
NAVIGATING YOUR PATH TO A GREEN CAREER

A LEADERS IN ENERGY'S PERSPECTIVE

JANINE FINNELL

EXECUTIVE DIRECTOR

LEADERS IN ENERGY

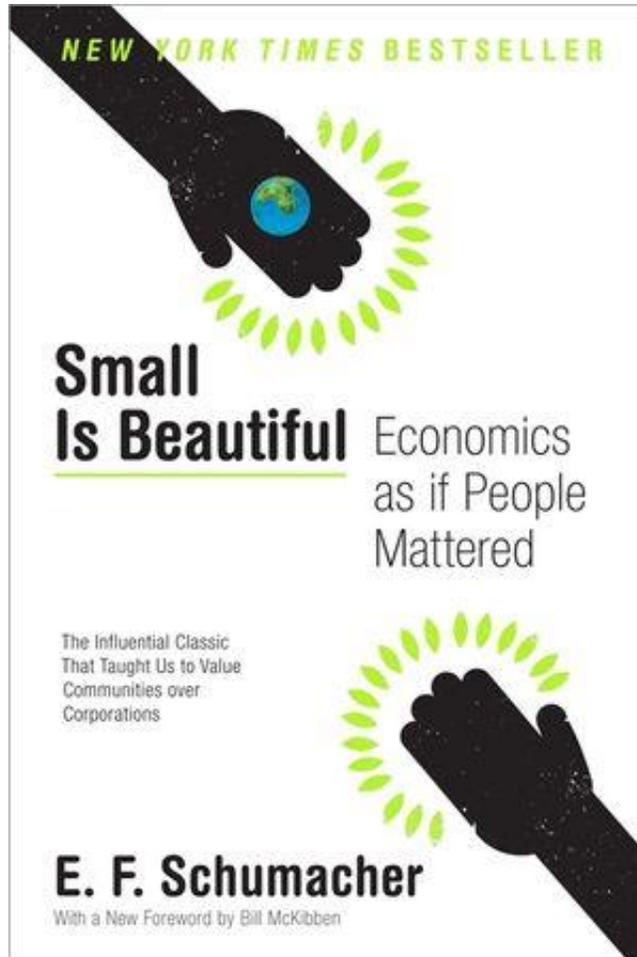
GREEN JOBS NETWORK WEBINAR - APRIL 28, 2020



Outline

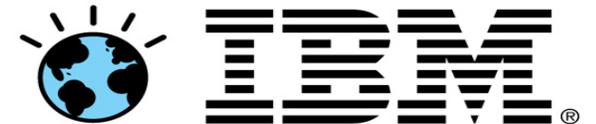
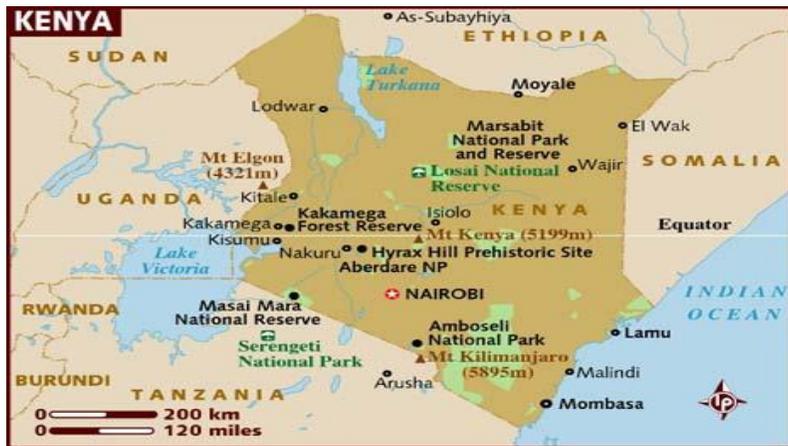
- Part 1: My Green Career Path
- Part 2: Enabling “The Big Green Shift”
- Part 3: The COVID-19 Pandemic and Shifting Marketplace
 - Pivoting
 - Resetting/Rethinking
 - Trend-Spotting
- Part 4: Six Green Career Navigational Tips

Part 1: My Green Career Path



“Concept of Appropriate Technology”
Masters thesis on methane digesters in India to provide biogas and fertilizer

My Green Career Journey



TECHNOLOGY & MANAGEMENT SERVICES, INC.



Leaders in Energy



Sustainable Communities



Green Economy and Jobs



**Multigenerational Leadership
and Talent**



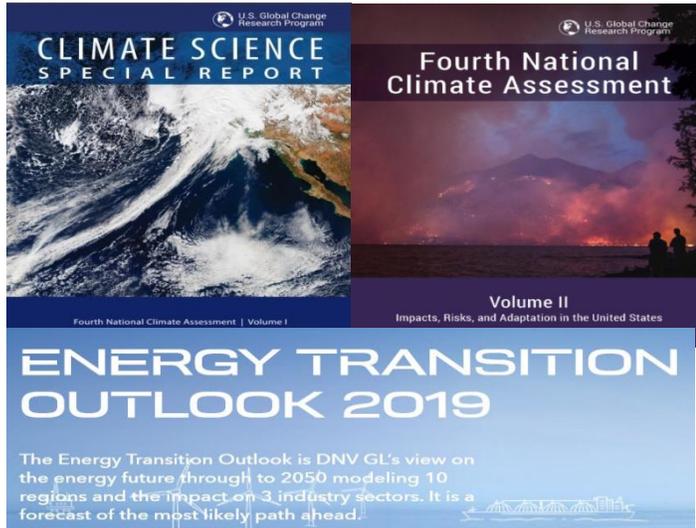
Leaders in Energy

Building a community of leaders to advance clean energy and sustainable solutions

*Join us on-line and at our events on cleantech, green jobs and finance,
and leadership at:*

leadersinenergy.org

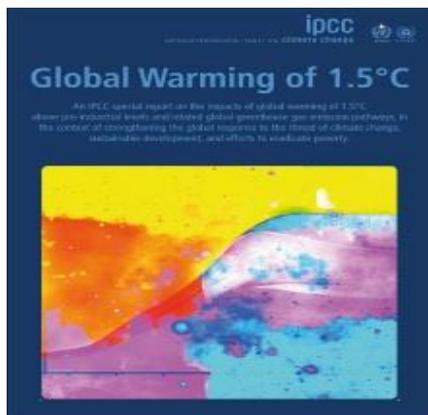
Part 2: Creating a More Sustainable World & Positive Future – “The Green Big Shift”

