THE SHOCK. THE STAKES. THE SOLUTIONS.

POWER TRIP LIVE!

An EPIcenter Summit

FREE Registration at **bit.ly/EPIcenterSummit**

September 9, 2020
12:30 pm - 6:00 pm

This virtual, half-day summit will explore energy's interdependence with water, food, transportation, wealth, cities and security - topics featured in Dr. Michael E. Webber's book ***Power Trip: The Story of Energy.***

EPIcenter
Energy | Partnerships | Innovation

History demonstrates that times of global crisis and pandemic are also some of the most prolific times of innovation.

EPIcenter has found growth in unexpected ways this year. The EPIcenter Energy Incubator and Accelerator is attracting international interest from young and growing startup companies that are winning awards and pitch competitions. Our Advisory Services program is helping energy providers bridge the gap between "wouldn't that be great if we had that" to implementing those cutting-edge technologies. This year our Think Tank published its first white paper, will soon host an online event with an internationally recognized oil and gas leader who is investing significantly in renewables, and is preparing to deliver a fourth annual Summit. There is much more to share but I invite you to join our mailing list at epicenterus.org to keep up with our news!

The year's Summit was inspired by Dr. Michael E. Webber and his most recent book ***Power Trip: The Story of Energy***. In the book, he describes the history of energy's relationship with water, food, transportation, wealth, cities and security.

EPIcenter's 2020 Summit will look at the innovative and forward-looking technologies, business models and solutions the future holds for these crucial relationships.

This premise, while most people may not recognize it, that energy has always been critical to the way we live, work and manage resources, is vital to our future quality of life. We must harness it in new ways to, in the words of one of our speakers, "make things better, safer, cleaner and more efficient with time."

It is precisely these kinds of "aha" moments that EPIcenter works to achieve. Attend our Summit to learn how this "harnessing" is already underway and how it will shape the future. ***See you there!***

Kimerly Britton
CEO, EPIcenter

AGENDA

Join EPIcenter and a phenomenal group of leaders from across the U.S. for Power Trip LIVE! This virtual, half-day summit will explore energy's interdependence with water, food, transportation, wealth, cities and security. These topics are featured in Dr. Michael E. Webber's book ***Power Trip: The Story of Energy*** and the accompanying documentary film series of the same name. The program will look at the innovative and forward-thinking technologies, business models and solutions the future holds for these crucial relationships and will feature speakers and energy leaders from across the country with diverse perspectives from their field of expertise. Learn how the ways we live, work, innovate, maintain security and create wealth will change from the keynote, panel discussions and rapid-fire "Tech Talks." Enjoy a unique, virtual networking platform and connect with other business and community leaders, energy industry representatives and rising startup companies.

To register, see more information or inquire about sponsorships please go to **bit.ly/EPIcenterSummit**.

KEYNOTE: Dr. Michael E. Webber
Power Trip: The Story of Energy presents a snapshot of energy's historical interdependence with water, food, transportation, wealth, cities and security. Dr. Webber's keynote address will address the future. What technologies, solutions and business models are emerging? How will our personal lives and work patterns be changing? How do we protect our country's historical gift of ingenuity and simultaneously protect n national security? What is the impact of COVID on these relationships and the pace of innovation?

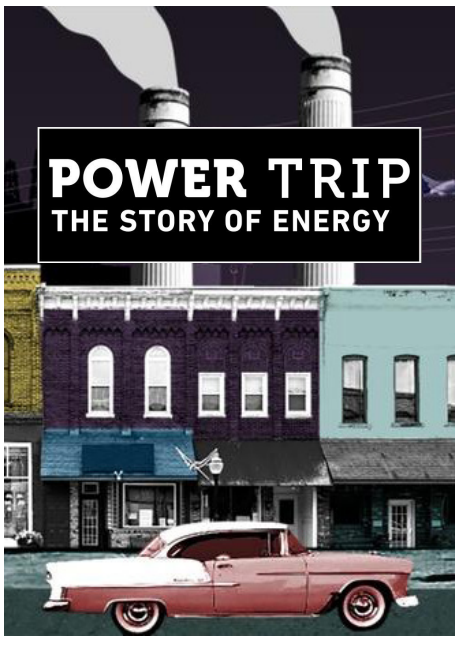
PANEL: Wealth, Ingenuity and Security
National security creates a climate for energy innovation. Innovation helps ensure energy independence and creates wealth. How do we create the products and services of the future while securing our ingenuity and our nation?

