

GO-OPV: ORENgE

Confidential Memorandum

June 2022



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Introduction

GO-OPV / ORENgE: Leading Provider of Onsite Organic Energy

ORENgE produces energy from low and natural light using printed organic plastic panel power plants, providing costeffective, zero-carbon onsite electricity and carbon reduction for commercial end uses

to-e

GO-OPV designs, builds and installs endto-end organic printed plastic panel power plants **(ORENgE)** to generate onsite electricity from natural and low light

GO-OPV's cutting edge energy delivery technology (ORENgE) generates power for commercial use in Real Estate, Mobility, Smart City and other industrial applications

ORENgE technology provides direct-conversion ("DC"), on-site power distributed electricity generation for millions of delivery points

ORENgE technology integrates into applications for power-over-Ethernet (POE), IoT, EV and Smart City **supplying net zero carbon power** **ORENgE**[™]

The Organic Energy Company

ORENgE panels are individual DC power plants, in a thin, lightweight, durable and highly configurable solution on any surface, both horizontal or vertical

> ORENgE technology brings power and data from behind the meter in a first-of-its-kind power and carbon reduction application

GO-OPV is partnered with premier supply and distribution counterparties including Kodak, Cisco, and Amazon

ORENgE technology is a plug and play solution: highly cost effective and immediately cash-flow positive and carbon reduction for customers

GO-OPV has developed a completely new energy system that is inexpensive and efficient, and serves productive sectors including real estate, mobility, and smart city applications. Energy is generated from any light source and Cisco provided power-over-Ethernet integration supports an end-to-end, zero carbon, behind the meter solution for millions of potential installation points and infinite end potentially uses



Summary

GO-OPV / ORENgE will establish an assembly line to address current customer demand and achieve industrial scaling objectives

	Company Overview	Initial Manufacture Platform		
Discuptive Value	GO-OPV designs, manufactures and operates sustainable infrastructure power solutions	• GO-OPV will establish its assembly operation with an installed capacity to process 50.0000 m2 of organic film		
Proposition	 ORENgE technology generates electricity as an enhanced integration of data and power delivery; enables heat gain reduction that lowers HVAC uptime by ~30% 	 That represent approximately 40.000 ORENgE Systems for real estate, trucking / logistics, and smart city applications 		
Proven, Highly- Effective	 Proprietary technology generates energy from low and natural light using printed organic ink similar to the OLED technology used in smartphone and monitor displays ORENgE panels are made with recyclable PET plastic with no 	 GO-OPV's initial manufacturing plant should be strategically located once the goal is to set up an end- to-end organic energy industrial structure 		
rechnology	toxic components and can produce net zero carbon energy on nearly any surface	 That includes ink processing, film printing, application development, and system assembly 		
Massive Addressable Market	 Addressable markets include real estate, trucking / logistics, and smart city applications, addressing over 70% of the climate change market Leading the ESG and zero carbon onsite energy solution for 	 GO-OPV is seeking to lease 10,000 – 20,000 sq/ft facility space well-situated for access to domestic and international supply chains for all ORENgE components 		
	large Fortune 500 companies	 Competitive real estate market should allow for vast flex space to accommodate operational scaling 		
Unique Strategic Partnerships	 Partnered with several strategics companies including Cisco for BIPV integration, Kodak for film development, ASHRAE and JCDecaux for product development and commercial installations 	 GO-OPV currently has an initial executive team of 10 professionals that will expand to a full corporate structure with +50 employees within a five-year period 		
Track Record of Success	 Proven technology; completed numerous commercial POC installations Preparing to install and deliver over 100 million ORENgE systems for commercial real estate and trucking applications 	 That includes industrial film manufacture, assembly operations, and corporate structure 		

Cisco: Cisco Systems is the world's largest hardware and software supplier for digital network solutions.

Kodak: Kodak is a United States-based company that specializes in print systems, ink technology, and film manufacture.

JCDecaux: JCDecaux Group is a multinational corporation based France known for its bus-stop advertising systems, billboards, etc. It is the largest outdoor advertising corporation in the world.

ASHRAE: The American Society of Heating, Refrigerating and Air-Conditioning Engineers is an American professional association seeking to advance heating, ventilation, air conditioning and refrigeration systems design and construction. ASHRAE has more than 57,000 members in more than 132 countries worldwide.