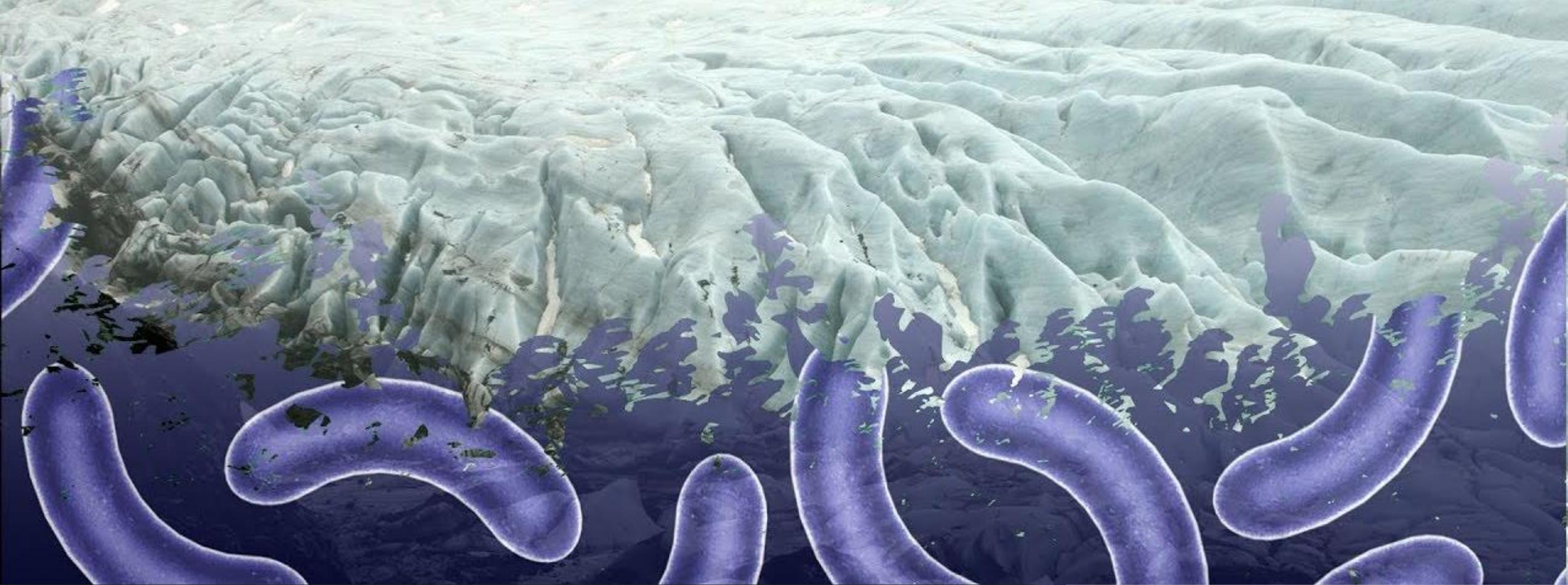


LE & Others Working to Build that Bridge



<https://www.youtube.com/watch?v=p-rTQ443akE>





Why we should act now to help the planet and to keep the temperature from rising globally?

<https://www.youtube.com/watch?v=tSA5HNFBwnk>

Leaders in Energy Conducts Green Jobs Forums and Workshops



6th Annual Green Jobs Forum
JOBS FOR A LOW-CARBON, CIRCULAR ECONOMY

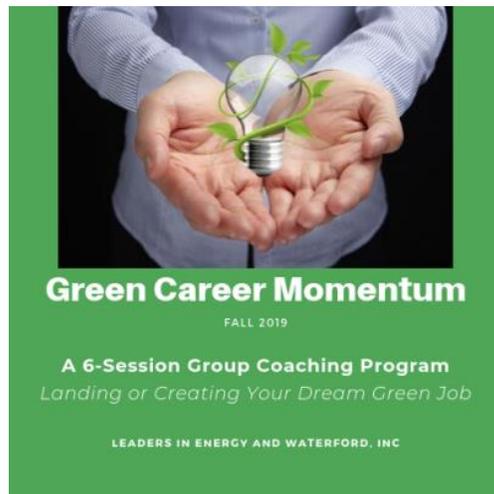
August 22, 2019
Forum: 4:30 - 9:00 pm PLUS
Workshops: 8:30 am - 4:30 pm

Metropolitan Washington Council of Governments
777 North Capitol St NE
Washington, DC 20002

Register at: LeadersinEnergy.org

Leaders in Energy Metropolitan Washington Council of Governments

The poster features a circular diagram on the left with stages: EXTRACTING RAW MATERIAL, PRODUCTION, DISTRIBUTION, RETAIL, USER, UNRECYCLABLE WASTE, SERVICE, REFURBISH, PARTS HARVEST, and RECYCLE. The background is a teal-tinted image of a person in a white shirt.



Green Career Momentum
FALL 2019

A 6-Session Group Coaching Program
Landing or Creating Your Dream Green Job

LEADERS IN ENERGY AND WATERFORD, INC

The cover features a photograph of a person's hands holding a glowing lightbulb with a green plant growing out of it.



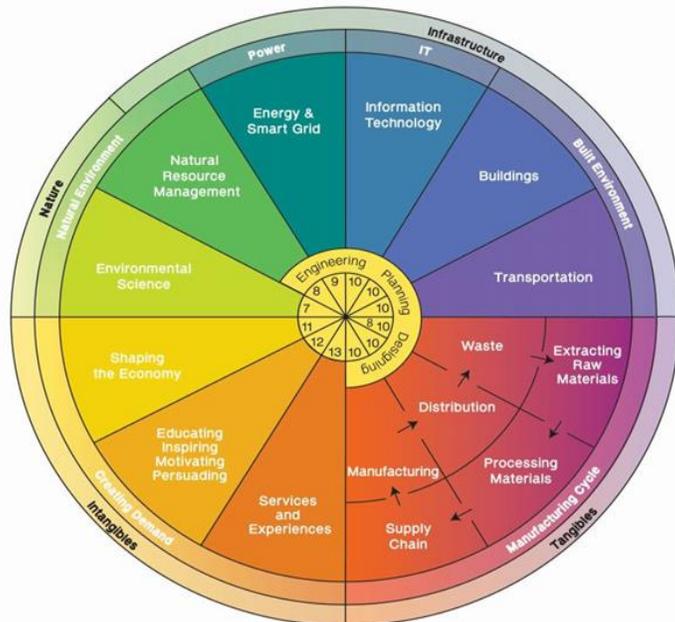
Green Career Workshop 1.0: What's Your Green Career Plan?
Green Career Workshop 2.0: What's the Best "Fit" for Your Career Path?"

What are Green Jobs?

International Labour Organization Definition

Green Economy Map

Industries and Sectors within the Green Economy



Source: Carol McClellan, Green Career Central (website no longer functional)

- Green jobs are decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency.

Green jobs help:

- Improve energy and raw materials efficiency
- Limit greenhouse gas emissions
- Minimize waste and pollution
- Protect and restore ecosystems
- Support adaptation to the effects of climate change

Source: https://www.ilo.org/global/topics/green-jobs/news/WCMS_220248/lang--en/index.htm

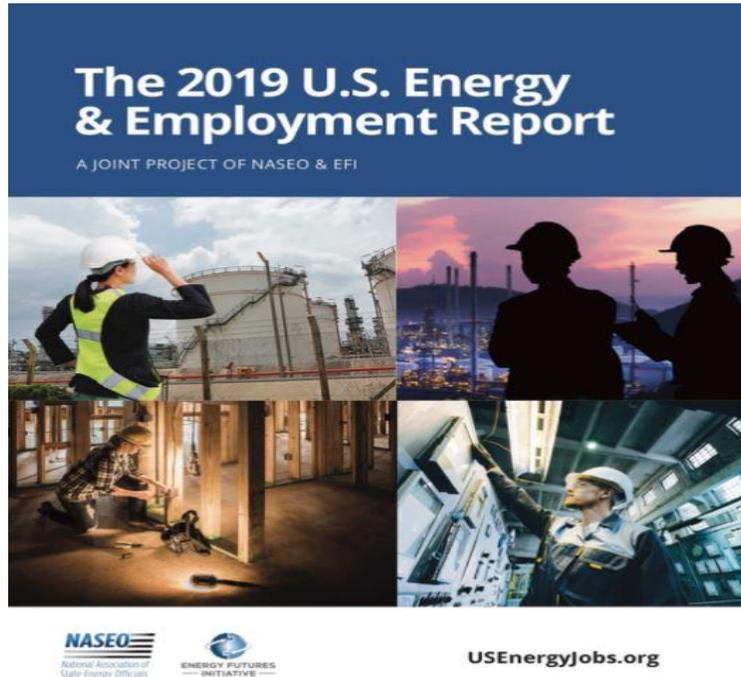
Doing Well While Doing Good is On the Rise



- Cleantech and sustainability jobs are among the fastest-growing segments of the economy!
- [Now Hiring: The Growth of America's Clean Energy & Sustainability Jobs](#) - EDF and Meister Consultants Group estimates that sustainability collectively represents 4-4.5 million jobs in the U.S.
- Report highlights 4 areas of employment in:
 - Renewable energy
 - Energy storage and advanced grid
 - Energy efficiency
 - Advanced vehicles and transportation