PANEL: Food of the Future
The global population growth and massive food insecurity go hand-in-hand. How can electrification, regenerative agriculture concepts and farming techniques, and self-contained systems satisfy the hunger of the future?

PANEL: Community of the Future
Future lifestyles will be lived in smarter cities, with mobility that increasingly "plugs in" rather than "starts up." New technologies will encourage us to better manage our resources. What does all that really mean for quality of life?

Tech Talks
- ***RUNWITHIT Synthetics*** applies Artificial Intelligence (AI) to live, city-scale models of people, technology, environment and infrastructure to inform the design, risk and optimization of interconnected systems facing disruption.
- Food, medicine and goods must be moved around to meet society's needs. ***PolarPanel*** retrofits existing transport refrigeration units to meet emissions regulations and reduce expenses.
- An emerging ***Fleet Energy Resource Management*** tool will optimize grid resources to ensure electrified fleets are charged at the appropriate time and at optimized cost.

PUBLIC PREMIERE FILM SCREENING



Power Trip LIVE! is pleased to host the public premiere of a 30-minute compilation film curated from the six, one-hour documentaries based on the book *Power Trip: The Story of Energy*.

All six films are now available on Amazon. PBS is running the films across the country but dates and times vary widely. (Check with local stations.)

A REFLECTION ON THE MEANING OF RESILIENT CITIES

Technology's role in engaging and informing communities in light of the global pandemic

by Angela Lockwood, Itron

During the past several months, tucked away at home due to my state's stay-at-home order, I have been thinking a lot about how not only my everyday life has been impacted by COVID-19, but how my community has been impacted as well. With businesses, families and neighborhoods struggling, the way we interact and transact completely changed in a matter of months. The effects of the pandemic are on par with major natural disasters and severe economic depression. As someone in the technology space focused on helping cities and utilities better manage energy, water and city services, when I think about a resilient city, I think about grid reliability, clean water, well-lit and safe neighborhoods—the infrastructure. But resiliency is inclusive of people, particularly the underserved who too often are unable to weather the storm. In fact, it is all about the people. You cannot have a resilient city without a resilient populace.

All over the world, progressive cities like San Antonio are experimenting with new ways to serve their citizens, to enhance quality of life, improve sustainability and catalyze economic opportunity. Across these three dimensions, cities are investing in technology platforms on which to build the programs that will drive the value for their communities and create a safer and more equitable environment. Given the extreme budget constraints and shortfalls cities of all sizes face, it is prudent to pick a platform that is open, standards-based, secure and can support multiple applications.

As an example, below are a few of the use cases cities are deploying to enhance their citizens' experiences:

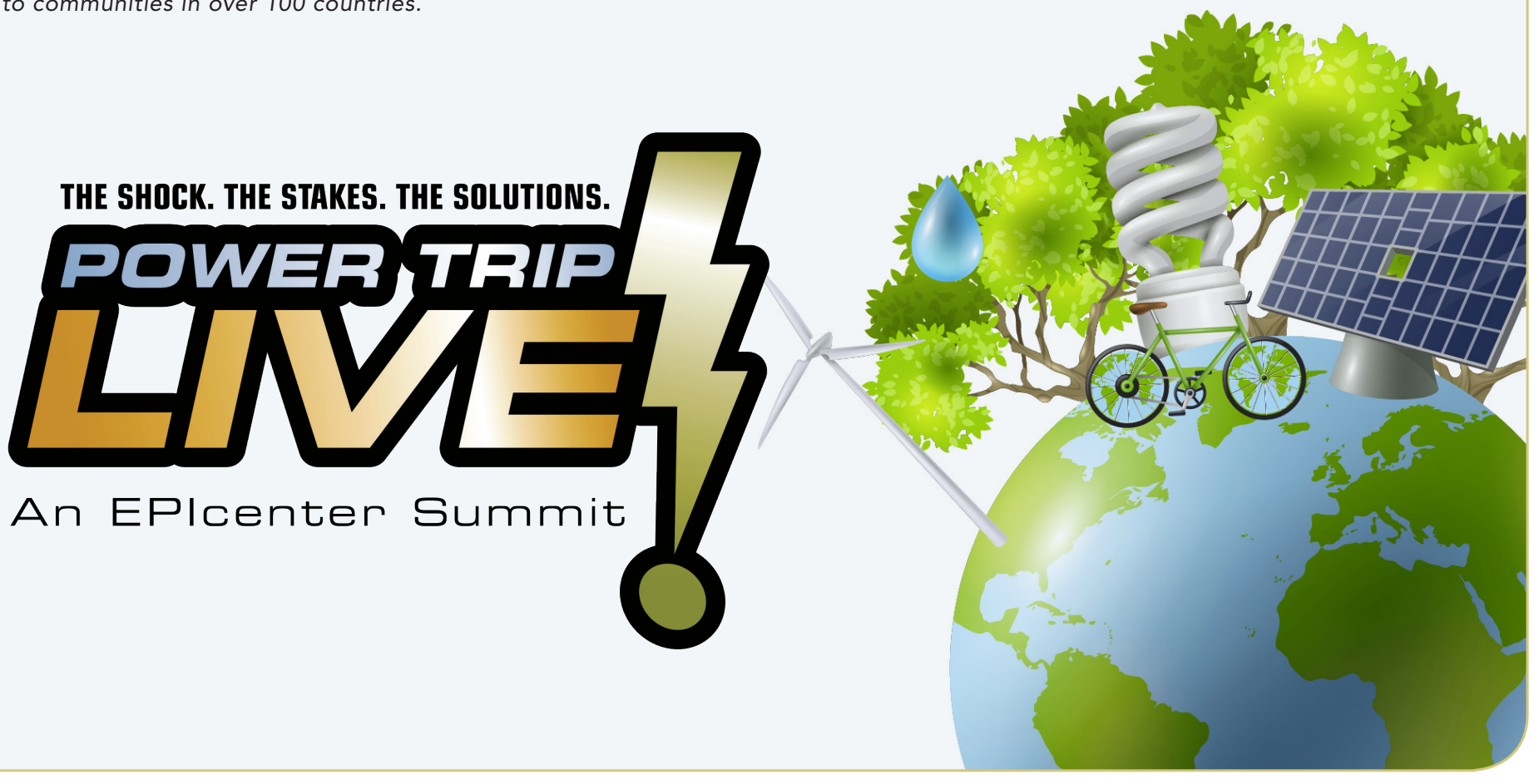
- **Pedestrian, Bicycle Lighting and Counting** - Improving visibility for pedestrians and cyclists and understanding foot and bike traffic as more citizens opt for human powered transportation. See **bit.ly/2EyxUKk**
- **Improving Power Quality** - Automating and optimizing grid operations to reduce the frequency and duration of power outages. See **bit.ly/34ynmpd**
- **Air Quality Monitoring** - Informing citizens of poor air quality due to fires or hazardous events. See **bit.ly/31pCljo**
- **Smart Street Lighting** - Reducing energy waste significantly, improving safety, lowering neighborhood crime. See **bit.ly/2ECxLFO**
- **Water Conservation + Wastewater Management** - Detecting leaks before they become a major issue. Remotely monitoring wastewater flow patterns to optimize system performance, mitigate pollution, and improve public health. See **bit.ly/2YzhRmr**

These use cases represent a sliver of what is possible with an investment in a single digital infrastructure for all of these use cases and services. When the same network and data platform are leveraged, there is a greater return on investment. By working together across sectors and keeping citizens' benefit in mind, we can create resilient and resourceful communities around the globe.

...

Angela Lockwood has more than 15 years of experience in the energy, water and smart city space and more than 20 years in marketing. She currently is the director of marketing for Networked Solutions at Itron.

Itron is an EPIcenter Founder. It enables utilities and cities to safely, securely and reliably deliver critical infrastructure solutions to communities in over 100 countries.

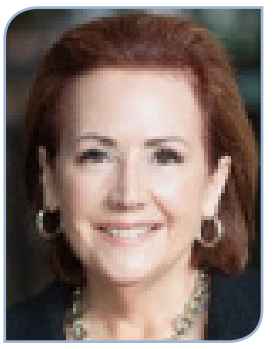


SPEAKERS

Myrna Bittner
CEO/Founder,
RUNWITHIT Synthetics

Dan Bowermaster
Sr. Program Manager,
Electric Transportation,
Electric Power Research Institute

