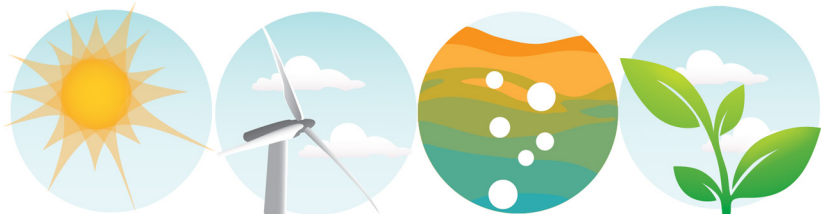
out think the box

Single-user Sanitary Compost System Feasibilty Proposal

Prepared for District 2 Councilwoman Cheryl Davila
City of Berkeley, CA, USA

5 Nov 2018



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http://www.outthinkthebox.net/projects/santiarycompostberk.pdf

out think the box

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Image courtesy of
Nature Commode

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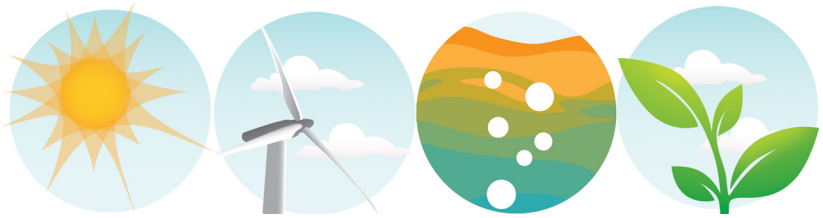
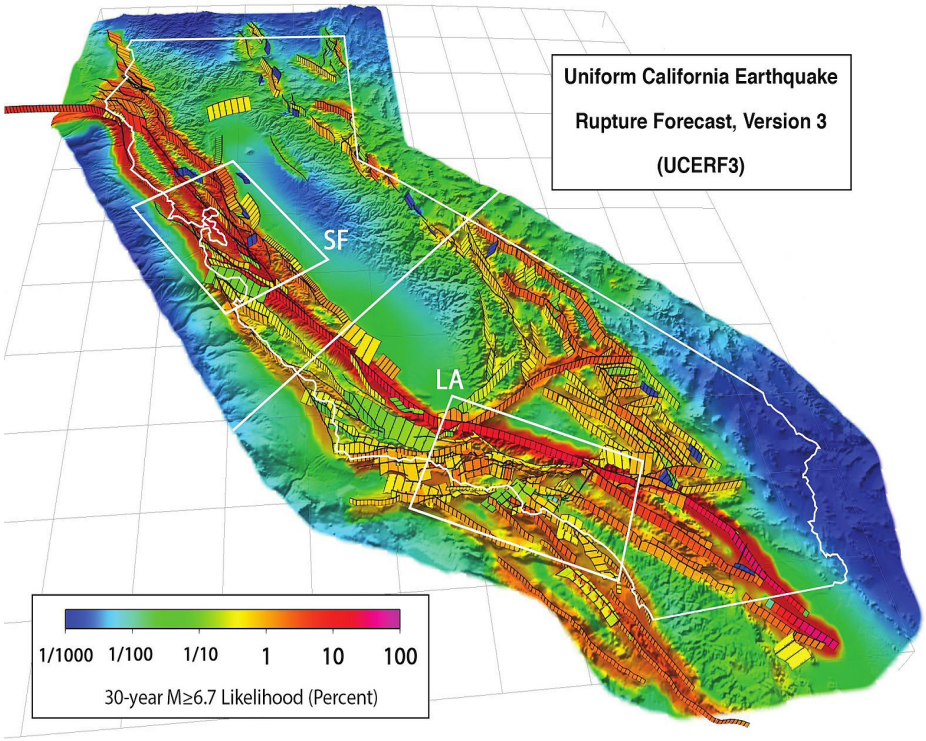


summary



California's major faults. The 3rd Uniform California Earthquake Rupture Forecast (UCERF3) estimated probabilities. The San Andreas Fault and Hayward Fault systems are red on the likelihood scale.
Citation: USGS, https://on.doi.gov/2qVm5n0

In disaster relief scenarios, the human species is no longer truly self-sufficient. We need to adapt in the way we think about future scenarios that will involve the 'indifference' of Mother Nature, like predicted mega-earthquakes slated to hit the USA Pacific North Rim—and more specifically, the future earthquake slated to affect the Hayward Fault in the East SF Bay Area in the near term future. The January 2018 7.9 magnitude Kodiak Island, AK earthquake was a poignant reminder of how little most of the USA citizenry thinks about the reliability and importance of access to sanitation, energy, water, that is, until it's not there.

It has been demonstrated, time and time again, that the immense enterprise of supply line of sanitation, water, and energy provisioning can be easily disrupted. There have been demonstrations where short-term consequences have been acutely tragic, with damaging economic effects that can also linger in-perpetuity.

Our sanitation, water, and energy systems need to be agile and as robustly designed as possible. These systems need to have built-in redundancy, ready adaptation, and assets dispersion for better resource management during overwhelming and extreme events (be they due to natural disasters, financial, unexpected/unanticipated events); systems standing the test of time post-disasters, too—employing *everyday brilliance for disaster resilience.*

summary

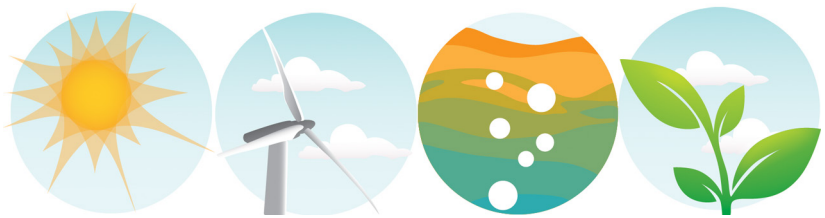
The answer to generating solutions with a positive impact includes fortifying the City of Berkeley's current offerings by diversifying the natural resource portfolio with agile, adaptable, self-sustaining tiny dwellings utilizing autonomous sanitary compost systems and hybrid renewable energy systems. The first step toward implementing this proposition requires performing a single-user thermophilic sanitary compost system and hybrid renewable energy system for a single user, mobile tiny dwelling/house.

The aim of this proposal is to present a sanitary compost system in conjunction with a hybrid renewable energy system feasibility study to City of Berkeley District Two Councilwoman, Cheryl Davila, Berkeley, CA, USA. This aim for the outcome of this study is to provide a basis for augmenting the current City of Berkeley sanitation, water, and energy portfolio. Specifically, the resulting humus (top soil), water, and energy generated from a proposed sanitary and hygienic compost system, and off-grid hybrid renewable energy system. This system will not only fortify and provide more sustainable day-to-day, long-term sanitation, water and power needs for the tiny dwelling inhabitant, but can provide additional, alternative, agile and adaptable contingency for un-interruptible sanitation, water and power requirements during disaster relief events.

This document provides an overview of a proposed approach to working with Cheryl Davlia to develop a viable plan developing a strategy for siting and installing an autonomous tiny house on City of Berkeley property. Additionally, this document can be used to serve as a catalyst for appealing to funding of a place-based initiative type in developing innovative approaches in preparing for an uncertain, unstable climatic future.

summary

Prepare. Respond. Adapt.



Approach to working with the City of Berkeley

Kimberly King will be available on a weekly basis to conference and meet. Compost, water and energy generation data will be collected daily, adhering to the following (tentative) four to six month (up to two year) interval time line:

- Dec 2018 (Stage 1 - Preliminary Site Analysis for sanitary compost, water, energy data collection)
- Jan 2019 - Apr/Jun 2019 (Stage 2 - Compost resource management, temperature, water, energy data collection)

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qualifications

Unique Expertise, Background and Experience

Prepare. Respond. Adapt.