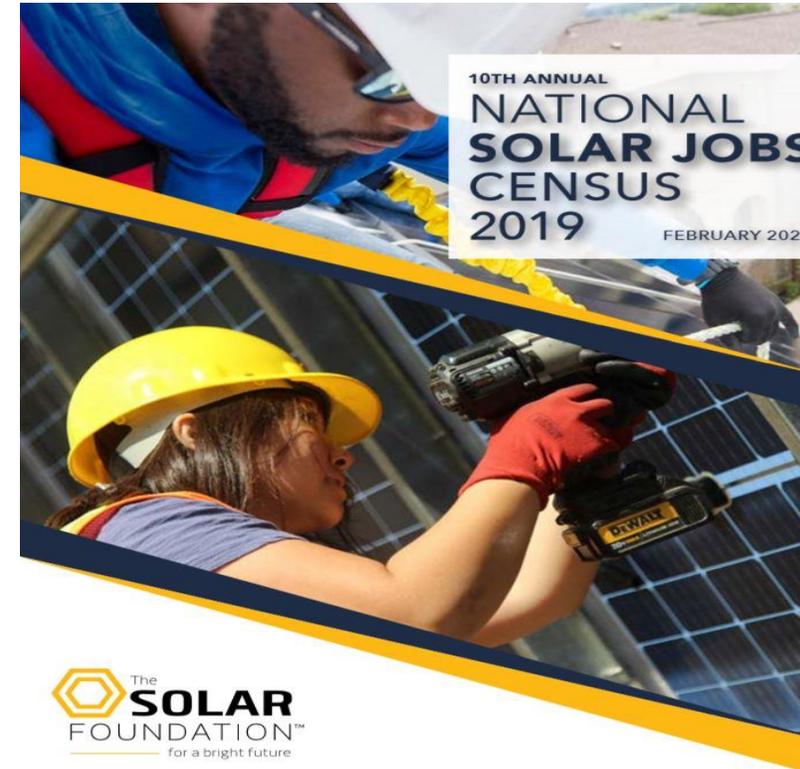
Download report here: <https://www.edf.org/energy/clean-energy-jobs>

2019 U.S. Energy & Employment Report



- States' energy economy is “not only growing, but evolving and thriving.”
- Nationally, in 2018 the energy economy expanded by more than 150,000 net new jobs to encompass 6.7 million people, representing nearly 5 percent of the U.S. economy.
- **Energy Efficiency** employed 2.35 million Americans, in whole or in part, in the design, installation, and manufacture of Energy Efficiency products and services, added 76,000 net jobs in 2018, an increase over the 67,000 jobs added in 2017.
- **Motor Vehicles** (including component parts) employed over 2.53 million workers (excluding automobile dealerships and retailers) added 74,000 jobs in 2018, an increase of 3 percent from 2017.
- In 2018, almost 254,000 employees worked with **alternative fuels vehicles, including natural gas, hybrids, plug-in hybrids, all-electric, and fuel cell/hydrogen vehicles**, an increase of nearly 34,000 jobs.

National Solar Jobs Census – February 2020



TOP 10 STATES WITH SOLAR JOBS GROWTH

STATE	2018 Jobs	2019 Jobs	% Increase in Jobs 2018-2019	Jobs Added 2018-2019
Florida	10,358	12,202	17.8%	1,843
Georgia	3,696	4,798	29.8%	1,102
Utah	6,045	7,107	17.6%	1,062
New York	9,729	10,740	10.4%	1,011
Texas	9,612	10,261	6.7%	649
Illinois	4,879	5,513	13.0%	634
Virginia	3,890	4,489	15.4%	599
Indiana	3,114	3,600	15.6%	486
Louisiana	2,950	3,352	13.6%	402
Hawaii	2,120	2,484	17.2%	364

Source: <https://www.thesolarfoundation.org/solar-jobs-up-nationwide-and-in-31-states-after-two-years-of-losses/>

Part 3: The New COVID-19 Marketplace

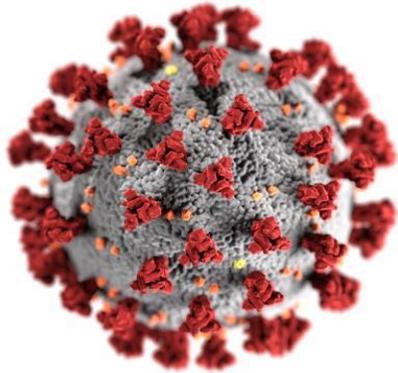
- Loss of 100,000 clean energy jobs in March 2020
- Further, nearly 400,000 industry workers suffer some form of job loss, when temporary unemployment and underemployment are considered. The majority of advanced energy businesses — about 60% — have not received any federal relief so far.

Source: “What’s the Ideal Way for the Microgrid Industry to Come Back from COVID-19?”, by Lisa Cohn, Microgrid Knowledge,” <https://microgridknowledge.com/microgrid-growth-covid-19/>



Photo from: *Why 30 Million Solar Rooftops Should Be In the Next Relief Bill*, by John Farrell, Institute for Local Self-Reliance, April 2020

The Coronavirus Pandemic -- A Silver Lining? Shifting Behavior for a Sustainable World?



Good News: Actions on coronavirus shows how society can implement broader behavior change. Climate emissions and other air pollutants have been decreasing due to lockdowns and travel bans.

Green Recovery/Stimulus?

- Europe is exploring reviving the global economy in the wake of the coronavirus pandemic via a 'green recovery' that helps the world tackle climate change.
- Speaking ahead of an upcoming virtual meeting of officials from some 30 countries, Germany's environment minister said it was important for economic recovery programs **to invest in future-proof jobs** that would help reduce greenhouse gas emissions in coming years, **rather than aim for a return to business as usual.**

Source: https://www.washingtonpost.com/world/europe/germany-britain-call-for-green-recovery-from-pandemic/2020/04/27/05adb276-8882-11ea-80df-d24b35a568ae_story.html

Green Jobs Opening from Leaders in Energy Newsletter - April 17, 2020

Green Jobs Openings

Have a job opening you wish to share with Leaders in Energy? Forward a link and contact information to kylesaukas@gmail.com