Manufacture & Assembly Structure

GO-OPV is targeting an initial yearly installed process capacity of 50.000 m₂ of organic PV film, resulting in more than 40.000 ORENgE systems

- GO-OPV's new facility space will be used to stock and process industrial materials supporting its local and international supply chain partners
 - Investment for processing includes encapsulation machines, lamination equipment, adhesive applicators, sealant injectors, laser cutters, and finishing tables
- GO-OPV will also design, integrate and stock hardware equipment for ORENgE System assembly
 - Investment for design and integration includes solder equipment, 3D printers, circuit board prototyping tools



Company & Technology Overview

Track Record and Current Operations

GO-OPV has effectively developed the ORENgE platform, established operations, and enacted key strategic partnerships with minimal financing to date



EBITDA Positive



GO-OPV Ownership Structure

The GO-OPV team has extensive management and development experience in the renewable energy and energy service agreement domains and is supported by a group of leading senior advisors in real estate, sustainability, and marketing, as well as a robust industrial platform

GO-OPV Founders					
 Paul Frischer – CEO, Head of Product Development Global management and renewable energy senior executive with 25+ years of successful leadership experience in cross-border enterprise companies, financial technology, renewable energy, and ESG investing Led renewable energy initiatives at UBS, NFK, and Ledvac Capital Senior Advisors 4 			 Felipe Travesso – CFO, Head of Operations Co-Founder of Sunew Filmes and partner at FIR Capital responsible for investments in renewable energy and printed organics Over 10 years of experience in investment banking focused on technology deployment, capital funding and project finance Key Stakeholders 		
 David Gwozdz DoubleClick Logistics / Mobility Experienced leader with a demonstrated track record of scaling businesses, building exception teams, and generating revenue / shareholder returns Founding team and original salesman at DoubleClick; CEO in advanced security technology 	Robert Flippin CEREC Real Estate CBRE's real estate brokerage group • 30+ years of experiences in commercial real estate; involved in several of the largest and most noteworthy transactions in the NY-metro area	 Richard Macary Sustainability Chief Strategy company focus wellness, and s built environm In his current r Delos with sen strategy 	Delos.™ Officer at Delos, a sed on health, sustainability in the ent ole, he provides ior level business	 Tim Cronin Outdoor / Retail Technology start-up specialist focused on sale, client service, and team building Member of founding teams at DoubleClick, Mojiva/Mocean Mobile, Wall US, and AAX 	 Paul Adams Energy Transition 20+ years of experience in investment banking, project finance, market strategy, negotiations and investor relations Led international syndicates at IFC to finance long-tenor renewable and alternative energy projects
 James Buntaine Technology / Film Ph.D. and seasoned Chief Technology Officer in advanced chemicals and materials Expertise in technology creation, product and system commercialization, materials and modules design 	Julie Doppelt ORENCE Marketing Design and marketing specialist with 25+ years of experience in graphic design, communication, and marketing materials • Responsible for leading product design, sales, and marketing materials	Jeffrey Feil Real Estate • Founder of the which owns or \$7bn in real es nine states, ind French Building Electric Building	Feil Organization, manages over tate assets across cluding the Fred F. g and the General g	Lloyd Goldman Real Estate • Founder of BLDG Management, which owns over 250 residential and commercial properties nationwide and controls over \$2 billion in real estate.	 Scott Panzer Real Estate Vice Chairman, JLL; one of the leaders in developing enhanced real estate services; has completed over 35 million sq./feet of assignments encompassing all facets of real estate. Selected as JLL's global MVP for 2011 and 2012



ORENgE Technology Overview

GO-OPV has engineered the ORENgE power plant technology for direct-conversion of electricity sourcing that will revolutionize how the world considers power supply through the use of Organic Photovoltaics

