendations for assessing and evaluating renewable energy proposals									
Task C: Develop descriptive path for achieving goals of 80% renewable energy by 2030 and 100% by 2050									
Task D: Support County staff for public meetings and development of education and outreach materials									

Appendix A: Resumes

The following pages contain resumes for each of the Key Staff listed in this proposal.

KRISTIN CUSHMAN

CEO



SELECTED WORK EXPERIENCE

University of California, Monterey Bay | 2019 - Present

- Develop and execute the communication plan with key campus stakeholders to determine goals and objectives for carbon neutrality by 2030.

CalRecycle; Grant Manager; Food Waste Prevention and Recovery grant | 2019 - Present

- Manage a \$500,000 grant to expand the Merced County Food Bank community partnerships to increase food rescue programs 55%.

City of Santa Barbara's Strategic Energy Plan | 2018-2019

- Led the stakeholder outreach for the city's Strategic Energy Plan.
- Developed and executed the community stakeholder outreach to determine needs and potential resources that would support the city's energy goals.

East Bay Community Energy Local Business Development Plan | 2015-2017

- Led the stakeholder outreach for the community choice aggregation for Alameda County's Local Business Development Plan.
- Developed and executed the community stakeholder outreach to determine needs and potential resources that would support the county's energy goals.

Climate Action Compact, Chair | 2010 - Present

- Provide industry resources and drive policy reform to incentivize local governments to reduce greenhouse gas emissions.
- Collaborate on carbon farming, reach codes, Community Choice Energy models and hauler rates and incentives, to name a few.

EDUCATION

University of Alabama/Aix
Marseille Universite | B.S.
English and French Literature

PROFILE

[https://www.linkedin.com/
in/kristin-cushman-
aab32317/](https://www.linkedin.com/in/kristin-cushman-aab32317/)



CHRIS SENTIERI, MPP
Project Manager, Senior Consultant



SELECTED WORK EXPERIENCE

Senior Manager, EcoShift Consulting- a division of Blue Strike Environmental- Monterey, CA | 2018 to Present

- East Bay Community Energy (EBCE) Local Development Business Plan (LDBP): 2017-2018- Senior Consultant, Project Manager, Stakeholder Engagement Coordinator, Data Manager
- Lancaster Advanced Energy Community Project: 2019 – present – Advanced metering and tariff design, retail billing process development
- Marin Clean Energy: 2019-present – Assessment of Energy Storage Strategies & Opportunities, Solicitation Support, On-call Strategic Support
- Cal Poly, San Luis Obispo: 2019-present – Project Manager

Climate Solutions Manager, The Offset Project (501-c3)- Monterey, CA | 2010-2011, 2013-2018

- Monterey Bay Carbon Fund (MBCF)- Senior Program Manager
- Net Zero Communities Program- Senior Program Manager

Principal, Community Choice Partners, Inc., San Francisco, CA | 2015 to 2016

- Government Affairs- Director

Special Project Associate, Association of Monterey Bay Area Governments (AMBAG), Marina, CA | 2011 to 2013

- Regional Energy and Climate Action Planning Services- Program Manager

Climate Change and Energy Consultant | 2010 to Present

- City of Capitola Climate Action Plan- Consultant
- Driscoll's Strawberries Solar Photovoltaic Assessment- Senior Consultant
- Monterey Bay Electric Vehicle Alliance (MBEVA)- Co-founder, Chair of Development Committee

EDUCATION

Master's Degree, Public Policy (MPP), Panetta Institute of Public Policy at California State University Monterey Bay

Bachelor's Degree, Community Studies, University of California Santa Cruz

PROFILE

<https://www.linkedin.com/in/sentieri/>



BENJAMIN FORDHAM, MBA

Senior Climate & Energy Analyst



SELECTED WORK EXPERIENCE

Cal Poly, San Luis Obispo | 2018 - current

- Developing and implementing Life Cycle Costing and transportation functionality for CESA scenario analysis tool

CSU, Monterey Bay | 2019 - 2020

- Project Manager for development of 2020 Sustainability Plan and Carbon Neutrality Roadmap for accredited public university in Seaside, CA
- Assisting with development of campus Strategic Energy Plan

Beneficial State Bank | 2011 - ongoing

- Developed Greenhouse Gas Inventory and Summary Report for state-chartered, federally regulated bank with \$929 million in assets and 17 locations throughout California, Oregon, and Washington

City of Springfield, OR | 2017

- Researched current Renewable Fuel Standard (RFS) and Low Carbon Fuel Standard (LCFS) prices, trends, and leading indicators
- Assessed market and policy risks resulting in the development of a \$7.6 million biogas pipeline project

TriMet | 2017

- Advised Portland, Oregon public transit agency on best practices for integration of electric vehicle, autonomous vehicle, ride sharing and bike sharing models

Portland General Electric | 2016

- Studied large-scale solar array and second-life electric vehicle battery pairings and developed feasibility analysis

EDUCATION

Master of Business Administration (MBA), Centers for Sustainable Business Practices and Advanced Strategy & Leadership, University of Oregon

Bachelor's Degree, Journalism & Anthropology, Humboldt State University

PROFILE

<https://www.linkedin.com/in/benjaminfordham/>





Byron Pakter

"The core nature of energy systems is changing. It's so exciting to see a future of clean energy cities around the corner; where all buildings and transportation strives to be energy neutral and many buildings are zero emissions net energy producers."