[President](#), Galapagos Conservancy

[Community Organizer](#), Center for Science in the Public Interest

[State Operations Regional Manager](#), Climate Action Campaign

[Data Analytics Manager](#), Climate Action Campaign

[Government Affairs Director](#), Climate Action Campaign

[Senior Associate - Lenfest Ocean Program](#), Pew Charitable Trusts

[Senior Manager - Flood-Prepared Communities](#), Pew Charitable Trusts

[HVAC / Construction / Energy Inspector](#), PEG LLC

[Plastic and Waste Senior Program Officer](#), WWF

[Multiple jobs](#), Climate War Room

[Multiple jobs](#), Center on Budget and Policy Priorities

[Associate Director of Legislative Affairs](#), The Good Food Institute

[Analyst in Environmental Policy](#), Congressional Research Service

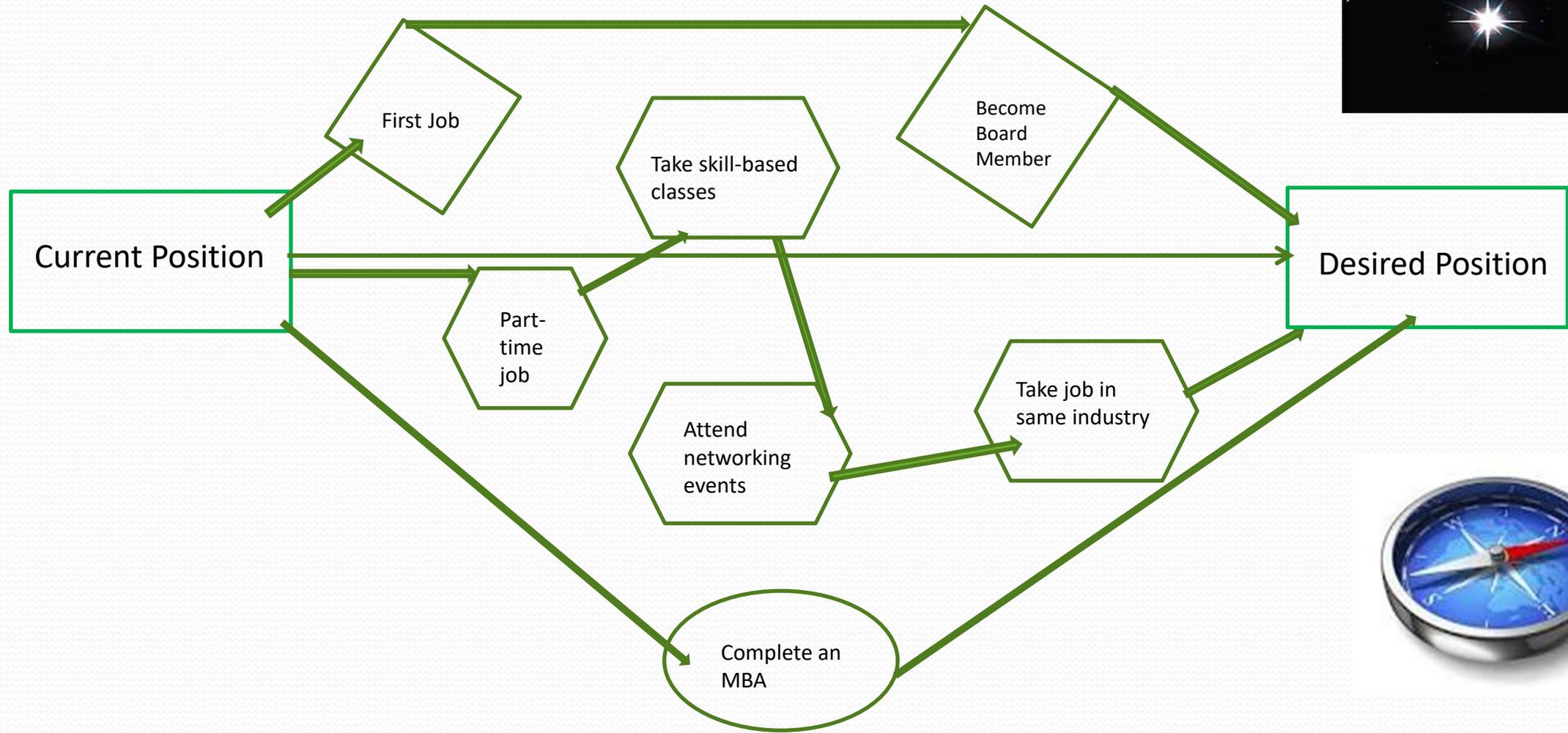
[Database Associate](#), League of Conservation Voters

[Social Media Manager](#), Corporation for National and Community Service

[VP, Public Policy and Advocacy](#), World Food Program USA



Navigating Your Green Career Path In These Times





Opportunities for Green Jobs and Careers

- Pivoting
- Resetting/New Thinking & Mindset
- Trend Spotting

Pivoting - Assess You

- YOU:
- Take a minute to take stock of what you've accomplished and have been dealing with during this crisis
 - Learning new behaviors, physical greetings have changed, social interaction, decontamination techniques
 - Practicing your patience: long lines, food and toiletry shortages, etc.
 - Schools closing and moving to online teaching
 - Possibly supporting that online teaching with kids at home
 - Delivery delays

Source: Candice Guillaudeu, COVID-19 and Pivoting while continuing to drive environmental sustainability, April 3, 2020, Your Business Our World, Link to PPT: <https://tinyurl.com/wlcxktc>

Opportunities – Sample COVID-19 Pivot Points

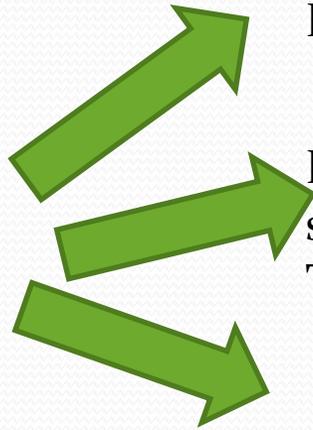
- Restaurants: Going to delivery and take-out only
- Salons: Virtual styling tips
- Clothing manufacturers switching to making masks and gowns -> strengths? -> having fabric
- Whisky distilleries making hand sanitizer – strengths? -> alcohol
- Dog Walkers delivering food
- GM making ventilators

Source: Candice Guillaudeu, COVID-19 and Pivoting while continuing to drive environmental sustainability, April 3, 2020, Your Business Our World, Link to PPT: <https://tinyurl.com/wlcxktc>



Career Trajectory/Pivot Example

Business/Economic/
Finance/Accounting
Backgrounds



Sustainable Investing – Companies: Morgan Stanley, Calvert Investment, Pax

Data analysis and reporting pertaining to sustainability/energy efficiency, some businesses starting to include carbon footprint data in products, e.g. RE Tech Advisors, IBM, others

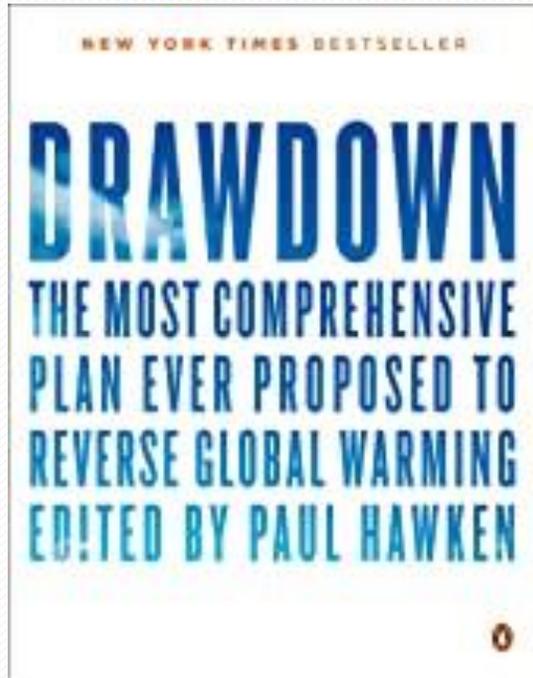
Risk mitigation pertaining to climate change and resiliency, e.g., examples of speakers and companies from a recent open source climate change webinar:

They will be joined by:

- Michael Tiemann, VP of Open Source Affairs at Red Hat/ IBM
- Josh Green, Founder of S&P Global Panjiva
- Ekaterina Gratcheva, Lead Financial Officer, Finance, Competitiveness and Innovation Global Practice at World Bank Group
- Julie Pullen, Director of Product for Jupiter Intelligence
- Ton van Welie and Lisa Eichler, CEO and Co-Head of Climate and ESG Solutions at Ortec Finance
- Ana Pinheiro Privette, Senior Program Manager with Amazon Sustainability
- Hewson Baltzell, President of Helios Exchange and Co-Founder of MSCI ESG Research



Driving Environmental Sustainability – Do Any of These Areas Provide Pivot Points?



- **Based on Project Drawdown Solutions (drawdown.org) for Reducing Greenhouse Gases <sample solutions>**
 - Refrigeration management – phase out HFCs used in refrigerators and ac units
 - Wind turbines (on shore)
 - Reduced Food Waste
 - Tropical Forests – Restoring these forests also restores their function as carbon sinks
 - Educating Girls – Fits within UN Sustainability Goals
 - Silvopasture – Silvopasture is an ancient practice that integrates trees and pasture into a single system for raising livestock. ... This can sequester five to ten times as much carbon as those of the same size that are treeless, storing it in both biomass and soil.
 - Rooftop Solar

Source: Candice Guillaudeu, COVID-19 and Pivoting while continuing to drive environmental sustainability, April 3, 2020, Your Business Our World, Link to PPT: <https://tinyurl.com/wlcxktc>