Technology Overview		ORENgE Technology Highlights				
•	Organic Photovoltaics (OPV) are new energy source, printed roll-to-roll using organic ink	Efficient & High ORENgE panel technology outperform standard silicon technologies, producing more energy from comparable light input and carbon reduction 				
	 ORENgE panels use organic ink and transparent conducting materials comparable to well-established display technologies and applications, including touch screens, and OLED displays 	 Performing ✓ Produces energy from the broadest light spectrum, delivering power from both indoor and outdoor light sources from any angle ✓ For trucking applications, ORENgE systems have proven to ensure superior performance and road resilience ✓ Silicon-based solar technologies often suffer from broken glass, poor performance under constant motion, and structural weight 				
	 ORENgE technology is flexible, recyclable, lightweight, transparent, and easily configurable to multiple applications 	Integrated & ✓ Available in multiple power configurations to direct DC on-site power ✓ Added battery management provides peak shaving and supplemental capture ✓ Electricity is directly transmitted and distributed over Ethernet systems				
• Energy is generated from natural and artificial light on a net-zero carbon basis and converted directly to electricity for 24/7 end-to-end delivery and carbon offset		 Cost Effective Lowest cost per Kwh from direct DC organic energy power system Assembly and installation is low cost and drives immediate savings, in large part due to substantial heat gain reduction for windows Savings from smart building integration with PoE lighting / software 				
•	The ORENgE disruptive features create a new paradigm for the energy industry by providing sustainable and innovative technology solutions that generate power	Organic & Sustainable Produced from advanced organic ink technology and recyclable PET to bring sustainable power solutions from environmentally safe materials Benefits of net zero carbon power, heat gain reduction, carbon foot print reduction				
	and deliver total life cycle carbon reduction					

Lower Cost per Watt

Lower HVAC **Running Time**

Higher **Capital Return**

Glare Reduction

Lower Heat gain

Low Voltage

Retrofit Installs

No Carbon

Footprint

Smart Data

Management



Go-To-Market Strategy

GO-OPV is well positioned to penetrate a massive addressable market that is currently highly-fragmented

GO-OPV Positioning and Strategy

- The renewables energy generation sector is a highly fragmented market with an attractive competitive landscape, presenting an opportunity for disruptive new platforms to gain an outsized share versus peers
- ORENgE provides a differentiated organic energy infrastructure solution to addressable markets for corporate and supplier customers for direct sale or distribution
- **Cisco partnership will provide a direct distribution channel** to real estate clients, eliminating the need for a fulsome salesforce

<u>Market Positioning</u>: ORENgE's applications are commercialized for each market and in high demand

- **Real Estate:** the one product in the market capable of delivering organic power to smart integrated systems while also preventing heat gain
- **Trucking:** the ORENgE Trucking System outperforms the current silicon market base products by up to 40%
- Smart City: the ORENgE unique flexibility, lightweight and transparency allows for bespoke-design products for a variety of smart city applications

<u>Go-to-Market:</u> ORENgE's market rollout includes both corporate and retail clients

- **Corporate:** under the Organic Energy Service Agreement Program (OESA), ORENgE seeks to own, maintain and replace energy generation infrastructure for corporations and large institutions
- **Retail:** ORENgE applications are DIY products that are going to be sold, thought retail partners, directly to the final customers







ORENgE Power Overview Real Estate

ORENgE is the most suitable light absorption and power generation technology for behind the meter on-site real estate solutions

ORENgE as Differentiated Power Solution

- ORENgE is the leading organic photovoltaic technology commercially produced for the real estate market using advanced energy technology and photovoltaic organic film
 - Delivers an unprecedented multi-part solution that reduces heat gain, reduces carbon footprint, and delivers zero carbon power fully integrated to Power over the Ethernet (PoE) infrastructure
- When ORENgE is applied to glass, the advanced technology properties of the OPV panel reflect light and absorb thermal radiation expanding performance of the original glass
 - ORENgE blocks harmful UV, uses visible light to generate power, and absorbs the remaining IR to remove unwanted thermal effects
- Unlike any other technology, ORENgE power is simple to install and brings transparent power generation technology with zero carbon impact and lower operating costs as well as the elimination of commodity price exposure related to grid dependence





Cisco ORENgE: Power-over-Ethernet Technology

Decarbonization / Sustainability with a Cisco Smart Building



ORENgE Transportation Power Overview

Addressable American trucking / logistics market for zero Carbon battery support solutions constitutes approximately 28% of the climate change opportunity





Expansive Market for Trucking Applications

GO-OPV's existing commercial counterparties represent a massive opportunity for the deployment of ORENgE trucking applications



Source: CNBC, company websites.