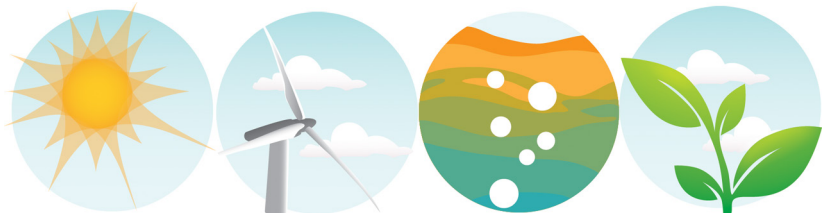
Kimberly King is a renewable energy engineer, disruptive technologist, generalist, technical writer, web content management, copy editor and communications specialist with a background in renewable energy, environmental engineering, systems engineering, sustainable development, and IT systems analysis and administration. As a hybrid renewable energy engineer, Kimberly is an agile engineering generalist possessing an understanding of sustainable development. Her skills set are comprised of an amalgam of mechanical engineering, environmental engineering, electrical engineering, sustainable development, and sanitary, themophilic composting of human excreta.

Kimberly is able to design and assemble systems and components that are comprised of more than one (hybrid) renewable energy (RE) technology i.e. solar, wind, hydro-kinetic (ocean/wave/micro-hydro), biomass, geothermal and storage (battery, hydrogen fuel cell, fly wheel). The RE technologies recommended and/or selected depend on one's geographical predisposition, resource availability, and the end-use need.

Kimberly is, or has been a member of the following professional organizations:

- Energy Institute, UK (four years)
- International Solar Energy Society (ISES), Germany/American Solar Energy Society, USA (fourteen years)
- Union of Concerned Scientists, USA (fourteen years)

Kimberly possesses comprehensive knowledge of current research and trends being conducted in the field of renewable energy, sustainability development and eco-sanitation; nationally and internationally.



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Unique Expertise, Background and Experience

Since completing her post-graduate degree from the Centre for Renewable Energy Systems Technology (CREST) at Loughborough University in the Midlands of the UK, Kimberly King has been investigating wind resources for installing compost systems and small wind turbine generators in the urban/built environment. A summary follows:

2009

Loughborough, UK. Performed research and investigated opportunities for siting small wind turbines in the urban/built environment using the Warwick Wind Trials (WWT) data. The WWT was the first study of its kind in the world to monitor 26 rooftop wind installations on a variety of urban and rural sites over 12 months that commenced in 2007 in the Midlands of the UK.

Portland, OR, USA. Submitted a proposal to Portland State University, Portland, OR, USA to conduct vibrational and noise mitigating research for a small, urban, rooftop wind turbine system. The impetus for this project proposal was due to information revealed, resulting to mechanical noise issues propagated by aerodynamics when analyzing wind resource data from the Warwick Wind Trials in the UK.

2011

Pittsburgh, PA, USA. Provided consultation on small wind turbine installation. This included providing data acquisition and visualization recommendations at the Phipps Conservatory Center for Sustainable Landscapes in Pittsburgh, PA, USA.

Napa, CA, USA. Developed a conceptual commercial application schema for installing small wind turbines in the built environment at two organic farms. This also included investigating opportunities for installing photovoltaics, solar hot water and biomass waste recovery systems. The aim is to mindfully identify and address how ecosystems respond to change, how to facilitate public engagement by telling a story that resonates with all stakeholders, to help the environment and to learn how to mitigate the decline of biodiversity—even in the urban environment.

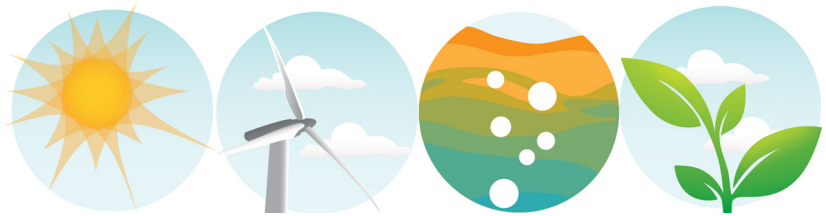
Oakland, CA, USA. Performed renewable energy policy research for the Local Clean Energy Alliance (LCEA) located in Oakland, California, USA. Investigating distributive/decentralized energy, energy/demand reduction, community choice alliance energy programs arenas.

2012

Berkeley, CA, USA. Decommissioning a small wind turbine generator (WTG) that was installed in December 1981.

2014 - Present

Oakland, CA, USA; Portland, OR, USA. Design, install, manage thermophilic sanitary compost toilet systems.



scope of work

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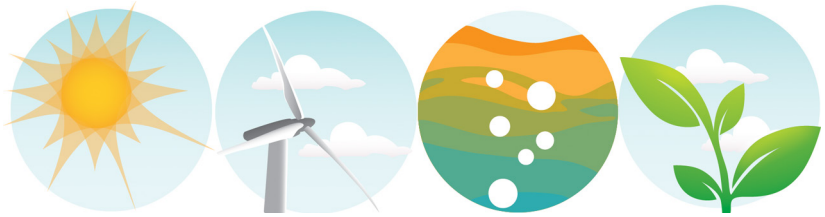
The purpose of Stage 1 is to screen for potential locations to identify appropriate sites for the installation of an autonomous mobile tiny dwelling. The goal is to apply filters to evaluate potential sites that would preclude an installation for a tiny dwelling using a compost toilet system and solar photovoltaic (PV) system. Filters include:

Insufficient cover material resources and insolation - Economically viable compost projects and solar electric systems can be developed using 'marginal' cover material and solar resources as a preliminary filter for identifying sites.

Setbacks - Insufficient set backs from property lines, residences, buildings or other sensitive receptors. In Stage 1, conservative 'rule of thumb' and safety setbacks will be used.



Access - Available access pathways for siting of the tiny dwelling.

Infrastructure - N/A?

Community issues - Successful projects are embraced by the community, if they are included in the design process. Potential interference with scenic view sheds must be considered. Conducting a meeting for community comment would be prudent.

Permitting - Successful permitting of a sanitary compost system is dependent on a number of factors, so enumerating definitive filters in advance of determining potential sites and locations is difficult. An Authority Having Jurisdiction (AHJ) to sign-off on milestones is required. As a part of Stage 1, identified sites will be scored for presumed complexity in permitting. Details will be provided on in-progress planned and installed sanitary compost system(s) in Portland, OR, USA.

Stage 1 Deliverable

A preliminary report describing the sites reviewed, the findings, and the recommendation of the sites for a mobile tiny dwelling utilizing a sanitary compost toilet installation.

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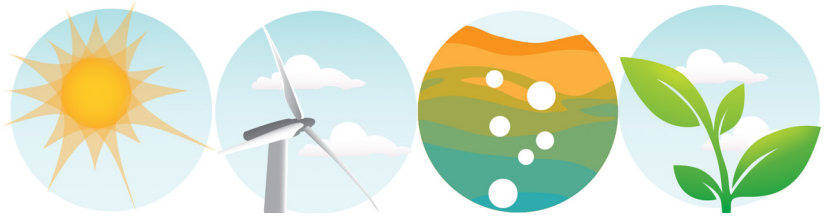
scope of work

Prepare. Respond. Adapt.

The most promising sites identified in Stage 1 will be incorporated into a detailed analysis. Budgetary limitations will likely be the driving factor for determining the most viable sites for an installation. Typically, at least six months temperature data is required to support a comprehensive feasibility study, but at a minimum, a four-six month study is this project's initial goal.

In Stage 2, a work session will commence to review the findings of Stage 1, so the sites under consideration for a final installation can be identified. The aim is to discern if:

- Thermophilic, sanitary composting of human excreta can be successfully and safely managed to provide a soil amendment opportunity.
- Water generated via the atmosphere can provide drinking water offsets.
- Power generated by an autonomous photovoltaic (PV) solar system will fortify and diversity the current energy portfolio and become part of the contingency planning, and the tiny dwelling inhabitant can be assured quality of life will not be interrupted because of lack of sanitation, water and electricity.