Other Possible Pivot Points –

Your Business Our World Green Business Categories

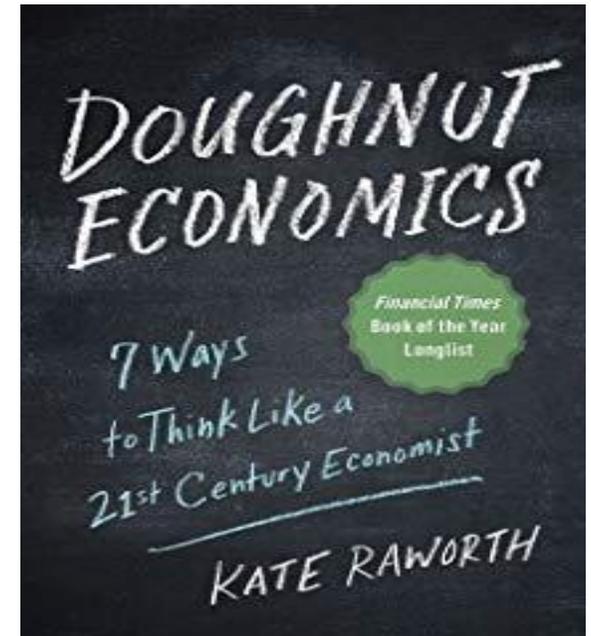
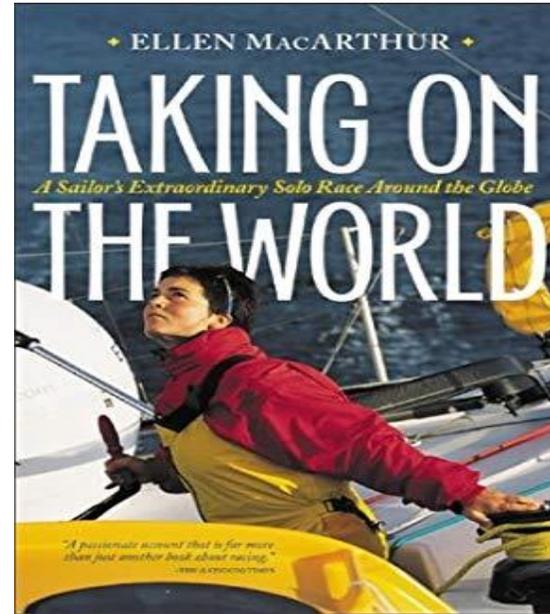
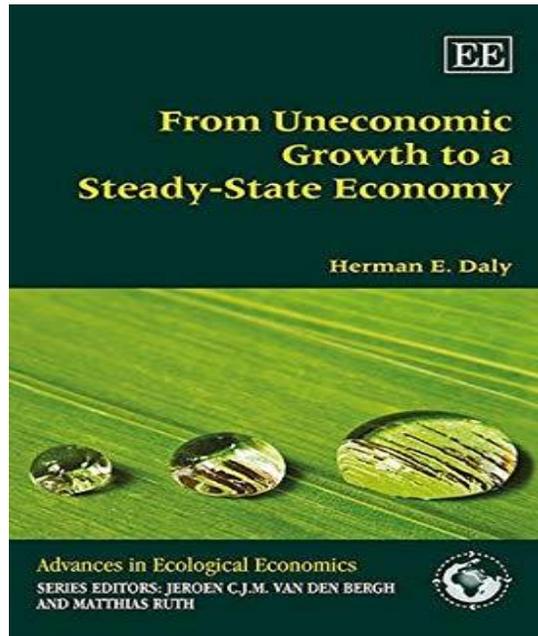
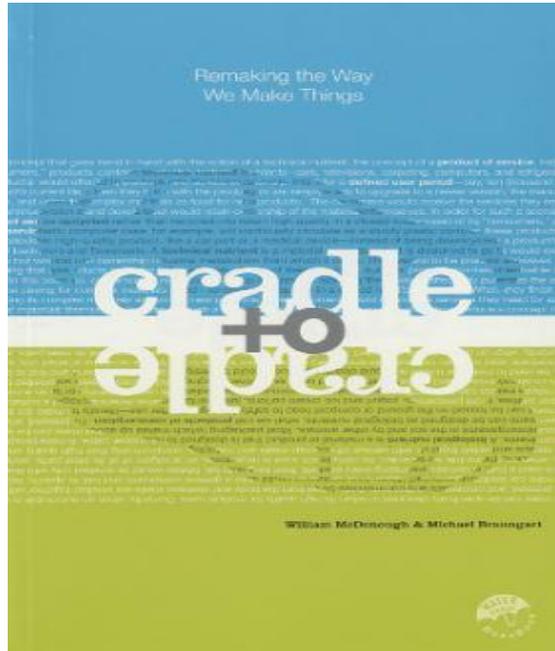
- Agriculture and Food
- Architecture and Engineering
- Arts, Culture and Entertainment
- Automobiles and Transportation
- Business, Community and Civic Associations
- Community Cornerstones
- CC Makers and Artists
- CC Clothing
- CC Food
- Farmers Markets
- CC Govt Programs
- CC Reuse
- CC Shelter
- CC Transportation
- CC Waste Management
- Education
- Energy and Utilities
- Events and Catering
- Finance or Insurance
- Green Designations
- Consulting
- Energy Mgmt and or Water Consv
- Health and Wellness
- Home and Garden
- Information Technology - Consulting, Web Development, etc.
- Manufacturing
- Computers and Electronics
- Non Profit Organizations
- Pets and Veterinary
- PR, Advertising, Branding, Marketing
- Printing
- Real Estate
- Construction
- Restaurants
- Senior Care
- Services
- Lodging
- Sports and Recreation
- Vineyards
- Tourism and Travel

Source: Candice Guillaudeu, COVID-19 and Pivoting while continuing to drive environmental sustainability, April 3, 2020, Your Business Our World, Link to PPT: <https://tinyurl.com/wlcxktc>

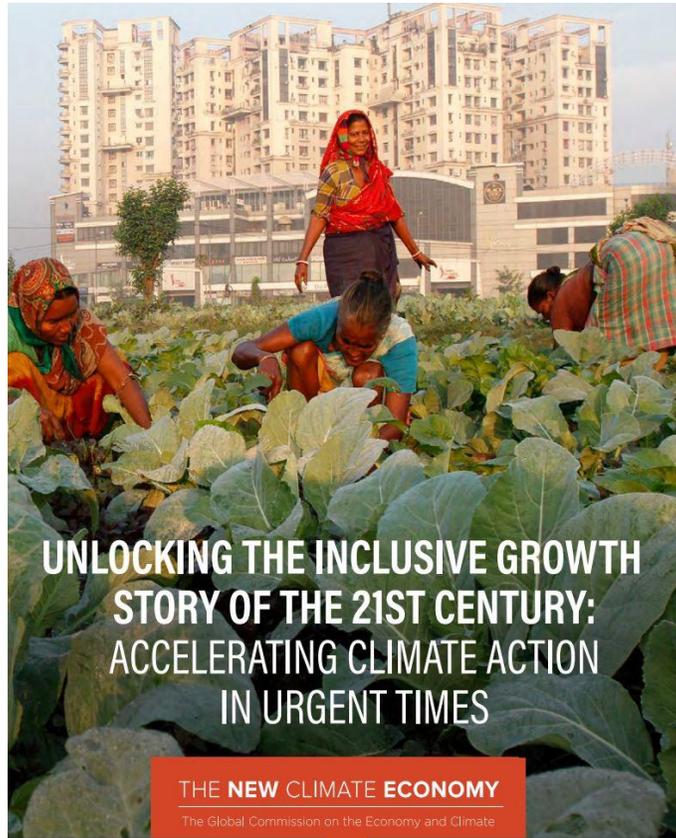


Leaders in Energy

Resetting/New Thinking and Mindset Our 21st Century Economy and Systems



Potential for Creating A \$26 Trillion New Clean Tech/Climate Global Economy



- The Report highlights opportunities in five key economic systems – **energy, cities, food and land use, water, and industry (circular economy)**. It demonstrates that ambitious action across these systems could deliver net economic gains compared with business-as-usual by:
- Generating over 65 million new low-carbon jobs in 2030, equivalent to today's entire workforces of the UK and Egypt combined.
- **Yielding a potential direct economic gain of US\$26 trillion through to 2030.**