Key Partnerships to Scale the ORENgE Platform: Cisco

GO-OPV has partnered with Cisco to serve as a central element in their comprehensive PoE systems integration effort and to access Cisco's existing commercial market as distribution channel for potential customers

Cisco Overview

- Cisco Systems is the world's largest hardware and software supplier for digital network solutions
 - Specializes in infrastructure platforms including a wide array of hardware is complemented with solutions for software-defined networking and analytics
 - Market capitalization of ~\$230bn
- Power-over-Ethernet integration and is a central element of the Smart Building Design initiative and represents a multi-million dollar investment for Cisco



GO-OPV / Cisco Partnership

- Cisco has been implementing PoE systems for 10+ years, but have not achieved costeffectiveness
 - ORENgE power solution reduces costs from heat gain and up 100% of carbon footprint reduction related to power generation, transforming PoE to be a highlyattractive value proposition
 - On average, breakeven economics achieved within 5 years of installation
- In September 2021, GO-OPV received a purchase order from Cisco for installments at Edison Labs and for ASHRAE
 - Installation will serve as a launching point for an expansive partnership with Cisco targeting their vast array of Ethernet customers for ORENgE solutions
- GO-OPV and Cisco have formulated a plan for scale that includes:
 - Product deployment for ASHRAE, Ford, AT&T, the US General Services Administration, and JBG Smith
 - Robust marketing campaigns, including via the premiere trade organizations and expositions
 - Product deployment for flagship, blue-chip corporate customers including multinational financial services, auto manufacturing, and pharmaceutical clients, enabling global scale
 - ORENgE integration within PoE systems represents an unparalleled value proposition for customers that will serve to catalyze demand for and returns from Cisco's substantial investment in PoE infrastructure

JBG SMITH









Source: Cisco website, 2021 Annual Report. Market data as of February 2022.



🜔 GREENBUILD

Key Partnerships to Scale the ORENgE Platform: Kodak Kodak

GO-OPV has partnered with investment grade market leaders to secure a high-quality component supply, integrated systems, and efficacy of the platform, in order to support aggressive scaling objectives

Kodak Overview

- Kodak is a United States-based company that specializes in print systems, ink technology, and film manufacture
 - The print systems business has historically served as the source of the majority of Kodak's revenues and is thought to be the core competency
 - Market capitalization of ~\$330mm
- For 130 years, Kodak has held a dominant position in the film printing industry
 - Was a pioneer in the development of OPV technology and has significant institutional knowledge in the photovoltaic domain
 - Due to the rise of digital photography and the corresponding reduction in demand for photographic film, Kodak's sales have declined since the 1990s
- Today, the company retains extensive printing infrastructure, including 2,500 printing patents, and specializes in advanced materials and chemicals
- Additionally, Kodak has been vocal about its commitment to decarbonization initiatives

"We're taking action to drive forward sustainable growth and success for Kodak and all our stakeholders. This includes **leveraging our world-class research and development team to bring differentiated, sustainable solutions to market and continuing to work with advanced materials**, which is moving us into new areas of growth."

Jim Continenza

Kodak Executive Chairman and CEO

Source: Kodak website, 2021 Sustainability Report. Market data as of February 2022.

Kodak Relationship Overview

- GO-OPV has secured a partnership with Kodak's Advanced Materials and Chemicals division
 - Under the terms of the agreement, Kodak will conduct pilot tests on the production capability of organic photovoltaic films
 - Upon the completion of successful testing, GO-OPV expects to execute a broader supply agreement with Kodak for the procurement of OPV ink and film components
 - Joint operation would incorporate existing and new materials and technologies developed by both parties as well as the performance data for those products and solutions
- Kodak's tremendous printing capacity operates at an uneconomically-low utilization rate which can be used to provide OPV components
 - Large asset base ready to be employed to increase revenue from invested capital
- Current status:
 - Kodak is in the process of assembling the various ink solutions required for OPV assembly and testing the scalability of production
 - Following successful component development, Kodak will share the finished components with GO-OPV for assembly, installation, and testing



ORENgE Process Execution

GO-OPV works closely with supportive strategic partners to develop the highest quality products and effectively deploy them for customers