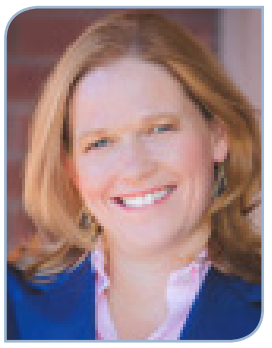
Mark Braby
Founder,
Fleet Energy Resource Management



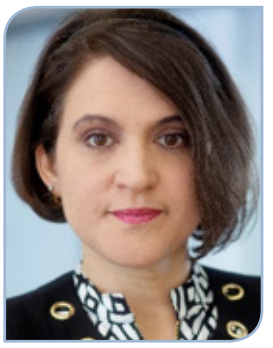
Kimberly Britton
CEO,
EPIcenter

Brad Cathcart
President and CEO,
PolarPanel

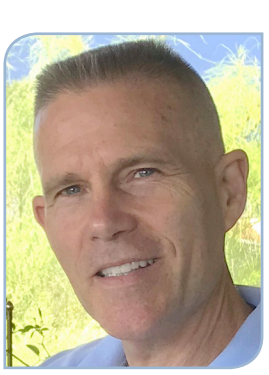
Tim Carty
Founder,
EMP Shield LLP



Lauren Dean
Founder and CEO,
Corner Bishop



Amy R. Henry, CPA, JD
CEO/Co-Founder,
Eunike Ventures



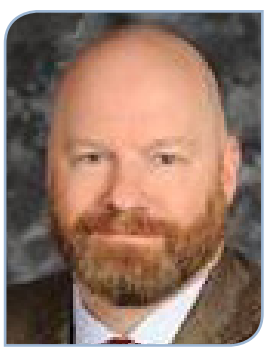
Steve Kwast
Chief Global Officer
& President,
Genesis Systems

Angela Lockwood
Smart Cities,
Itron

Lew Moorman
Co-founder,
Scaleworks and
Soilworks Natural Capital

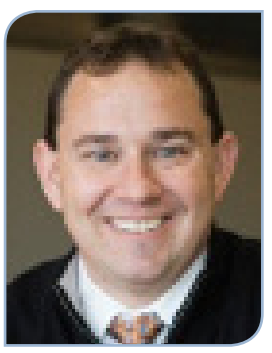
William "Bill" Pugh
Managing Partner,
Smart Connections
Consulting

Frank Sharp
Principal Technical
Leader, Agriculture,
Electric Power Research
Institute



Robert "Bob" Tarwater
National and Homeland
Security Directorate,
Idaho National Laboratory
at UTSA

Clint Vince
Chair, U.S. Energy
Practice and Co-Chair
of Global Energy Sector,
Dentons



Michael E. Webber, PhD
Author, UT Austin Professor;
Chief Science and
Technology Officer,
ENGIE

THE SHOCK. THE STAKES. THE SOLUTIONS.
POWER TRIP LIVE!
An EPIcenter Summit

FREE Registration at **bit.ly/EPIcenterSummit**

COVID-19: 5 WAYS TO CREATE A GREEN RECOVERY

By Raimund Bleischwitz
Professor and Chair in Sustainable Global Resources, Bartlett School of Environment, Energy and Resources, University College London (UCL)
Reprinted with permission

- Business leaders are calling for a sustainable economic recovery from COVID-19.
- From more environmentally friendly buildings to resilient infrastructure, UCL's Chair in Sustainable Global Resources, Raimund Bleischwitz, outlines five proposals to build back greener:

With a recession looming, it's time to come up with a good recovery plan. There is no point in simply reinventing an outdated economic model, and recent research by economists and health experts has underlined how instead a "green recovery" could benefit not just the climate but also human health and prosperity.

Indeed, many business leaders are already calling for action to reverse nature loss, a strengthened net-zero carbon goal, and a more circular economy. If this sort of mission is to be successful, it will need some quick wins in order to build support and participation among citizens and like-minded investors. So here are five proposals that could kickstart a green recovery from COVID-19:

1. BETTER BUILDINGS

People were in lockdown for weeks and months and are fed up being confined to their homes. A green recovery should start here. That means mass refurbishments to improve insulation, replace windows, reduce air leakage, improve heating (and cooling) systems, and switch fuels from coal, gas and oil towards renewable energies such as wind and solar.

We could make better use of roof space for new housing, solar energy, water storage, gardening and more. There are some issues with these green roofs: risks of air pollutants, increased moisture and emerging biohazards. But doing this well and in time will create many jobs.