Transformative Definition of Green Jobs



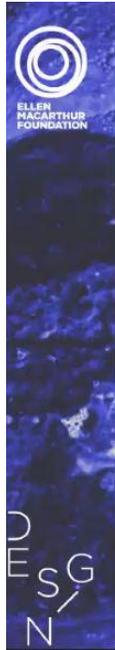
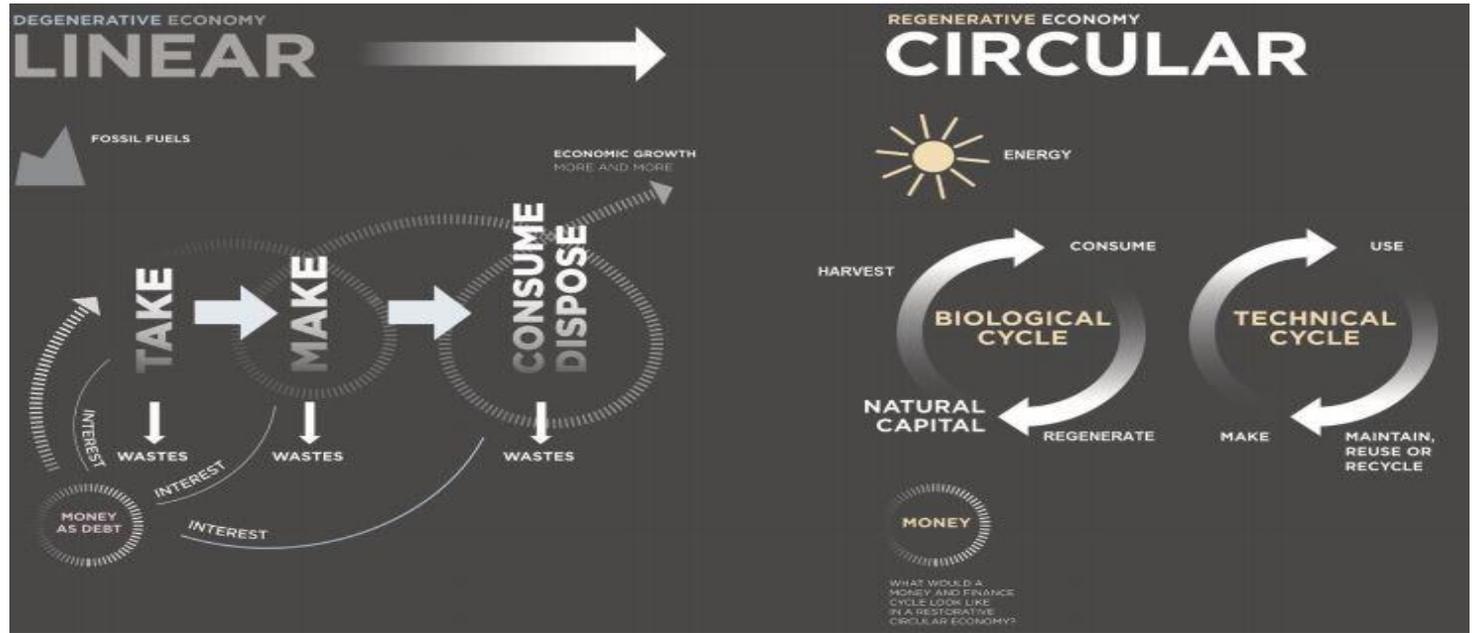
- We all can and must envision and create an economy where all careers are green.
- Green careers/jobs are not just “green icing on a cake” but need to comprise the entire cake!
- Work that benefits society and the overall planet needs to be incorporated into every imaginable career.



Trend-Spotting for Current & Future Opportunities

'Skate to where the **puck** is going, not to where it has been' A **quote** from the greatest **hockey player** of all time – Hockey Hall of Fame's Wayne Gretzky

- Move from Linear (take, make, waste) to Circular Economy (regenerative and operates akin to natural systems with no waste)
- Carbon management/Climate Change – New products to sequester carbon (Blue Planet), risk mitigation, resilience, regenerative ag, Association of Climate Change Officers, e.g. Certified Climate Change Professional
- Reducing food waste – Imperfect Foods, Last Call
- Smart ag – regenerative/climate controlled (indoor) - Jeffrey Landau, director of business development at [Agritecture Consulting](#) estimates the global value of the vertical farming market will rise to about \$6.4bn by 2023, from \$403m in 2013, with almost half that attributed to growth in the US.
- Sustainable investing and green finance (Morgan Stanley, Qualified Ventures)
- Green infrastructure – Smarter use of water resources
- New data platforms and analysis (virtual sea fences to protect wildlife, heard about on coastal resilience webinar)
- Need for greater local and regional supply chains for food security and resiliency.
- Post Covid-19 Policy Formulation:
 - What economic impacts should we anticipate from the COVID-19 crisis?
 - What implications do these impacts have for other policy priorities such as poverty reduction and equality?
 - What actions should governments consider to achieve balanced inclusive green growth through their COVID-19 responses?