	Component Procurement	Transformative Enhancement	Deployment & Installation
Key Process Steps	 ORENgE components are delivered directly to GO-OPV's Delray site COGS consists of three main component groups: OPV film Encapsulates, adhesives, and connectors (EAC) Electronics, cables, and connections (ECC) Costs are broadly forecasted to decline over time in correlation with volume rams as supply relationships contribute to economies of scale GO-OPV is a designated distributor and re-seller for all suppliers Supplier redundancy mitigates potential counterparty risk 	 GO-OPV is responsible for the configuration and integration of the various components OPV film and other inputs are developed by supply partners based on GO-OPV's specifications for efficiency, durability, and configurability PET film ORENGE power plant In addition to key supplier and distribution partnerships, proprietary processes and institutional know-how distinguish GO-OPV from potential competitors GO-OPV is the only platform that has effectively encapsulated energy generating technology and capability via their design and assembly strategy 	 ORENgE products are sent to clients via traditional shipping methods based on volume and logistical costs Installation strategy varies by application: TRU & Liftgates: conducted by fleet operator/owner or authorized installer BIPV: conducted by GO-OPV via a general contractor responsible for the real estate Recreational Vehicles (direct distribution, Amazon): installation is DIY Smart City: conducted by the city furniture operator/owner or authorized installer

Meaningful Competitive Advantage

- Key commercial partners, including Kodak, Sunew, and Cisco, enable GO-OPV to create a one-of-its-kind platform and position the business for customer adoption; GO-OPV alone, however, has the ability to transform the separate input components into the power-generating technology that drives value for our customers
- Customer-friendly execution strategy can be tailored based on varying end-uses and unique specifications



Supply and Installation

Supply cost and capacity structures allow for rapid scaling of the GO-OPV platform and de-risked procurement of essential ORENgE components

Procurement Overview

- GO-OPV enjoys an exclusive 8 year film printing services and supply contract with Sunew, maintains the option for exclusivity with Kodak which is seeking a minimum 3 year printing service contract
 - GO-OPV provides organic film configuration to printing partners under non-disclosure and defines the size, color, electric design, power efficiency, and lifetime including the related raw materials used during the industrial print process
 - As GO-OPV volume increases, pricing for the films will decrease dramatically in accordance with the volume-based contracts
 - Manufacturing and assembly costs expected to decline 30-50 % over the next 12-18 months
- Sunew is positioned to print 1 million square meters of OPV film that GO OPV will convert to 30MW in annual power generation, which translates to **~\$270mm of revenue**
 - Potential for additional Kodak OPV film capacity that will drive GO-OPV power generation of up to 100MW per year
- Expanding film printing production is extremely low-cost
 - As demand for ORENgE platform increases and more supply is required, production capacity can be doubled in the near term to provide requisite volume output with minimal capital investment targeted toward gigawatt production
- GO-OPV intends to deploy \$1mm of capital in the near term for design, engineering, assembly, and manufacturing operations that will match near term output
 - In the unlikely event that operational capacity constraints arise, GO-OPV will be able to subcontract operations to third-parties for a higher per-unit costs but with no additional capital investment
- Installation processes are designed to be easy and low cost; estimated as \$150 / unit and contracted to third-party service providers
 - GO-OPV initiates a PoC and trial / testing installation before large-scale adoption to ensure compliance with relevant NEC codes and client adoption
 - ORENgE requires only minimal maintenance costs





Technical Monitoring and Quality Assurance

GO-OPV's tested well-established monitoring processes ensure optimal system performance with minimal downtime and disruption

Equipment Tracking & Monitoring

- Through rigorous trials and testing, GO-OPV has established processes to collect and analyze data from ORENgE systems to identify potential issues before they arise
- GO-OPV's in-house engineering and asset management teams directly oversee all equipment tracking and monitoring
- GO-OPV tracks equipment individually via photographs, and proactive online monitoring
- GO-OPV maintains close relationships with important third party contractors and vendors to support maintenance efforts and ensures availability of spare parts across installments

Process Overview

GO-OPV collects, stores, and analyzes all system data to improve its processes and optimize performance across installations