Stage 2 - Detailed Analysis for Emergency Preparedness Planning

The outcome of the feasibility study will become the tool and reference for engaging technical consultants in the design and construction. The analysis will include the following:

Compost, Water & Energy Resource Assessment

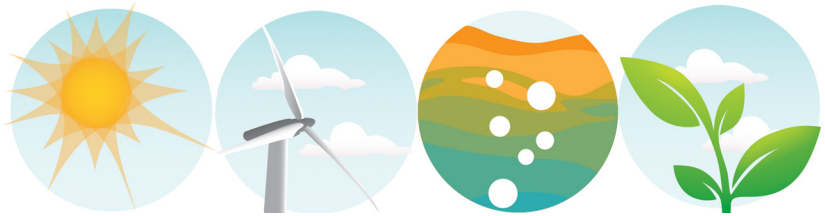
After the four-six months of data is collected, the compost, water and solar data will be analyzed using the Micrology Labs offerings, and/or UC Davis Analytical Laboratory offerings, focusing on determining:

- Safe load flow and process management of the human excreta
- Potential atmospheric water production
- Potential energy production

Uncertainty analysis to enhance understanding where possible sources of error can arise during a this feasibility study. These results will aid Cheryl Davila in making an objective decision to move forward based on risk level associated with the project.

scope of work

Prepare. Respond. Adapt.



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Stage 2 - Detailed Analysis for Emergency Preparedness Planning (Cont'd)

Financial Modeling

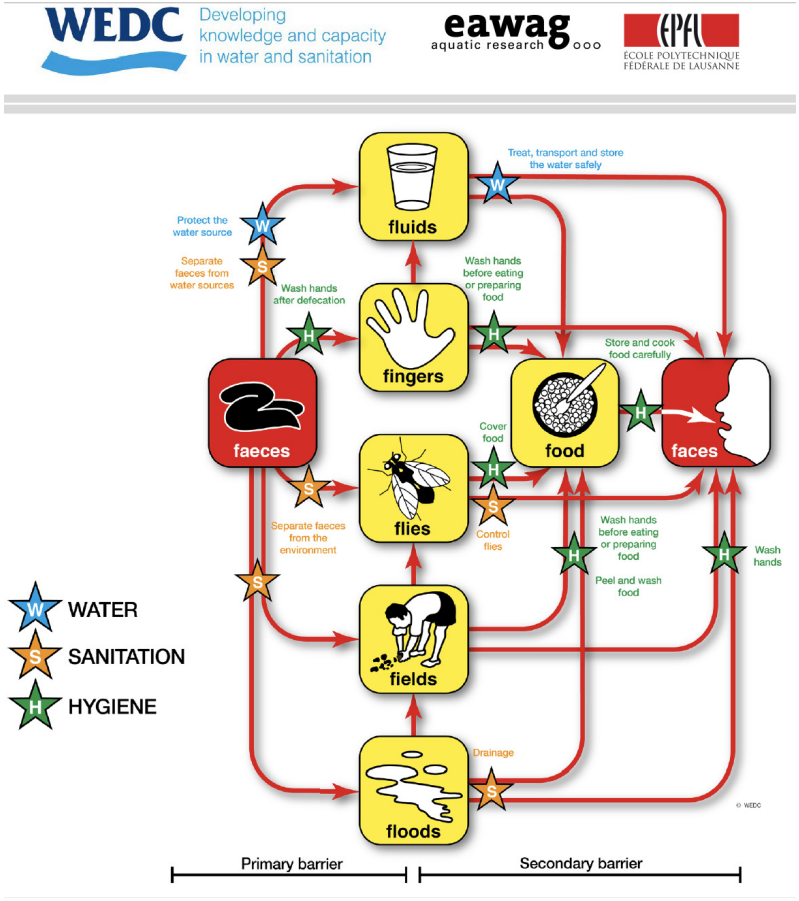
Using a developed economic model for developing pro forma financial projections, including estimated revenues and expenses under the ownership of a nonprofit organization. This will also include engaging the local municipality EBMUD, and Pacific Gas and Electric (PG&E) to asses avoided costs.

The most promising site identified in Stage 1 will be incorporated into a detailed analysis. Budgetary limitations and stakeholder willingness will likely be the driving factor for determining the most viable site for an installation. Typically, at least six months temperature data is required to support a comprehensive feasibility study, but a four-six month study is this project's goal.

Regulatory Environment

Leachate prevention from the compost processor, and grey water management at this site will be taken into consideration for modeling any potentially adverse effects. This analysis can serve as a road map for project development guidance and knowledge-base sharing for future investigations in this locale.

scope of work



Stage 2 - Detailed Analysis for Emergency Preparedness Planning (Cont'd)

Physical Construction

During the technical design stage of the project, any difficulties in construction at the proposed tiny dwelling site will be assessed. The availability of appropriate cover material availability for sanitary compost and solar for the proposed site will be evaluated. During Stage 2, a review estimate requirements and cost will be conducted at the proposed site.

Addressing Community Issues

During Stage 2, a public information plan and schedule will be adopted. The aim is to create an effective communication tool to conduct at public stakeholder meetings.

Stage 2 Deliverable

A final report describing the site reviewed, the findings, and the recommendation of the site for an autonomous, mobile tiny dwelling utilizing a sanitary compost system, atmospheric water generator, and off-grid renewable energy system. This will include the projected water and energy production, and the percentage of the municipal load that could be serviced through the solar energy at the respective location. Data will be gathered on existing municipal sanitation, water, and energy uses for these calculations.

appendix

Prepare. Respond. Adapt.

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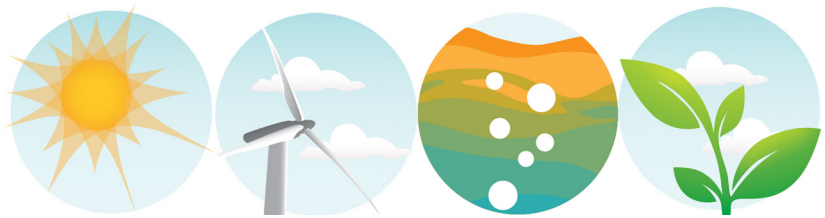
Curriculum Vitae

See the following attachment.



CURRICULUM VITAE

Personal information

First name(s) / Surname(s)	**KIMBERLY L. KING**
Address(es)	PO Box 22131 Oakland, CA 94623 USA
Telephone(s)	+1 (415) 832-9084 Mobile | +1 (415) 832-9084
E-mail(s)	kimgerly@outthinkthebox.net
Web site (s)	http://www.outthinkthebox.net/, http://www.kimgerly.com/projects.html

Desired employment

SENIOR TECHNICAL WRITER | RENEWABLE ENERGY ENGINEER

Professional Summary

Technical writer, renewable energy engineer, project engineer, copy editor, and communications specialist with an extensive background in renewable energy, sustainable development, IT systems analysis and administration. Greatest strengths include:

- Out think the box.
- Taking bold, decisive and definitive action to identify and reveal solutions to problems others don't realize.
- Identifying opportunities for developing and implementing everyday brilliance for disaster resilience.
- Agile at networking and building strategic alliances by utilizing conventional and unconventional creative approaches.
- Developing and working in collaborative teams.
- Composing concrete, concise, clear technical documentation.
- Broad-based computer skills including hardware, web and software.
- Comprehensive knowledge of current research and trends being conducted in the field of renewable energy and sustainable development, nationally and internationally.
- Held leadership and decision-making roles in e-commerce and computer software start-up companies during the dot-com.