Designing for the circular economy

Circular economy vision & principles



Design out waste and pollution



Keep products and materials in use



Regenerate natural systems



Design strategies

Safe & circular material choices

Dematerialisation

Product life extension

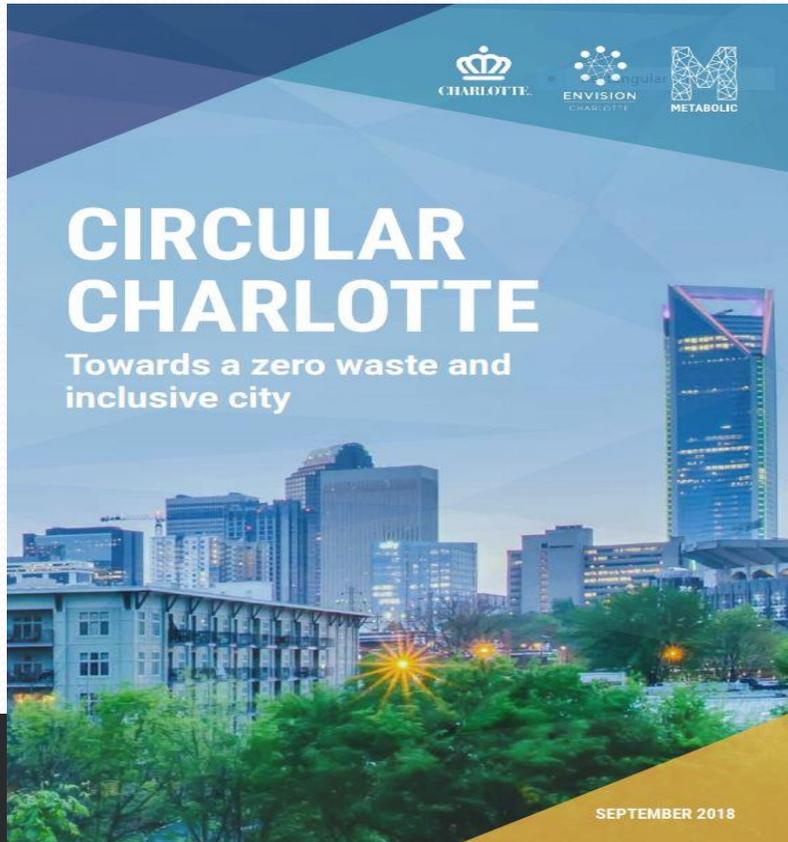
From products to services

Modularity

Designing for inner loops



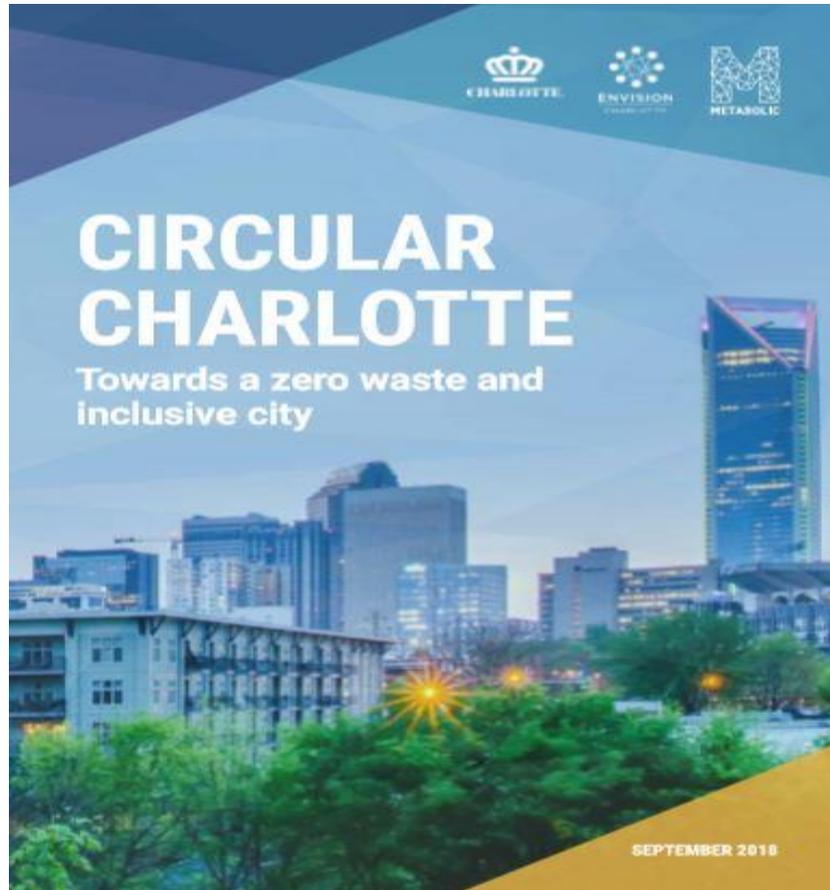
Examples of Circular Cities



Reimagine Phoenix
Transforming Trash Into Resources



Job Creation in Charlotte, NC



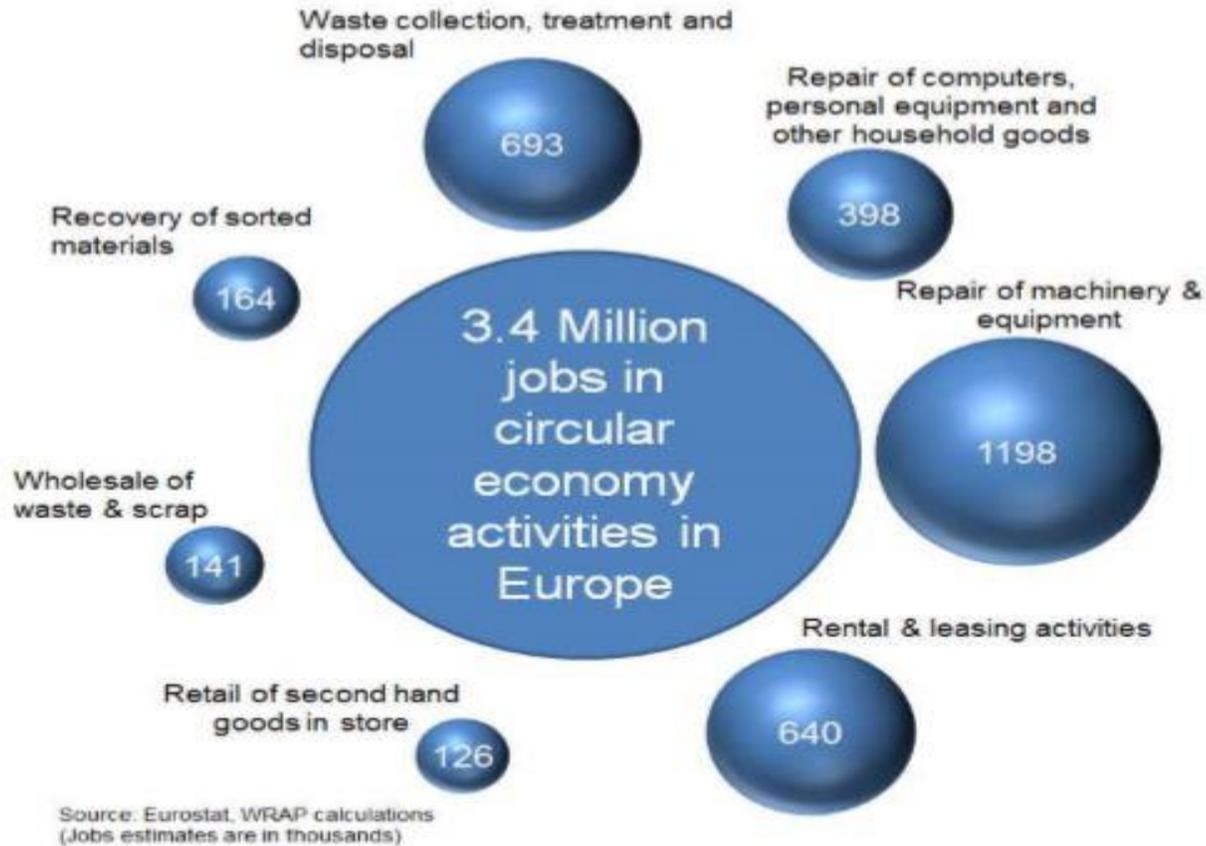
JOB CREATION POTENTIAL per 10,000 tonnes of used goods



Source: US EPA (2002) and the Institute for Local Self-Reliance



The Circular Economy and Job Creation



WRAP (The UK Waste & Resources Action Plan) has published a study showing that expansion of the Circular Economy could create up to 3 million extra jobs in the European Union by 2030; three times more than the 'business as usual' scenario.

Source: <http://www.wastecosmart.eu/en/news/wrap-study-circular-economy-could-create-3-million-jobs-in-eu>

Examples of the Circular Economy in Action in the DMV Region



Arlington Zero Waste Initiative





Part 4: Six Green Career Navigational Tips



Tip 1 - Follow the Money to Find Potential Jobs



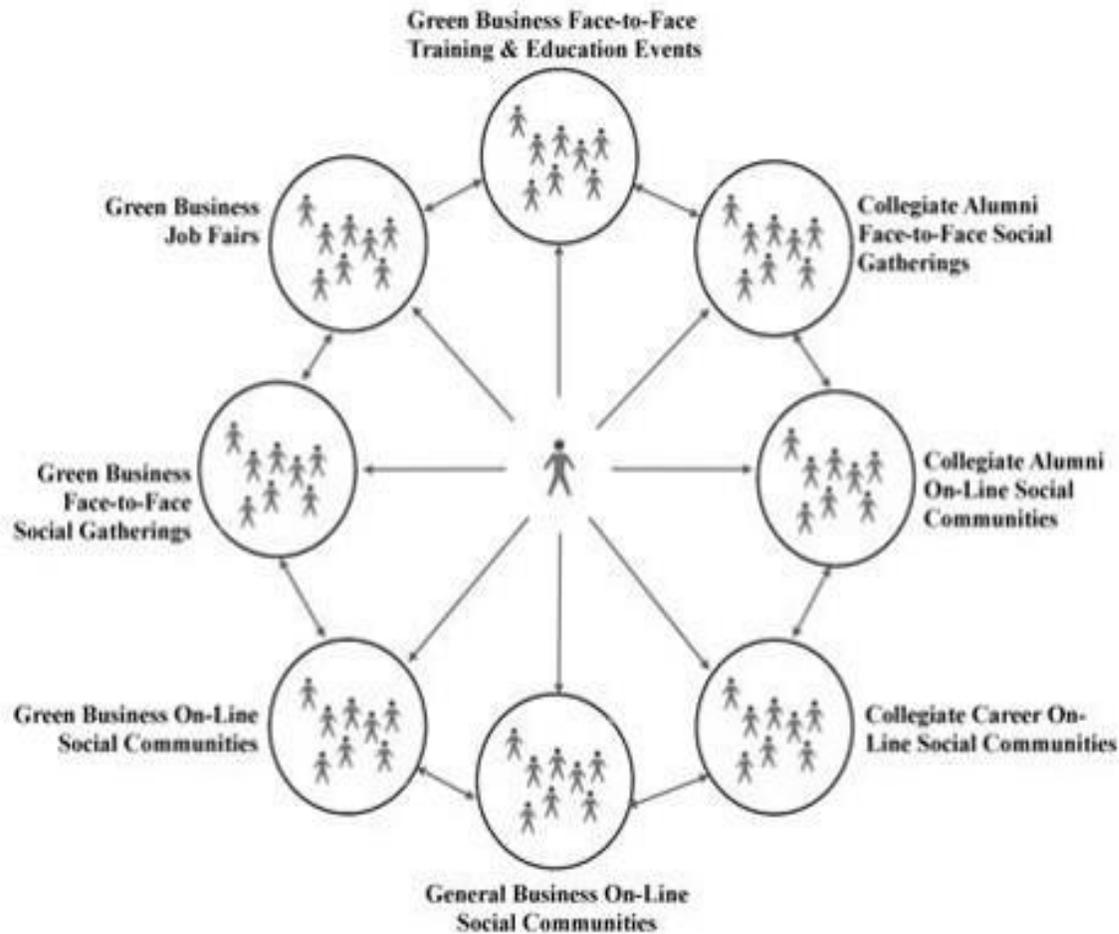
Lori Collins,
Owner and Principal,
Collins Climate Consulting