Quality Assurance / Quality Control Program

- Installations are regularly screen and tested by GO-OPV or an authorized partner
- Independent audits, which include random sampling of detailed onsite inspections, assess installation quality and equipment performance]

Lessons Learned From: Independent Audits System Maintenance Warranty Performance **GO-OPV's asset management strategy drives process improvement**





Illustrative Contracted Growth Model for BIPV





ORENgE Deployment Case Studies & Media

Case Study: Corporate Real Estate Installations

Contracted real estate installations represent the potential for ORENgE technology deployment across an array of applications and settings and the potential for growth in partnership with a high-quality commercial real estate client

Select Corporate Real Estate Partnership

- Client chose to leverage GO-OPV in an effort to decarbonize high-traffic and energy consuming commercial real estate sites
- ORENgE technology was effectively deployed across multiple locations, markets, configurations, and modalities, in order to provide Client with a state-of-the art direct-conversion renewable power source
- The installations represent the first step in a potential broader commercial partnership, the scope of which could provide GO-OPV with direct distribution channels to access a massive real estate portfolio

Installation Overview

Texas Mall:

- San Antonio shopping and commercial center
- Cisco PoE integrated with on-site zero carbon energy install for skylights

Mid-Atlantic Office Plaza:

- Washington DC commercial and office site
- Cisco PoE integrated with on-site zero carbon energy install for office building, skylights and kiosks

Texas Mall:

- Houston shopping and commercial center
- Cisco POE integrated with on-site zero carbon energy install for skylights

Retail Mall / Outdoor Space



Office Building / Metro Plaza







Case Study: BIPV Installation



GO-OPV's Feil Organization pilot represents the world's first BIPV power-over-Ethernet organic energy installation

Installation Overview

- Renewable energy demands for the real estate market requires solutions that range well beyond traditional solar installations
- GO-OPV / ORENgE power supports intelligent BIPV systems (building integrated photovoltaics) for smart buildings through Ethernet and Class II cable infrastructure for power delivery, artificial intelligence, as well as data and sensor control
 - ORENgE allows for the installation of the ultimate ORENgE DC power solution within the BIPV market
- Via this installation, completed in 2021 GO-OPV is provides 24/7 smart building sustainable, direct-conversion power solutions
- Feil Organization:
 - Manages over 24 million square feet of retail, commercial and industrial properties, over 5,000 residential rental units, as well as hundreds of net leased properties and thousands of acres of undeveloped land across the US market
 - Under the ORENgE Organic Energy Service Agreements, ORENgE's real estate applications can be applied in over 200 million square feet of available surface area







ORENgE GSA Installation

GO-OPV is in the process of installing the ORENgE platform at the headquarters of the General Services Administration via an expensive footprint

GSA Building Footprint





Sample TRU Installation

Installed ORENgE TRU Platform





Select Deployment Case Studies

desh.





Brookfield







Press and Testimonials

GO-OPV / ORENgE has received recognition for the disruptive nature of the service offering and is gaining momentum in public marketing

New form of solar energy to enter US market

"Organic energy is getting a jolt with the launch of GO-OPV's ORENgE system in North America. Organic energy uses a thin film panel to capture the sun's rays and converts it to power, similar to traditional solar power. The panels could be used for windows or trucks, phone or computer chargers, or it can be a building-integrated photovoltaics in glass... Producing the OPV also has a lower impact on the environment compared to silicon solar panels... In Brazil, the company has installed systems on skylights, malls, and building windows. In the U.S., they have installed systems in three buildings: two in New York and one at its office in Delray Beach, Florida."

December 2020

Lightweight, efficient organic solar panels available in U.S. to power trucking

"GO-OPV has made ORENgE commercial-ready, roll-to-roll printed and scalable organic energy-based solar panels available in North American. The near-zero carbon energy solution provides a lightweight and commercial ready solution that can be applied end-to-end on trailers, allowing the sun to serve as an additional power source. These efficient panels generate energy from every angle of the sun and can supply energy to on-board electronics, trailer telemetry and electronic locks, and refrigeration unit motors. They also have the potential to offer battery-electric trucks more power to extend their range."

November 2020

FleetOwner.