Personal skills & competences

Social skills and competences

- Excellent communicator with the ability to effectively interact and collaborate at all levels.
- Agile and adept at networking and building strategic alliances by utilizing creative approaches.
- Competent at applying non-trodden path by taking bold, decisive and definitive action approaches to problem solving.
- Work with end-users, engineering, development, marketing, and QA groups to examine issues, develop strategic solutions, validate infrastructure, content and approach for improving processes and procedures.
- Work well independently or as a team member.

Organisational skills and competences

- Competent at directing the work of others and project management.
- Able to produce materials conveying appropriate level of detail and results with minimal supervision.
- Effective troubleshooting and communication, critical thought, time management and prioritization skills.

Technical writing skills and competences

- Compose, edit, standardize and revise documentation, including installation guides, tutorial guides, training manuals and proposals, in print and online formats.
- Organize, synthesize and gathering data from subject matter experts by observation, reviewing written materials, vendor documentation, regulation manuals and other relevant material sources.
- Explain, write and present complex subject matter and materials in an understandable fashion for end-users.
- Competencies include manipulating graphics and documentation layout for print and the web.

Technical skills and competences

- Results-oriented professional with a quick grasp of new technologies.
- Comprehensive knowledge of current research and trends in the field of renewable energy and sustainability development.
- Agile at identifying and revealing solutions to problems others don't realize, including developing and implementing everyday brilliance for disaster resilience.
- Perform technical reviews.
- Themophilic composting research – Developing and installing a sanitary, thermophilic humanure compost systems schema for application in the urban environment.
- Ethane research – Investigate the physical and chemical properties of ethane for utilization as a transportation fuel opportunity.
- Wind energy systems – Perform micro-siting of wind resources, data acquisition, data validation and reporting. Develop a commercial application schema for installing small wind turbines in the built environment. Develop a procedure for decommissioning a small wind turbine in the built-environment.
- Solar energy systems – Performed solar site assessments, photovoltaic (PV) design and installation. Composed multiple draft design proposals for installing PV arrays.
- Energy efficiency design – Define data control points, monitoring equipment, data visualization software selection for building energy and resource performance monitoring.
- Systems analysis – Evaluate, recommend, and install technologies, information design methods, analyze system deficiencies and implementing solutions to improve workflow processes.

Computer skills and competences

Excellent computer skills – Web, Hardware, and Software

- Web: HTML, XML, Cascading Style Sheets (CSS), FTP, Macromedia Dreamweaver for marking-up and managing web sites
- Hardware Platforms: IBM Mainframe, Macintosh, PC-compatible, Sun SPARCstation
- Software: Adobe Suite of Applications (Acrobat Professional, Captivate, ConnectPro, Dreamweaver, FrameMaker, Illustrator, InDesign, Photoshop, Premier), ANSYS CFX, Apache web server, ArcGIS, AutoCAD, HOMER Energy, JMP, LabVIEW, Microsoft Office Suite for Windows and Macintosh, PVSYST, SolidWorks, SunPath, WindFarm, WRPlot
- Operating Systems: MacOS 7.x/8.x/9.x/X, MS-DOS, UNIX (Solaris 7_Intel x86, Solaris 2.6, 2.7, Sun OS 5.7), Windows 95/98/NT 3.51 & 4.0/2000/XP/Vista/7
- Languages: C, SAS, UNIX Shell Scripts
- Databases: Access, FileMaker Pro, MySQL, Oracle 8.1.7, Vignette CMS
- File Systems, Utilities, Tools: DNS, FTP, NIS, NFS, TCP/IP, Modbus

Drivers License(s)

CA, USA Class D Driver's License

Certifications

OSHA 30 Hour Training, License No. 32-601170851
PV Design and Installation, Solar Energy International
Wind Power and Turbine Technology, ASME
HTML5: Document Editing in Depth, License 9F12E8
Federal Communications Commission (FCC) Restricted Radiotelephone Operator Permit, Form 753-Part2

Employment

Dates	01/06/1999 – Present
Occupation or position held	**Sr Technical Writer | Consultant**
Main activities and responsibilities	Research, design, edit, write, revise compelling copy and narratives about technology for general and global audiences. Provide recommendations for streamlining documentation work flow processes. Perform independent technology reviews. Create and maintain web page views using HTML or other mark-up tools. Deliverables include: • Assembly instructions • Feasibility studies • How-tos • Installation guides • Operator's manual • Presentations • Quick start guides • Scientific papers • Training manuals • Tutorial guides • User manuals
Name and address of employer	Self-employed contractor
Type of business or sector	Software, hardware, renewable energy, manufacturing
Dates	28/05/2012 – 09/11/2012
Occupation or position held	**Sr Technical Writer | Consultant | Project Engineer (Telecommuting Contract)**
Main activities and responsibilities	Principal technical writer for the UH-HNEI/DoE Grid, Photovoltaic and Battery Projects Smart Grid Inverter Project, a part of the US DoE Energy Efficiency and Renewable Energy SunShot Initiative. Generate technical copy for a nascent smart grid communications protocol standard for embedding a high-penetration of residential PV inverters on existing electrical distribution networks. Design and develop an acceptance test plan for the virtual, proof-of-concept and integrated environments. Perform research embedding renewable energy generators on low-voltage and medium voltage electricity networks. Deliverables include: • Acceptance test plans • Communications flow diagrams and functional mappings • Component level instructions • Functional requirements • Systems architecture • Test procedures • Use cases
Name and address of employer	Silver Spring Networks, Redwood City, CA, USA, http://www.silverspringnet.com/
Type of business or sector	Smart Grid Networks for Renewable Energy Applications
Dates	01/09/2011 – 31/12/2013
Occupation or position held	**Renewable Energy Researcher (Volunteer)**
Main activities and responsibilities	Perform renewable energy policy research including investigating distributive/decentralized energy, energy/demand reduction and community choice alliance energy programs arenas.
Name and address of employer	Local Clean Energy Alliance, Oakland, CA, USA, http://www.localcleanenergy.org/
Type of business or sector	Renewable Energy Policy
Dates	01/08/2009 – 31/12/2012
Occupation or position held	**Project Engineer (In-perpetuity, Telecommuting Contract)**
Main activities and responsibilities	Conduct wind and hydrokinetic engineering research, provided analysis and compiled information for a consultancy specializing in energy conservation, maximising of resource efficiencies, system automation and integration.
Name and address of employer	Silvercrest, South Normanton, Derbyshire, UK, http://www.silvercrestec.com
Type of business or sector	Renewable Energy, Energy Efficiency Designs

Dates	01/01/2008 – 01/09/2011
Occupation or position held	**Web Consultant | Technical Writer | Partner (Telecommuting Contract)**
Main activities and responsibilities	Responsible for editing and writing web copy for global audiences, enhancing the navigability of the web site, performing search engine optimization and usability testing for Wattminder, an advanced, real-time photovoltaic system and utilities monitoring and intelligent diagnostics web site.
Name and address of employer	Yang Associates, Sunnyvale, CA, USA http://www.wattminder.com & http://pvmonitor.net
Type of business or sector	Renewable Energy
Dates	01/09//2007 – 31/10/2007
Occupation or position held	**Technical Writer (Telecommuting Contract)**
Main activities and responsibilities	Technical Writer responsible for composing a wind turbine load control methods patent applications for the multi-disciplinary consulting firm specializing in wind energy applications.
Name and address of employer	Chinook Wind, Everson, WA, USA, http://www.chinookwind.net
Type of business or sector	Renewable Energy
Dates	14/01/2006 – 30/06/2006
Occupation or position held	**Project Engineer**
Main activities and responsibilities	Project Engineer at a mechanical engineering firm that specializes in high performance, environmentally sustainable and energy efficient heating, ventilating and air conditioning system designs. Assist in defining the data control points, monitoring equipment and data visualization software selection for energy and resource performance monitoring on the Carnegie Institution Global Ecology Center building. Conduct performance-based energy calculations and analysis for PG&E's Non-Residential Incentive Program with a focus on industrial buildings. Provide content updates and assisted with report and proposal generation.
Name and address of employer	Rumsey Engineers, Inc., Oakland, CA, USA, http://www.rumseyengineers.com
Type of business or sector	Mechanical Engineering/Energy Efficiency

Projects, research, proposals, publications, presentations & consultations

Projects and research

12/2017 – Present | Developing and installing a sanitary thermophilic humanure compost system and sequence of operations (SOPs) to provide safe and efficient ecological sanitation that meets the criteria set forth in the 2018 International Association of Plumbing and Mechanical Officials (IAPMO) WE•Stand directive.

