

Unlocking an electric grid that runs on 100% sustainable renewable energy

PITCH VIDEO INVESTOR PANEL



quioveo.com Philadelphia PA Software Technology Energy Artificial Intelligence Social Impact

OVERVIEW UPDATES WHAT PEOPLE SAY 26 ASK A QUESTION

Highlights

- 1 ⚡ Black immigrant-led enterprise designing proprietary tech to unleash sustainable energy at scale
- 2 🧑‍🔬 Being developed in partnership with top scientists from The Wharton School at UPenn
- 3 🌐 Designed to democratize access and ownership of energy, centering marginalized communities
- 4 🏠 Billions invested in renewables but they remain underutilized - tech optimizes what already exists
- 5 💰 \$18.7 billion market and growing fast
- 6 🏛️ Guided by Advisory Board of data scientists, engineers, investors, and seasoned community organizers

Our Team



Leo Alicante Founder & CEO

Entrepreneur dedicated to building the new energy paradigm, centering his lived experience with the negative impacts of climate change. Engineer with 15+ years experience working at the intersection of energy and technology in the US.

Leo grew up on an island, in a dis-invested yet resourceful community, hundreds of miles out to sea. With Leo's passion for problem-solving & his engineering training, we are fueled by a personal connection to the lived experience of climate change & a hunger to apply innovation to it, centering communities like his own so that we all benefit.



Chuck Brown Business Strategist

Champion of social entrepreneurs and Founder, Orion Advising. 10+ years in social enterprise and philanthropy - Kiva.org, Cornell University, Silicon Valley Community Foundation, Resource Generation, Social Enterprise Alliance.



Edgar Dobriban Advisory Board Member

Assistant Professor of Statistics at The Wharton School. Focused on theoretical analysis of modern machine learning (including deep learning) and the efficient statistical analysis of big data using advanced tools. BA, Princeton; PhD, Stanford.



Eric Tchetgen Tchetgen Advisory Board Member

Distinguished Professor of Statistics at The Wharton School. Focused on semi-parametric efficiency theory with application to causal inference, missing data problems, statistical genetics and mixed model theory. BS, Yale; PhD, Harvard.



Jamila Medley Advisory Board Member

Executive Director, Philadelphia Area Cooperative Alliance (PACA), a member of Seed Commons. 20+ years experience in nonprofit and cooperative businesses. MS, U. Pennsylvania.



Kenneth C Brown Advisory Board Member

40 years in energy technology, renewables, architecture, engineering, construction, manufacturing, and infrastructure industries both in the US and abroad. Successful PE investor at JPMorgan and BlueKey Equity Partners. MS Oxford.



Anthony D Giancatarino II Advisory Board Member

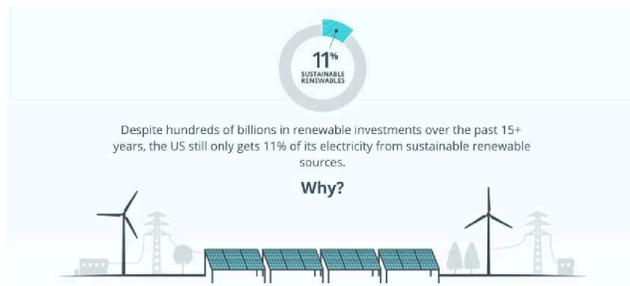
Director, Just Community Energy Transition (JCET) Project focusing on the regenerative economy through energy transition. Community organizer fighting for racial and social justice, and democratized access to and control of energy. MPA, NYU.



Zach Berke Strategic Advisor

Founder and Managing Partner of Exygy, a digital innovation studio and one of the original Certified B Corps.

The New Energy Paradigm



Why hasn't renewable energy been able to break through as our main source of electricity in the United States, in spite of so many factors in its favor?

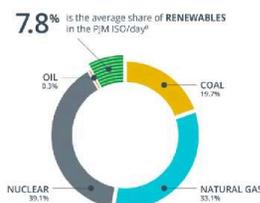
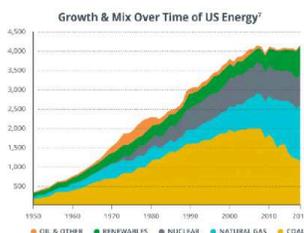
Why haven't persistently high levels of investment - an average of \$36.26B per year over the past 16 years - led to renewables capturing a larger share of the market?

What is it about the electric grid itself that may be preventing the renewable assets we already have and all those to come, from reaching their full potential?

Seeing the problem in a new light

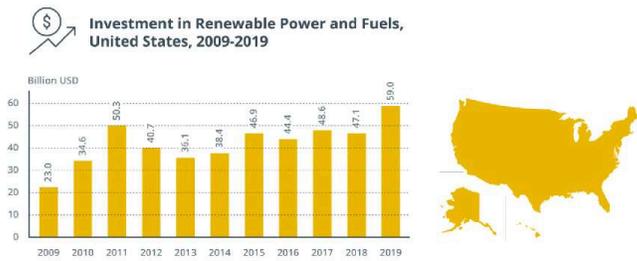
Renewable energy accounts for only 17.5% of US production as of 2019, up less than 1% from the year before. If you specifically look at sustainable renewables (due to the damaging side effects of large dam projects, hydropower is not considered sustainable), it is only 11%.