Mr. Pakter currently serves as Chief Executive and Director of Program Development at Optony. He previously served as Director of Policy for community solar, community choice aggregation, and Program Manager for high penetration urban renewables research and implementation at Optony. Mr. Pakter sits on the Western Regional Energy Generation Information System Stakeholder Advisory Committee (WREGIS-SAC) and tracks renewable energy technology, markets, and policies across the West.

Mr. Pakter has worked with public and private partners across the US to plan for and analyze the role of advanced energy technologies. He also helps local energy programs to succeed in terms of economic benefits to the community at large and direct cost savings benefits to the budget of cities and local agencies.

He is lead author of grid impact planning and review for partnerships in complex municipal energy planning and statistical aggregation and has used his experience in computer programming to develop proprietary modeling tools to estimate financial performance scenarios, as well as energy storage sizing and performance tools. He is experienced in clean energy policy, sustainability, data acquisition, finance, and modeling. Mr. Pakter is also coauthor to Colorado, Iowa, and Virginia state policy analysis on advanced energy technologies and economic development.

Current Role:

CEO & Director of Program Development
– Optony Inc.

Previous Roles:

Energy and Economics Policy Analyst
– Berkeley Energy Climate Institute

Environmental Simulations Engineer
– MET Laboratories

Mechanical Engineer
– Advanced Engine Technologies Corp.

9 yr.
Air Quality
& Energy

5 yr.
Renewable
Energy
Technology

3 yr.
Clean Energy
Policy and
Economics



Sam Hill-Cristol

"There is a clean energy revolution happening in the United States and local governments are playing a key role. I am honored to assist the remarkable efforts coming from local leaders and do my part to further the revolution."

4 yr. Climate
Science &
Renewable
Energy
Markets

3 yr.
EV/ EVSE
Deployment in
Local
Government

2 yr.
Energy Policy
& Program
Development

Mr. Hill-Cristol currently serves as the Energy Program Manager at Optony. In his current role he takes the lead as project manager and lead analyst on multiple Optony projects focused on distributed energy resource siting and valuation, strategic energy planning and fleet electrification.

He previously served as the Sustainable Energy & Transportation Associate at Alameda County where he led the County's efforts to overcome charging constraints hindering its efforts of mass deployment of electric vehicles in their fleet.

Mr. Hill-Cristol has worked in all facets of renewable energy -- public policy nexus and uses that experience to interface with public and private stakeholders in order to catalyze clean technology deployment at the local level.

He is the lead author of a white paper analyzing how energy markets could support utility scale battery storage in New England, a project which earned an Honors Distinction at Brown University and was published by a lead energy consultant in the region.

Current Role:

Project Manager & Energy Analyst
- Optony Inc.

Previous Roles:

Sustainable Energy & Transportation Associate
- Alameda County

Paleoclimate Research Assistant
- Brown University



Maddie Julian

"As climate change progresses, we have to reimagine our energy sources and infrastructure. I feel excited and lucky to help lay the groundwork for systemic, positive change in our local communities."

3 yr.
Renewable
Energy
Advocacy &
Outreach

2yr. Climate
Science &
Data Analysis

1 yr.
Electric
Vehicle
Charging
Strategy

Ms. Julian currently serves as EV and Energy Storage Program Specialist for Optony.

Throughout her academic and professional career, she has developed an interest in electricity market design as it relates to electric vehicles, renewable energy and battery storage. Her master's thesis project focuses on incentivizing electric vehicle charging in non-residential segments to utilize renewable energy and support a low carbon grid. She holds a master's degree at UC Santa Barbara's Bren School of Environmental Science & Management, specializing in Energy and Climate.

Previously, she worked with Berkeley's California Public Interest Research Group chapter, as well as the California Solar and Storage Association, advocating for the advancement of distributed solar resources. Additionally, at Southern California Edison she was a member of both the Energy Procurement & Management, and Customer Programs & Services departments, contributing to projects in areas ranging from analytics to project management and policy discussions. Her responsibilities focused on electric vehicle charging data analysis, utility-scale battery storage market research and project proposal evaluation for local capacity requirements.

Current Role:

Energy Analyst
- Optony Inc.

Previous Roles:

Energy Procurement & Management Intern
- Southern California Edison

Solar Policy Associate
- California Solar and Storage Association