11/2013 – Present | Ethane as a green(er) transportation fuel opportunity.

10/2013 – Present | SB 43 SF East Bay Area Community RE Project(s) - Perform discovery for implementing community hybrid RE projects on electrical distribution networks in underrepresented urban communities that include utility scale wind, solar, etc.

03/2013 | Project Engineer for Grarado Green Energy. Perform research and due diligence (SOPs) for propagating Jatropha tree use in sustainable development biomass/biofuel applications in Haiti.

09/2011 – Present | Investigating water reclamation and using renewable energy systems technologies to condense moisture in the air for use in urban farm irrigation. *REST in Urban Agriculture* presentation. http://kimgerly.com/projects/urban_ag.pdf

09/2011 – 12/2013 | Perform renewable energy policy research for the Local Clean Energy Alliance (LCEA) investigating distributive/decentralized energy, energy/demand reduction, and community choice alliance energy programs arenas. Oakland, CA, USA. http://www.localcleanenergy.org/

08/2009 | Conduct preliminary wind and hydrokinetic engineering research for a conceptual pumped hydro-wind schema for Silvercrest Energy and Automation. http://www.silvercrestec.com/

01/2006 – 06/2006 | Define the data control points, monitoring equipment and data visualization software selection for energy and resource performance monitoring on the Carnegie Institution Global Ecology Center Building. http://www.cbe.berkeley.edu/mixedmode/carnegie.html

2004 – 2005, 2012, 2013 | Perform ten residential solar installations as a volunteer for Grid Alternatives and Sutton Solar in the San Francisco Bay Area, USA. http://www.gridalternatives.org/

Proposals

03/2014 | *How can CO_2 emissions from the transportation sector be reduced?* for the MIT Center for Collective Intelligence Climate CoLab Transportation 2014 Contest, Cambridge, MA, USA

06/2010 | *Solarize NE Proposal for* Sustainable Solutions Unlimited, LLC, Portland, OR, USA http://www.solarizeportland.org/

10/2009 | *Mitigating Noise Generated by Small Wind Turbines* Proposal for the Portland State University Mechanical and Materials Engineering Capstone Project

Publications and presentations

04/2018 | 6th International Dry Toilet Conference Paper | *Community compost toilet and urine diversion system modeled after the International Association of Plumbing and Mechanical Officials(IAPMO) Water Efficiency and Sanitation Standard (WE•Stand)*

07/2017 | PLEA 2017 Conference Paper | *Ethane—a green(er) transportation fuel opportunity* http://ow.ly/hQYL30gyEas

09/2015 | *Atmospheric Water Generation for Aquatics Facilities* http://kimgerly.com/projects/AWG_aquatics.pdf

02/2015 | *Ethane as a cleaner transportation fuel* https://www.academia.edu/11167207/Ethane_as_a_Cleaner_Transportation_Fuel

05/2014 | *REST in Urban Agriculture + S.E.E.C. Home* http://kimgerly.com/projects/urbanAg+SEEK.pdf

04/2014 | *Ethane as a green(er) transportation fuel opportunity* http://kimgerly.com/projects/ethane_infographic.pdf

09/2013 | *Why We Need Community Wind in the SF Bay Area* http://www.kimgerly.com/projects/sfba_cmtywind.pdf

05/2013 | *Small Wind Turbines in the Built Environment Decomissioning Guide* http://www.kimgerly.com/projects/wtg_decom.pdf

03/2012 | *Installing Small Wind Turbine Generators (WTGs) in the Urban/Built Environment – What not to do…* http://www.kimgerly.com/projects/WysingerWTDecomProject_WhatNotToDo.pdf

01/2010 | *RE Power Haiti Short Business Plan Concept* for the Solar Electric Light Fund, Washington, DC, USA http://www.self.org

04/2010 | Presentation – *GIS & Wind Siting: Using GIS to Assist in Siting WTGs in the Urban/Built Environment*, Centre for Renewable Energy Systems Technology (CREST), Loughborough University, UK

09/2009 | Interim Report - *Wind Speed and Energy Yield Analysis of Small Wind Turbines on a 45m High-rise Building in the Built Environment*, Centre for Renewable Energy Systems Technology (CREST), Loughborough University, UK

09/2007 – 10/2007 | Contributor to US Patent Application Publication, Pub. No.: US 2007/0057517 A1, *Wind Turbine Load Control Method,* http://www.chinookwind.net

10/2004 – 03/2005 | Publication, *Installing Photovoltaics on California K-12 Schools,* http://rahus.org

Consultations

03/2014 | Provide a synopsis on the technical feasibility potential of using ethane as an alternative transportation fuel opportunity to the Nucor Steel Corporation.

11-12/2012 | Perform energy assessment for back-up power emergency response options and contingencies at two locations of the St. Vincent de Paul Society of Alameda County, including performing a wind resource study, energy efficiency optimization for meeting day-to-day power needs, and investigating alternative storage opportunities for uninterruptible power requirements during disaster relief events.

03/2011 | Provide consultation on small wind turbine installation including data acquisition and visualization recommendations at the Phipps Conservatory Center for Sustainable Landscapes in Pittsburgh, PA, USA.

7/2009 | Provide recommendations and advice for tuning the 12W ZGF Architects Wind Turbine Array, Portland, OR, USA.

Education & training

Dates	17/08/2018 – 21/09/2018
Title of qualification awarded	Continuing education coursework in Sanitation, Water and Solid Waste for Development
Principal subjects	Environmental science and sustainability coursework in: • Municipal Solid Waste Management in Developing Countries • Planning and Design of Sanitation Systems and Technologies • Introduction to Household Water Treatment and Safe Storage • Introduction to Faecal Sludge Management
Name and type of organisation providing education and training	**CeEPFL (École polytechnique fédérale de Lausanne), https://www.coursera.org/learn/sanitation**
Level or international classification	Continuing education
Dates	22/01/2014 – 17/12/2016
Title of qualification awarded	Certificate, Industrial Maintenance (In-progress)
Principal subjects	Continuing education coursework covering machining, welding, hydraulics, electrics, OSHA safety, blueprint reading.
Name and type of organisation providing education and training	**Laney College, Oakland, CA, USA, http://www.laney.edu/wp/industrialmaintenance/**
Level or international classification	Continuing education

Dates	29/09/2008 – 17/06/2010
Title of qualification awarded	Postgraduate Diploma (PGDipl, MSc non-thesis) Renewable Energy Systems | Final Mark - PASS
Principal subjects	Graduate coursework covering renewable energy systems technologies research and report generation on the following topics: • Solar PV characterization and performance of mono-Si and poly-Si solar cells. • PV system design of an engineering building façade using PVSYST software. • Compact oscillating water column (OWC) calibration, flow duration curve (FDC) and discharge of a v-notched weir evaluations. • Operational performance of anaerobic digestion (AD) potential of fertilizer and methane in wastewater. • Sustainable development and environmental management scenarios for long-term security of energy supply for the Economic Community of West African States (ECOWAS). • Wind farm design, power curve and coefficient of power curve determination for a 25kW wind turbine. • Load flow analysis embedding wind turbine generators on an existing electrical distribution network. • Small wind turbines sited on high-rise buildings in the built environment in the UK Midlands.