Growth in sustainable renewable energy has only been incremental over decades.



Source: US Energy Information Administration

Hundreds of billions have been invested in renewables in the US, but we've only seen noticeable change in the past two years. How can we help these investments reach their potential?



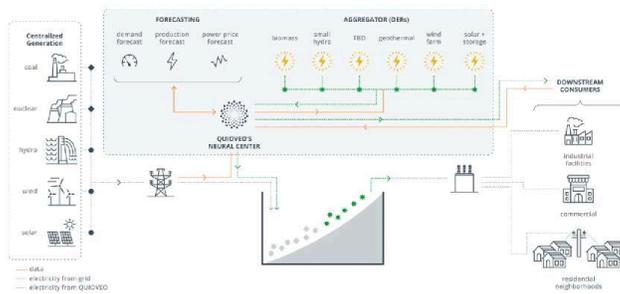
Source: REN21 2020 Global Status Report

This goes beyond building more wind farms and solar panels - we have to figure out a better way to utilize these resources and reimagine our electric grid.

That is why we created Quioveo Energy.

The purpose of Quioveo (*Key-oh-vey-oh*) is to both accelerate the widespread adoption of sustainable, renewable energy and design a more robust electrical grid, with a suite of products and technologies that will allow electricity from exclusively sustainable sources to flow more efficiently and affordably than ever before.

Through breakthroughs in machine learning and AI, and a plan to connect a network of independent distributed energy resource owners (DERs), we can optimize the way electricity flows throughout the country – breathing new life into our nearly 150-year old electrical grid.



A vision of the new energy paradigm - aggregated sustainable, renewable energy with superior forecasting ability, streamlining affordable electricity to all.

Illuminator: The Zillow of Sustainable Energy

The foundation for delivering on all of this is by allowing our customers to see the electrical grid in ways they never have before. It begins with *Illuminator*.

Illuminator will be a cloud-based software platform that, through big data and sophisticated machine learning methods, creates an unprecedented level of grid visibility – from giving individual users new insights into their relationship with energy, to allowing researchers, energy producers, local governments, and more the ability to anticipate demand, develop energy policy, and plan new developments better than ever before.

Examples of our target customers:

Developers and Local Governments will be able to see the renewable energy picture in their regions the way real estate agents and contractors utilize a platform like Zillow.

This is a seller's market
There are more interested buyers than homes for sale.
Neighborhood home value
081 City home values have risen 4.0% over the past 1.2 months.
One-year prediction
Zillow predicts the home values in 081 City will rise 8% in the next year.
Median home comparison
This home is valued 8.8% higher than the median home in 081 City.
Median Zestimate®
\$157,500

Researchers, community groups and media will have live data at the intersection of energy and social, political,



environmental and economic factors that can better inform and anchor campaigns, studies, and movements.

*Image credits: Zillow (top right) and The Climate Center (below)

Access to the platform will be based on a combination of a freemium and a subscription model, where customers with different sizes and needs can access versions of *Illuminator* at different price points. This will be Quioveo's primary revenue stream as we enter the market and continue to refine the product.

Founder Origin Story: Leo Alicante



Photo from Leo's last summer in Annobón, Equatorial Guinea, before leaving to study in the US.

Leo Alicante was born on a small island off the coast of Equatorial Guinea called Annobon. Growing up, he spent a lot of time getting lost exploring the beaches and small creeks that were all around him - but it also happened to in an era when massive oil deposits were discovered. As it has so many times before, that discovery led to a swift and dramatic shift in the national economy and Leo soon found himself studying petroleum engineering in the US in order to join the front lines of the new petro-economy.

While in the US, he learned that years of hydrocarbon exploration had led to the collapse of the oceanside ridge where his grandparents were buried. Leo followed through with his earning his degree, but long before he graduated, he knew he didn't want to pursue this work as a career. That's why he went on to pursue an advanced education in electrical and mechanical engineering and emerging technologies with a specific focus on renewables. It was then that the concept of Quioveo started to take shape - a company with a vision to change the energy paradigm.

Quioveo Core Team Members



Leo Alicante
CEO & Founder



Edgar Dobriban, PhD
Lead Tech Advisor



Chuck Brown, MBA
Business Strategy



Jamila Medley, MSOD
Advisor

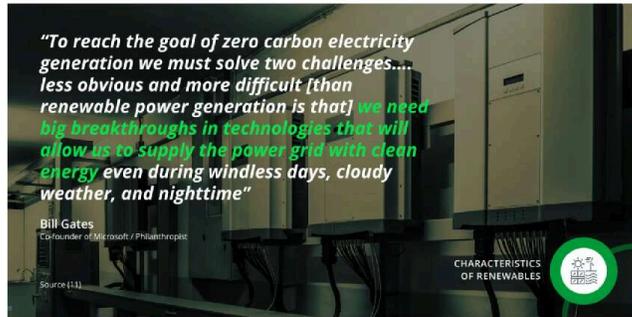
Professor Edgar Dobriban - is an Assistant Professor of Statistics at The Wharton School at the University of Pennsylvania. Edgar received his BA from Princeton University in Mathematics Summa Cum Laude in 2012, and his PhD in Statistics from Stanford University in 2017. His research and teaching focuses on statistics and machine learning, he mentors students and postdocs, and he also developed new course in deep learning.