ONEWS

Organic Technology New Paradigm for Power

"A Florida-based company that touts what it calls a scalable organic energy-based power technology has launched operations in North America, and said it is making its technology available across several markets including for transportation and commercial buildings...The technology is part of a growing segment of power generation that includes building-integrated photovoltaics (BIPV), where photovoltaic modules are integrated into a building. The ORENgE technology, in development since 2012, uses a building's windows as a power generation source. ... Paul Frischer, president of GO-OPV, told POWER that while his company's technology can be talked about in terms of BIPV, "there really isn't anything comparable in the BIPV space to what we're doing... This is a whole new power paradigm." November 2020



Organic Photovoltaic Solar Energy: A Rapidly Emerging Technology

"Scientists are constantly trying to find ways to make solar as accessible and effective as possible. The latest research and development in the solar energy industry is taking place around the use of organic solar cells to construct thin, flexible solar power options... What sets organic energy apart from solar power is its ability to create power from any kind of light and not being dependent just on the sun. Essentially what it means is that organic energy can continue to be a power source if there is natural light in any form...While earlier they were mostly used for heat gain, now the OPVs are also generating power. The launch of GO-OPV's ORENgE system has provided the impetus to organic energy in North America..."

January 2021





Energy Market Overview

GO-OPV / ORENgE Brings New Energy Systems Behind the Meter, Reducing Grid Dependency and providing Net Zero Power

THE WALL STREET JOURNAL.

The ORENgE platform is the most efficient, practical, and cost-effective solution to the American energy dilemma

America's Power Grid Is Increasingly Unreliable

Behind a rising number of outages are new stresses on the system caused by aging power lines, a changing climate and a power-plant fleet rapidly going green

Source: Wall Street Journal, 2/18/22.



Demand for Renewable Energy

Global ambitions to decarbonize are accelerating, driving significant demand for renewable energy, and solaroriented solutions will play a central role in the transition away from traditional sources of power generation

- Demand for and investment in renewables is increasing rapidly and ۲ on-pace to substantially displace demand for conventional energy sources in the medium term
 - Growth in both the US and Europe will be particularly robust
- Renewables are anticipated to constitute a large portion of the energy ۲ supply and 58% of the growth in the renewables market is anticipated to be driven by solar-based platforms
 - Solar's share of the energy generating capacity in the United States has increased by ~5x since 2014, and is expected to continue to grow
 - Solar power generation remains the most widely available and organic photovoltaic platforms remain the most underutilized source of energy

Energy Source Supply Dynamics



Solar Mix in America's Generation Capacity⁽¹⁾



Global Sustainable Fund Flows ⁽²⁾



FERC, Wall Street Research. 1

Wall Street Research.



Renewables to Play Larger Role

Addressable Market for Real Estate and Trucking Applications

Real estate and transportation uses currently constitute ~60% of total energy demand; GO-OPV has tailored a disruptive solution to serve those massive addressable markets

Real Estate:

- Sustainability is a dominant trend; energy efficient, carbon-reducing solutions are an important priority
- Contracts for power-over-Ethernet (PoE) systems, which will be core to ORENgE deployment, reduce steel and copper used in buildings, reduce material and labor costs, and increase connectivity and data collection
- GO-OPV is well positioned via the Cisco relationship to serve as a provider of smart building solutions and provide integrated, net-zero power generation, maximizing efficiency; ORENgE is a central component of Cisco's strategy
 - Cisco anticipates smart building power solutions will reduce energy waste by 45% and the addressable market for organic energy generation will total \$1 trillion over the coming decade

Trucking:

- Commercial logistics services are committed to emission reduction and have invested billions toward electrification of long-haul freight and transportation fleets
 - Majority of commercial vehicles are considered 'light' (LCVs), constituting ~70% total global supply; medium and heavy-freight trucks (MFTs, HFTs) account for the balance of global commercial vehicles and are expected to grow to 200 million in total by 2050
 - 97% of these commercial vehicles are currently powered by gas or diesel, implying a massive ultimate demand for renewable energy
 - The United States is the largest oil-driven freight market and will likely support a bulk of the demand for increasingly electrified fleets: over 60% of LCVs will be electrified by 2050
 - CARB mandates stipulate that APUs must be 100% zero-emissions by 2030 and cannot run on diesel fuel