Internship	Activities and Societies: Loughborough Employer Mentoring Schemes Pilot Programme participant - Intern at BlueNG.com [A project supported by the National Grid]
Name and type of organisation providing education and training	**Centre for Renewable Energy Systems Technology (CREST), Loughborough University, Loughborough, UK, http://www.lboro.ac.uk/crest/**
Level or international classification	Postgraduate Diploma (PGDipl, MSc non-thesis) | Final Mark - PASS
Dates	28/08/2005 – 05/12/2005
Title of qualification awarded	None
Principal subjects	Sustainability Development/Energy and Resources
Name and type of organisation providing education and training	**Universiteit Utrecht, Utrecht, NL**
Principal subjects	Sustainability development coursework in energy analysis, integrated systems approach to sustainability development and energy and resources policies.
Level or international classification	Post-baccalaureate student
Dates	04/04/2005 – 31/05/2005
Title of qualification awarded	PV Design and Installation Certificate
Principal subjects	Photovoltaic and Design and Installation coursework
Name and type of organisation providing education and training	**Diablo Valley College, Pleasant Hill, CA, USA**
Level or international classification	Post-baccalaureate student in engineering technology
Dates	2001, 2002, 2005
Title of qualification awarded	None
Principal subjects	Mechanical engineering and sustainable development coursework in thermodynamics, quantitative aspects of global environmental problems, toxicology, environmental law and regulation.
Name and type of organisation providing education and training	**University of California, Berkeley, CA, USA**
Level or international classification	Post-graduate student
Dates	15/08/1994 – 31/05/1995
Title of qualification awarded	None | GPA 3.5
Principal subjects	Environmental Engineering coursework in statistical design of experiments, risk analysis, hazardous waste management and solid waste management.
Name and type of organisation providing education and training	**Johns Hopkins University, Baltimore, MD, USA**
Level or international classification	Post-graduate student
Dates	15/09/1991 – 31/03/1993
Title of qualification awarded	BSc Mathematics
Principal subjects	General mathematics and engineering coursework in engineering graphics, statics, materials engineering, discrete event systems simulation, statistical mathematics, differential equations, linear algebra and boundary value problems.
Name and type of organisation providing education and training	**Georgia State University, cross-enrolled Georgia Institute of Technology, Atlanta, GA, USA**
Level or international classification	BSc (Baccalaureate)

CURRICULUM VITAE

Personal information

First name(s) / Surname(s) **KIMBERLY L. KING**

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Oakland, CA 94623 USA

Telephone(s) +1 (415) 832-9084 Mobile | +1 (415) 832-9084

E-mail(s) kimgerly@outthinkthebox.net

Web site (s) http://www.outthinkthebox.net/, http://www.kimgerly.com/projects.html, https://www.linkedin.com/in/kimgerly/

Desired employment

SENIOR TECHNICAL WRITER | RENEWABLE ENERGY ENGINEER

Professional Summary

Senior technical writer, renewable energy engineer, project engineer, copy editor, and communications specialist with an extensive background in renewable energy, sustainable development, environmental engineering, systems engineering, IT systems analysis and administration. Greatest strengths include:

- Out think the box.
- Taking bold, decisive and definitive action to identify and reveal solutions to problems others don't realize.
- Identifying opportunities for developing and implementing everyday brilliance for disaster resilience.
- Agile at networking and building strategic alliances by utilizing conventional and unconventional creative approaches.
- Developing and working in collaborative teams.
- Composing concrete, concise, clear technical documentation.
- Broad-based computer skills including hardware, web and software.
- Comprehensive knowledge of current research and trends being conducted in the field of renewable energy and sustainable development, nationally and internationally.
- Taking leadership and decision-making roles in e-commerce and computer software start-up companies during the dot-com.

Personal skills & competences

Social skills and competences

- Excellent communicator with the ability to effectively interact and collaborate at all levels.
- Agile and adept at networking and building strategic alliances by utilizing creative approaches.
- Competent at applying non-trodden path by taking bold, decisive and definitive action approaches to problem solving.
- Work with end-users, engineering, development, marketing, and QA groups to examine issues, develop strategic solutions, validate infrastructure, content and approach for improving processes and procedures.
- Work well independently or as a team member.

Organisational skills and competences

- Competent at directing the work of others and project management.
- Able to produce materials conveying appropriate level of detail and results with minimal supervision.
- Effective troubleshooting and communication, critical thought, time management and prioritization skills.

Technical writing skills and competences

- Compose, edit, standardize and revise documentation, including installation guides, tutorial guides, training manuals and proposals, in print and online formats.
- Organize, synthesize and gathering data from subject matter experts by observation, reviewing written materials, vendor documentation, regulation manuals and other relevant material sources.
- Explain, write and present complex subject matter and materials in an understandable fashion for end-users.
- Competencies include manipulating graphics and documentation layout for print and the web.

Technical skills and competences	• Results-oriented professional with a quick grasp of new technologies. • Comprehensive knowledge of current research and trends in the field of renewable energy and sustainability development. • Agile at identifying and revealing solutions to problems others don't realize, including developing and implementing everyday brilliance for disaster resilience. • Perform technical reviews. • Thermophilic composting research – Developing and installing a sanitary, thermophilic humanure compost systems schema for tiny dwellings/houses in the urban environment. • Ethane research – Investigate the physical and chemical properties of ethane for utilization as a transportation fuel opportunity. • Wind energy systems – Perform micro-siting of wind resources, data acquisition, data validation and reporting. Develop a commercial application schema for installing small wind turbines in the built environment. Develop a procedure for decommissioning a small wind turbine in the built-environment. • Composites – Build and repair parts (carbon fiber and fiberglass) and carbon fiber tool molds using infusion, wet-layup, and prepreg. • Solar energy systems – Performed solar site assessments, photovoltaic (PV) design and installation. Composed multiple draft design proposals for installing PV arrays. • Energy efficiency design – Define data control points, monitoring equipment, data visualization software selection for building energy and resource performance monitoring. • Systems analysis – Evaluate, recommend, and install technologies, information design methods, analyze system deficiencies and implementing solutions to improve workflow processes.
Computer skills and competences	Excellent computer skills – Web, Hardware, and Software • Web: HTML, XML, Cascading Style Sheets (CSS), FTP, Apache web server, Adobe Dreamweaver for marking-up and managing web sites • Hardware Platforms: Macintosh, PC-compatible, Sun SPARCstation • Software: Adobe Suite of Applications (Acrobat Professional, Captivate, ConnectPro, Dreamweaver, FrameMaker, Illustrator, InDesign, Photoshop, Premiere), ArcGIS, HOMER Energy, JMP, LabVIEW, Microsoft Office Suite for Windows and Macintosh, PVSYST, SolidWorks (FEA, SimulationXpress), SunPath, WindFarm, WRPlot • Operating Systems: MacOS 7.x/8.x/9.x/X, MS-DOS, UNIX (Solaris 7_Intel x86, Solaris 2.6, 2.7, Sun OS 5.7), Windows 95/98/NT 3.51 & 4.0/2000/XP/Vista/7 • Languages: C, SAS, UNIX Shell Scripts • Databases: Access, FileMaker Pro, MySQL, Oracle 8.1.7, Vignette CMS • File Systems, Utilities, Tools: DNS, FTP, NIS, NFS, TCP/IP, Modbus
Drivers License(s)	CA, USA Class D Driver's License
Certifications	SolidWorks Simulation for Finite Element Analysis (FEA) SolidWorks SimulationXpress OSHA 30 Hour Training, License No. 32-601170851 PV Design and Installation, Solar Energy International Wind Power and Turbine Technology, American Society of Mechanical Engineers HTML5: Document Editing in Depth, License 9F12E8 24 Hour HAZWOPER, National Environmental Trainers (Expired) Federal Communications Commission (FCC) Restricted Radiotelephone Operator Permit, Form 753-Part2