2. BETTER ACCESS TO HEALTHY FOOD

Food insecurity has been rising, and obesity has been an aggravating factor in COVID-19 mortalities. Healthy diets are proven precautionary measures, supporting immune systems along with improving fitness and robustness.

To encourage people to consume more fruits, vegetables and cereals, the government could consider lowering the VAT rate for organic food and healthy suppliers. To make such food more appealing, it could also set up a form of "traffic-light" labelling that displayed the endorsement of NGOs and confirmed good production conditions. Setting up schemes and organisations focused on innovations in supply and combating waste would create jobs and make food supply chains more resistant to any recurrent crises.

3. SMART MOBILITY

There is a risk that transport will simply return to the previous norm of traffic jams and air pollution. If an economic recovery is to be green, it will be essential to maintain flexible working schemes with less commuting, even after most workplaces reopen.
Research by academics at the UK Centre for Research into Energy Demand Solutions suggests that the best bet for reducing carbon footprints is reducing car use and moving towards "smart mobility". This means carpooling, car sharing and bike sharing programs, and well-developed public transportation.

Now is the time to reclaim our cities from motor cars. Any green recovery should include a vast acceleration of biking infrastructures with interconnected cycle highways, safe locking stations, smart renting schemes, recharging infrastructures for e-bikes and e-scooters, and extended walkways. Smart mobility apps can help people link up different modes of transportation. Cities like Copenhagen and Amsterdam have demonstrated all this is perfectly possible.

4. GREEN OUR NEIGHBOURHOODS AND CITIES

Maintaining and improving urban green space should now become a top priority. Initiatives like Nesta's Rethinking Parks or the Heritage Fund's Future Parks Accelerator are designed to find ways of managing and funding parks and open spaces across entire towns and cities.

People and businesses could renovate derelict areas and recreate public life, with support from local authorities and a governmental green recovery programme. Doing all this will help adjust development planning by shifting priorities towards longer-term sustainability.

5. MORE RESILIENT INFRASTRUCTURES

Despite $2.5 trillion a year already being spent on infrastructure projects worldwide, more investment is needed to ensure access to housing, mobility, services and greenspace for all in the new abnormal.

Take water, for instance. A green recovery could be boosted by building a new generation of decentralised water tanks, shared between neighbouring apartment owners. This would be better for the environment as rainwater is preserved and could be used for gardening and cleaning outside the home. Meanwhile so-called "sponge city" initiatives can reduce the risk of urban floods by increasing green spaces, restoring wetlands and using permeable new construction materials to absorb rainwater and delay runoff.

The actions listed would complement efforts to transform the energy system away from fossil fuels and towards a system based on renewable generation, with decentralised "micro grids" and the ability to cope with a surge in demand from electric vehicles.

EPIcenter

Energy | Partnerships | Innovation

The EPIcenter Energy Incubator and Accelerator (EEIA) provides **curriculum, coaching, mentorship, connections (access to funding and fabrication laboratories) and services to startups in all phases of development to incite the energy evolution**.

While based in San Antonio and part of the local entrepreneurial ecosystem, the EEIA also supports non-local startups from all over the world virtually. The EEIA maintains 12-15 clients at any given time under a rolling application process.

Visit bit.ly/EEIA-home for information and to apply.

Follow EPIcenter on social media for the latest news.

THE SHOCK. THE STAKES. THE SOLUTIONS.
POWER TRIP LIVE!
An EPIcenter Summit

A SPECIAL THANK YOU TO THESE COMPANIES FOR THEIR SUPPORT OF EPICENTER'S 2020 SUMMIT.

cpsenergy.com

THE POWER OF ENVIRONMENTAL RESPONSIBILITY

We have been on a mission to protect the environment for decades. We are serious about our commitment to preserving natural resources, now and for future generations. That's why we are carefully and meaningfully investing in renewable energy sources and embracing reliable new technology. Simply put, we think globally and act locally to create a responsible and sustainable future. That is what our ***Flexible Path***℠ is all about – balancing the tried & true with new technologies, while providing our customers with reliable, safe, and affordable power.

CPS ENERGY®

RELIABILITY | CUSTOMER AFFORDABILITY | SAFETY | SECURITY | ENVIRONMENTAL RESPONSIBILITY | RESILIENCY

FINANCIAL STABILITY