Electrification as % of Energy in Buildings ⁽¹⁾



Estimate of Current Global Fleet Mix ⁽¹⁾





1. Wall Street Research.

Regulatory and Investor Tailwinds Incentivizing Carbon-Neutrality

Governments and municipalities are increasingly promoting investment in renewable energy through subsidies and/or penalties, spurring investor engagement in climate change and technologies such as ORENgE



Many governments are providing credits and tax breaks for investment in green energy. Additionally, governing bodies are considering various penalties for continued use of traditional energy sources that emit CO₂



Investment in energy transition is spurred by the potential for carbon-intensive assets to become more capital intensive under **future regulation**, as well as the bifurcating cost of capital, up to 20% for long term oil projects, down 3-5% for renewables

Investment in climate focused technologies and funds can help stakeholders abide by increasing regulation and meet net emissions targets



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Climate related shareholder resolutions have almost doubled since 2011 with huge amounts of capital flowing into ESG focused funds and companies

...driving a seismic shift in capital allocation, charging an implied carbon price of US\$40-80/tn of CO₂ for new carbon developments







1. World Bank as of April, 2021.

2. Wall Street Research.



Corporate Commitments to Carbon Neutrality

Among the investor community and via engagement as direct customers, the private sector has initiated an aggressive campaign in pursuit of decarbonization

- Hundreds of multinational corporations have signaled institutional commitment to clean energy via RE100, a pledge to procure 100% of their energy from renewable sources
- ESG initiatives are a fundamental priority for investors and financial services firms are responding to address these concerns, increasing fund flows aligned with decarbonization goals and fostering friction toward investment in energy generation from fossil fuels
- Robust appetite for alternative power generating solutions provides GO-OPV with a massive addressable market among corporate customers and a highly-fragmented universe of potential competitors

"Among the many ambitious announcements to come out of COP26 is that almost 500 financial-services firms have "agreed to align \$130 trillion – some 40% of the world's financial assets – with the climate goals set out in the Paris agreement."

Hong Kong Economic Journal, November 2021



Corporate-Driven Renewable Energy Procurement Since 2009⁽¹⁾ Cumulative (GW) Annual (GW) 13.6 15 45 11.9 8.5 10 30 8 10 3.3 4.3 5 15 3.4 2.4 1.5 0.6 5.6 0.4 0.3 0.1 0.2 0.1 4.2 0.7 2.7 1.9 0 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2009 Wind Solar Cumulative

1. Barclays research.



Issues Related to Transition to Renewable Generation

Increased renewable utilization will be critical to mitigating the extra stress placed on the outdated power grid due to growing electricity consumption; GO-OPV's solution provides self-sufficient and distributed generation designed to offset grid reliance by up to 100%

- The modern day grid was built for a world powered by fossil fuels, making 100% grid reliability imprudent
- With expanding renewable sources of energy providing variable power to the grid, there is a growing need for efficient end-use technologies that can minimize the ebb and flow of electricity demand and supply
- The notion of widespread electrification will require a **rewiring of the modern electricity grid to include distributed generation**
 - 2021 Texas power outages demonstrated that outsized reliance on existing forms of clean energy can create unstable electricity sourcing
- For utilities to generate, store, and sell a higher amount of variable, renewable energy they will have to invest in new transmission lines, distribution systems and coordinate with thousands utilities
 - Some estimates predict a full decarbonization of the U.S. power generation mix could cost over \$5tn over 10 years
 - Implementing substantial upgrades risks losing power
- Rising large and small-scale renewable energy supply combined with the added demand from population growth are key risks regarding an "energy efficiency transition"
- ORENgE platform supports scalable direct conversion-based power solutions for end-to-end delivery, reducing the reliance on traditional power plant and grid infrastructure



Estimated Lost Hours of Power Service ⁽¹⁾

Sources of Final Energy Consumption by End Use ⁽²⁾





^{1.} EIA, Wall Street Research.

^{2.} International Energy Agency, Wall Street Research.

Power Prices Across Europe Have Reached All-Time Highs

Forward power prices have rallied since Jan-21 due to rising carbon and commodity prices; unhedged utilities and power generators are positioned to benefit while retailers struggle to survive; ORENgE value proposition is clear



2. Source: Bloomberg.



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