Employment

Dates	01/06/1999 – Present
Occupation or position held	**Sr Technical Writer | Consultant**
Main activities and responsibilities	Research, design, edit, write, revise compelling copy and narratives about technology for general and global audiences. Provide recommendations for streamlining documentation work flow processes. Perform independent technology reviews. Create and maintain web page views using HTML or other mark-up tools. Some deliverables include: • Assembly instructions • Feasibility studies • How-tos • Installation guides • Operator's manual • Presentations • Quick start guides • Scientific papers • Training manuals • Tutorial guides • User manuals
Name and address of employer	Self-employed contractor
Type of business or sector	Software, hardware, renewable energy, manufacturing
Dates	28/05/2012 – 09/11/2012
Occupation or position held	**Sr Technical Writer | Consultant | Project Engineer (Telecommuting Contract)**
Main activities and responsibilities	Principal technical writer for the UH-HNEI/DoE Grid, Photovoltaic and Battery Projects Smart Grid Inverter Project, a part of the US DoE Energy Efficiency and Renewable Energy SunShot Initiative. Generate technical copy for a nascent smart grid communications protocol standard for embedding a high-penetration of residential PV inverters on existing electrical distribution networks. Design and develop an acceptance test plan for the virtual, proof-of-concept and integrated environments. Perform research embedding renewable energy generators on low-voltage and medium voltage electricity networks. Deliverables include: • Acceptance test plans • Communications flow diagrams and functional mappings • Component level instructions • Functional requirements • Systems architecture • Test procedures • Use cases
Name and address of employer	Silver Spring Networks, Redwood City, CA, USA, http://www.silverspringnet.com/
Type of business or sector	Smart Grid Networks for Renewable Energy Applications
Dates	01/09/2011 – 31/12/2013
Occupation or position held	**Renewable Energy Researcher (Volunteer)**
Main activities and responsibilities	Perform renewable energy policy research including investigating distributive/decentralized energy, energy/demand reduction and community choice alliance energy programs arenas.
Name and address of employer	Local Clean Energy Alliance, Oakland, CA, USA, http://www.localcleanenergy.org/
Type of business or sector	Renewable Energy Policy
Dates	01/08/2009 – 31/12/2012
Occupation or position held	**Project Engineer (In-perpetuity, Telecommuting Contract)**
Main activities and responsibilities	Conduct wind and hydrokinetic engineering research, provided analysis and compiled information for a consultancy specializing in energy conservation, maximising of resource efficiencies, system automation and integration.
Name and address of employer	Silvercrest, South Normanton, Derbyshire, UK, http://www.silvercrestec.com
Type of business or sector	Renewable Energy, Energy Efficiency Designs

Dates	01/09//2007 – 31/10/2007
Occupation or position held	**Technical Writer (Telecommuting Contract)**
Main activities and responsibilities	Technical Writer responsible for composing a wind turbine load control methods patent applications for the multi-disciplinary consulting firm specializing in wind energy applications.
Name and address of employer	Chinook Wind, Everson, WA, USA, http://www.chinookwind.net
Type of business or sector	Renewable Energy
Dates	14/01/2006 – 30/06/2006
Occupation or position held	**Project Engineer**
Main activities and responsibilities	Project Engineer at a mechanical engineering firm that specializes in high performance, environmentally sustainable and energy efficient heating, ventilating and air conditioning system designs. Assist in defining the data control points, monitoring equipment and data visualization software selection for energy and resource performance monitoring on the Carnegie Institution Global Ecology Center building. Conduct performance-based energy calculations and analysis for PG&E's Non-Residential Incentive Program with a focus on industrial buildings. Provide content updates and assisted with report and proposal generation.
Name and address of employer	Rumsey Engineers, Inc., Oakland, CA, USA, http://www.rumseyengineers.com
Type of business or sector	Mechanical Engineering/Energy Efficiency
Dates	01/12/1994 – 30/11/1995

Projects, research, proposals, publications, presentations & consultations

Projects and research

12/2017 – Present | Developing and installing a sanitary thermophilic humanure compost system and sequence of operations (SOPs) to provide safe and efficient ecological sanitation that meets the criteria set forth in the 2018 International Association of Plumbing and Mechanical Officials (IAPMO) WE•Stand.

11/2013 – Present | Ethane as a green(er) transportation fuel opportunity.

10/2013 – Present | SB 43 SF East Bay Area Community RE Project(s) - Perform discovery for implementing community hybrid RE projects on electrical distribution networks in underrepresented urban communities that include utility scale wind, solar, etc.

03/2013 | Project Engineer for Grarado Green Energy. Perform research and due diligence (SOPs) for propagating Jatropha tree use in sustainable development biomass/biofuel applications in Haiti.

09/2011 – Present | Investigating water reclamation and using renewable energy systems technologies to condense moisture in the air for use in urban farm irrigation. *REST in Urban Agriculture* presentation. http://kimgerly.com/projects/urban_ag.pdf

09/2011 – 12/2013 | Perform renewable energy policy research for the Local Clean Energy Alliance (LCEA) investigating distributive/decentralized energy, energy/demand reduction, and community choice alliance energy programs arenas. Oakland, CA, USA. http://www.localcleanenergy.org/

08/2009 | Conduct preliminary wind and hydrokinetic engineering research for a conceptual pumped hydro-wind schema for Silvercrest Energy and Automation. http://www.silvercrestec.com/

01/2006 – 06/2006 | Define the data control points, monitoring equipment and data visualization software selection for energy and resource performance monitoring on the Carnegie Institution Global Ecology Center Building. http://www.cbe.berkeley.edu/mixedmode/carnegie.html

2004 – 2005, 2012, 2013 | Perform ten residential solar installations as a volunteer for Grid Alternatives and Sutton Solar in the San Francisco Bay Area, USA. http://www.gridalternatives.org/

Proposals

11/2018 | *Single-user Sanitary Compost System Feasibility Proposal* for District 2 Councilwoman Cheryl Davila City of Berkeley, CA, USA

03/2014 | *How can CO_2 emissions from the transportation sector be reduced?* for the MIT Center for Collective Intelligence Climate CoLab Transportation 2014 Contest, Cambridge, MA, USA

06/2010 | *Solarize NE Proposal for* Sustainable Solutions Unlimited, LLC, Portland, OR, USA http://www.solarizeportland.org/

10/2009 | *Mitigating Noise Generated by Small Wind Turbines* Proposal for the Portland State University Mechanical and Materials Engineering Capstone Project

Publications and presentations

08/2018 | 6th International Dry Toilet Conference Paper | *Community compost toilet and urine diversion system modeled after the International Association of Plumbing and Mechanical Officials (IAPMO) Water Efficiency and Sanitation Standard (WE•Stand*) [Under editorial review for publication in the *IWA Journal of Water, Sanitation & Hygiene for Development*]

07/2017 | PLEA 2017 Conference Paper | *Ethane—a green(er) transportation fuel opportunity* http://ow.ly/hQYL30gyEas

09/2015 | *Atmospheric Water Generation for Aquatics Facilities* http://kimgerly.com/projects/AWG_aquatics.pdf

02/2015 | *Ethane as a cleaner transportation fuel*, *Environmental Science & Technology*, American Chemical Society, ACS Publications https://www.academia.edu/11167207/Ethane_as_a_Cleaner_Transportation_Fuel

05/2014 | *REST in Urban Agriculture + S.E.E.C. Home* http://kimgerly.com/projects/urbanAg+SEEK.pdf

04/2014 | *Ethane as a green(er) transportation fuel opportunity* http://kimgerly.com/projects/ethane_infographic.pdf