Chuck Brookhart Brown - is the founder of Orion Advising, a social enterprise consultancy. Chuck has spent his 10+ year career working in philanthropy and social enterprise, including for Kiva.org, Silicon Valley Community Foundation, and Social Enterprise Alliance. Growing up with wealth and class privilege, his mission in life is to reverse wealth inequality and support the transition to a regenerative economy.

Jamila Medley - is the Executive Director of the Philadelphia-Area Cooperative Alliance. For 20 years (while mothering, being a partner, student, gardener, maker of things crocheting, and avid watcher of HGTV shows), she has strengthened organizations by helping their stakeholders gain knowledge and

skills that enable them to participate fully in their roles as staff, board members, and volunteers. Jamila's career has been devoted to supporting mission-based organizations in the nonprofit and cooperative sectors that serve diverse constituencies.

Market Opportunity

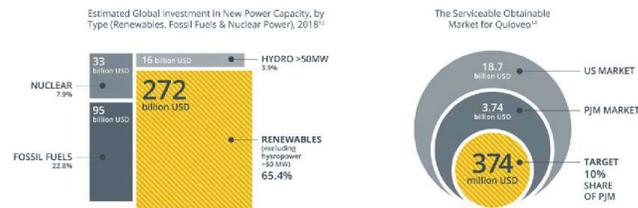


Energy as a Service

Quioveo is an Energy as a Service (EaaS) startup, part of an industry that includes energy generation, operation and maintenance and energy efficiency and optimization. The reported valuation of this large but still nascent industry varies widely, but for our purposes here we are using BusinessWire's estimate of \$46.93 billion globally in 2018.

Quioveo, as a US-based social enterprise, will work first on maximizing access to renewable energy throughout the American electrical grid. The combination of deep technical expertise, consistently high investment in renewables, and the work of the climate justice movement in the nation that bears arguably the most responsibility for global warming makes this an ideal place to start. We estimate the value of the US EaaS market as \$18.77 billion.

Figure 5. The Serviceable Obtainable Market for Quioveo



We strategically chose our headquarters in Philadelphia both because of our partnership with researchers in Philadelphia and because it is serviced by the Pennsylvania-New Jersey-Maryland Interconnection (PJM). PJM is the largest deregulated electrical service region in the country. With a 186,000 megawatt capacity serving 65 million customers, it is both shocking and a tremendous opportunity that only a meager 7.8% of that electricity may be coming from renewable sources on any given day.

Intellectual Property

The code and algorithms that form the basis of *Illuminator* and all future Quioveo products will be protected by US patent law under the sole ownership of Quioveo Energy. Those aspects which were developed in partnership with researchers at the Wharton School will be permitted to be used in their research and published to the degree that they do not compromise company secrets or Quioveo's ability to establish and maintain a competitive advantage. All rights to commercialize intellectual property developed solely by Quioveo or in partnership with others will belong to Quioveo Energy.

Competition

	QUIOVEO	FLUENCE	AutoGrid	leap.	JUPITER
	Illuminator	AMS	AutoGrid Flex	Leap	Jupiter
EaaS USES	Exclusive focus on optimizing sustainable energy	✓			
	Machine learning foundation	✓	✓	✓	✓
	Gives visibility to energy markets	✓	✓		✓
	Designed for distributed	✓		✓	

energy networks and producers	✓		✓		
Climate risk analysis	✓				✓
Unprecedented visibility for disinvested communities, supporting energy democracy	✓				

We have identified a few players in this space who are doing some similar things that we are working on at Quioveo. The clear distinction at this stage is that none of them are solely focused on promoting greater access to renewable energy, which is the foundation we stand on. Neither are they focused on our target market.

AMS

AMS is a SaaS company with an A.I. software platform that uses deep learning algorithms to enable strategic, optimized trading of complex energy assets in energy markets.

AutoGrid

AutoGrid offers a suite of Energy Internet applications to allow utilities, electricity retailers, renewable energy project developers and energy service providers to deliver clean, affordable and reliable energy in a distributed energy world.

Note: AutoGrid also serves natural gas providers to improve energy efficiency, but this is not something Quioveo is interested in supporting – it will only extend the use of natural gas as an energy source and make it more difficult for renewables to expand!

Leap

Leap allows every connected device to help balance the grid and get paid for it. Access wholesale markets through a single API and help build the flexible, renewable grid of the future.

Use of Funds



The funds will be used for:

1. Formalizing our core engineering development team
2. Building our first commercial product, Illuminator (Alpha, Beta & full product)
3. Illuminator- Releasing and go-to-market