Follow the money - The wall may have nothing to do with you or your qualifications. It is likely that the organizations you are interested in just don't have the funding or revenue to hire someone right now. Look for organizations that have money - this could be local/state governments, organizations that recently received grants (i.e. The Nature Conservancy just received \$100 million from Amazon), or smaller companies that recently got VC funding or went public. Research online for ideas. There are all kinds of new organizations cropping up around climate change. Here are a bunch of new initiatives you may not be aware of:

1. Release of the [GCA report on adaptation](#) (Global Commission on Adaptation)
2. Release of Climate Bonds Initiative's [Climate Resilience Principles](#)
3. European Bank for Reconstruction and Development's successful issuance of [\\$700 million of first dedicated climate resilience bonds](#); proceeds to fund EBRD's portfolio of climate resilient investments (defined as per CBI's newly released Climate Resilience Principles)
4. Moody's Investor Service's [acquisition of Four Twenty Seven](#)
5. Release of the World Bank's Group [Action Plan on Adaptation and Resilience](#)
6. Launch of the [Coalition for Climate Resilient Investment](#)
7. Launch of Lightsmith's *Adaptation SME Accelerator Project* designed to help build the ecosystem of SMEs involved in adaptation and climate resilience in developing countries through a program of market mapping, convening and network building, and incubation/acceleration.
8. Release of Blackrock's [report on physical climate risk](#)
9. Release of Goldman Sachs' [report on urban climate resilience](#)

Source: Collins Climate Consulting, in addition to conversation with Lori Collins on 4/20/20. From her blog article available at: <https://collinsclimate.com/blog/f/looking-for-a-job>

Tip 2: Build Your Green Professional Network (Finding Opening in Company)



Tip 3: Gain Green Experience at Your Existing Job (and/or Through Volunteering*)

During performance review at your non-green job:

- Met/exceeded your boss's and personal goals
- Established your credibility, reliability
- Propose green projects that you can supervise
- With each success, add more projects
- Exit with real green job experience



*Volunteering is another great way to gain green experience!



Tip 4: Enrich Your Skills & Competencies

Includes on-line learning, continuing education programs, training, certifications, and other professional development training. Examples include:

- Circular Economy Series through Ellen MacArthur Foundation
- Association of Climate Change Officers' Certified Climate Change Professional
- Association of Energy Engineers has 16+ certifications including the Certified Energy Manager
- Toastmasters Communication and Leadership Programs



Tip 5: Create Your Own Green Job Guidance Committee

Possible advisors:

- Clean energy/cleantech leaders
- Sustainability managers
- Corporate Social Responsibility experts
- Academics in business and environmental science programs

Utilize LinkedIn and other networking opportunities to find people to build your committee.



Tip 6: Create Your Own Green Job – Become an Eco-Entrepreneur



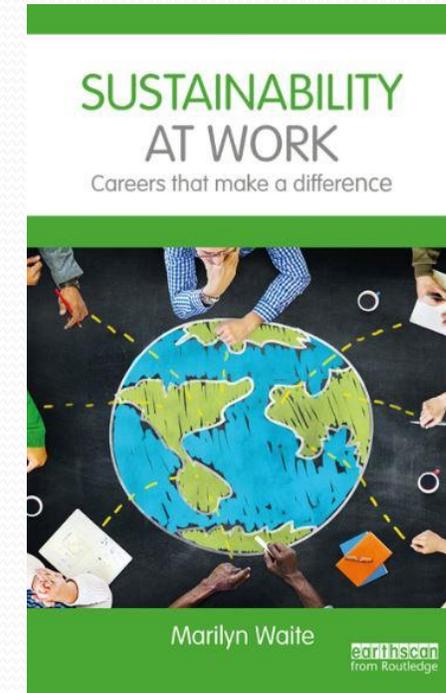
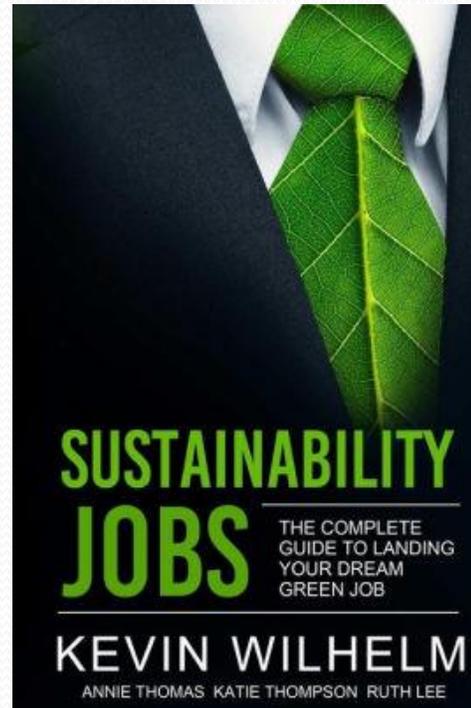
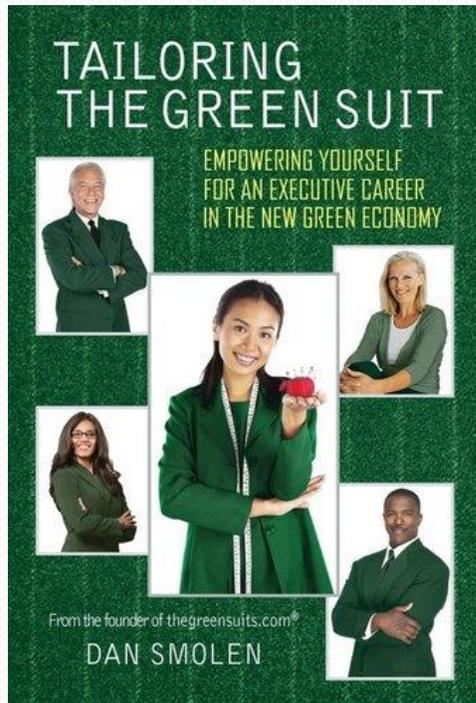
Erin McGoey
Last Call for Food

Example – Bethesda Green’s Innovation Lab

Areas of focus include:

- **Environment:** Clean energy / Water / Climate / Natural Resources / Zero-Waste / Circular Economy
- **Sustainable Food Cycle:** Agriculture / Food Production / Manufacturing / Distribution / Retail
- Recruiting for their Fall Accelerator Cohort. Applications will open soon, but interested entrepreneurs are invited to reach out. The Fall 2020 Cohort will be entirely virtual, and we'll accept submissions from around the United States.
- With regards to guidance related to green entrepreneurship: It should be the same for entrepreneurship for all industries - clearly identify the problem you're solving, develop a solution, and figure out who will pay you for it. As you build your supply chain, develop your product, select packaging, and plan delivery methods, consider ways you reduce or eliminate waste, reduce emissions, and identify sustainable and socially responsible methods of production and supplies.

Additional Green Career Resources



Join Our Community of Leaders to Connect with Others in Green Careers and Pursuits!



- Connect with our on-line community at leadersinenergy.org.
- Write a blog article for us.
- Join our discussion group on LinkedIn, Leaders in Energy Research, Communications, Policy & Analysis – (LERCPA).
- Follow us on our Facebook and Twitter pages.
- Attend our events, working groups, and workshops; and volunteer for an event or serve on our Board and team.

Thank You & My Contact Information



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