09/2013 | *Why We Need Community Wind in the SF Bay Area* http://www.kimgerly.com/projects/sfba_cmtywind.pdf

05/2013 | *Small Wind Turbines in the Built Environment Decomissioning Guide* http://www.kimgerly.com/projects/wtg_decom.pdf

03/2012 | *Installing Small Wind Turbine Generators (WTGs) in the Urban/Built Environment – What not to do…* http://www.kimgerly.com/projects/WysingerWTDecomProject_WhatNotToDo.pdf

01/2010 | *RE Power Haiti Short Business Plan Concept* for the Solar Electric Light Fund, Washington, DC, USA http://www.self.org

04/2010 | Presentation – *GIS & Wind Siting: Using GIS to Assist in Siting WTGs in the Urban/Built Environment*, Centre for Renewable Energy Systems Technology (CREST), Loughborough University, UK

09/2009 | Interim Report - *Wind Speed and Energy Yield Analysis of Small Wind Turbines on a 45m High-rise Building in the Built Environment*, Centre for Renewable Energy Systems Technology (CREST), Loughborough University, UK

09/2007 – 10/2007 | Contributor to US Patent Application Publication, Pub. No.: US 2007/0057517 A1, *Wind Turbine Load Control Method,* http://www.chinookwind.net

10/2004 – 03/2005 | Publication, *Installing Photovoltaics on California K-12 Schools,* http://rahus.org

Consultations

11/2018 | Provide technical feasibility potential for thermophilic, sanitary composting system for tiny houses/dwellings to the City of Berkeley District 2 Councilwoman Cheryl Davila.

03/2014 | Provide a synopsis on the technical feasibility potential of using ethane as an alternative transportation fuel opportunity to the Nucor Steel Corporation.

11-12/2012 | Perform energy efficiency optimization, wind energy assessment, and alternative storage opportunities for meeting day-to-day power needs and for uniterruptible, back-up power emergency response options during disaster relief events at two locations of the St. Vincent de Paul Society of Alameda County.

Consultations (Cont'd)

11-12/2012 | Perform energy efficiency optimization, wind energy assessment, and alternative storage opportunities for meeting day-to-day power needs and for uniterruptible, back-up power emergency response options during disaster relief events at two locations of the St. Vincent de Paul Society of Alameda County.

03/2011 | Provide consultation on small wind turbine installation including data acquisition and visualization recommendations at the Phipps Conservatory Center for Sustainable Landscapes in Pittsburgh, PA, USA.

7/2009 | Provide recommendations and advice for tuning the 12W ZGF Architects Wind Turbine Array, Portland, OR, USA

Education & training

Dates	17/08/2018 – 21/09/2018
Title of qualification awarded	Continuing education coursework in Sanitation, Water and Solid Waste for Development
Principal subjects	Environmental science and sustainability coursework in: • Municipal Solid Waste Management in Developing Countries • Planning and Design of Sanitation Systems and Technologies • Introduction to Household Water Treatment and Safe Storage • Introduction to Faecal Sludge Management
Name and type of organisation providing education and training	**CeEPFL (École polytechnique fédérale de Lausanne), https://www.coursera.org/learn/sanitation**
Level or international classification	Continuing education in Industrial Maintenance
Dates	22/01/2014 – 17/12/2016
Title of qualification awarded	None
Principal subjects	Continuing education coursework covering machining, welding, hydraulics, electrics, OSHA safety, blueprint reading.
Name and type of organisation providing education and training	**Laney College, Oakland, CA, USA, http://www.laney.edu/wp/industrialmaintenance/**
Level or international classification	Continuing education
Dates	29/09/2008 – 17/06/2010
Title of qualification awarded	Postgraduate Diploma (PGDipl, MSc non-thesis) Renewable Energy Systems | Final Mark - PASS
Principal subjects	Graduate coursework covering renewable energy systems technologies research and report generation on the following topics: • Solar PV characterization and performance of mono-Si and poly-Si solar cells. • PV system design of an engineering building façade using PVSYST software. • Compact oscillating water column (OWC) calibration, flow duration curve (FDC) and discharge of a v-notched weir evaluations. • Operational performance of anaerobic digestion (AD) potential of fertilizer and methane in wastewater. • Sustainable development and environmental management scenarios for long-term security of energy supply for the Economic Community of West African States (ECOWAS). • Wind farm design, power curve and coefficient of power curve determination for a 25kW wind turbine. • Load flow analysis embedding wind turbine generators on an existing electrical distribution network. • Small wind turbines sited on high-rise buildings in the built environment in the UK Midlands.
Internship	Activities and Societies: Loughborough Employer Mentoring Schemes Pilot Programme participant - Intern at BlueNG.com [A project supported by the National Grid]
Name and type of organisation providing education and training	**Centre for Renewable Energy Systems Technology (CREST), Loughborough University, Loughborough, UK, http://www.lboro.ac.uk/crest/**
Level or international classification	Postgraduate Diploma (PGDipl, MSc non-thesis) | Final Mark - PASS

Dates	28/08/2005 – 05/12/2005
Title of qualification awarded	None
Principal subjects	Sustainability Development/Energy and Resources
Name and type of organisation providing education and training	**Universiteit Utrecht, Utrecht, NL**
Principal subjects	Sustainability development coursework in energy analysis, integrated systems approach to sustainability development and energy and resources policies.
Level or international classification	Post-baccalaureate student
Dates	04/04/2005 – 31/05/2005
Title of qualification awarded	PV Design and Installation Certificate
Principal subjects	Photovoltaic and Design and Installation coursework
Name and type of organisation providing education and training	**Diablo Valley College, Pleasant Hill, CA, USA**
Level or international classification	Post-baccalaureate student in engineering technology
Dates	2001, 2002, 2005
Title of qualification awarded	None | Continuing studies
Principal subjects	Mechanical engineering and sustainable development coursework in thermodynamics, quantitative aspects of global environmental problems, toxicology, environmental law and regulation.
Name and type of organisation providing education and training	**University of California, Berkeley, CA, USA**
Level or international classification	Post-graduate student
Dates	15/08/1994 – 31/05/1995
Title of qualification awarded	None | GPA 3.5
Principal subjects	Environmental Engineering coursework in statistical design of experiments, risk analysis, hazardous waste management and solid waste management covering EPA 40 CFR and early draft ISO14001 standards.
Name and type of organisation providing education and training	**Johns Hopkins University, Baltimore, MD, USA**
Level or international classification	Post-graduate student
Dates	15/09/1991 – 31/03/1993
Title of qualification awarded	BSc Mathematics
Principal subjects	General mathematics and compulsory engineering coursework in engineering graphics, statics, materials engineering, discrete event systems simulation, statistical mathematics, differential equations, linear algebra, and boundary value problems.
Name and type of organisation providing education and training	**Georgia State University, cross-enrolled Georgia Institute of Technology, Atlanta, GA, USA**
Level or international classification	BSc (Baccalaureate)

Volunteer Experience

Contributor, Gather Baltimore, Baltimore, MD

Contributor, Land-Action.org, Oakland, CA

Production Technician, Radio Station 90.7 FM KALX, Berkeley, CA

Small Wind Turbine Decommissioning Project Engineer, Wysinger Family, Berkeley, CA

Renewable Energy Researcher, Local Clean Energy Alliance (LCEA), Oakland, CA

PV Systems Installation Contributor, Grid Alternatives, Oakland, CA

Sustainability Mentor, CleanTech Open, Redwood City, CA

Undergraduate Calculus Tutor, Georgia State University, Atlanta, GA & Florida Tech, Melbourne, FL

Fund Drive Consultant, 91.1 FM WREK, Atlanta, GA

PSA Director/Fundrive Coordinator/Production Engineer/DJ, 89.5 FM WFIT FM Melbourne, FL

Summer League High School Girls Lacrosse Coach, Columbia & Baltimore, MD