

Global Power Crisis

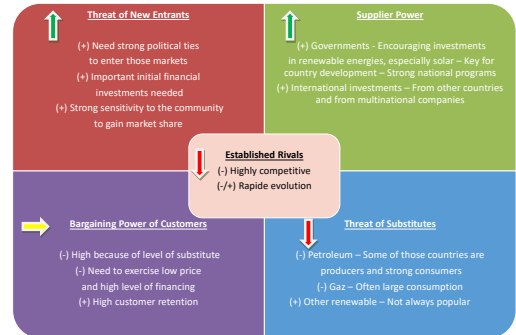
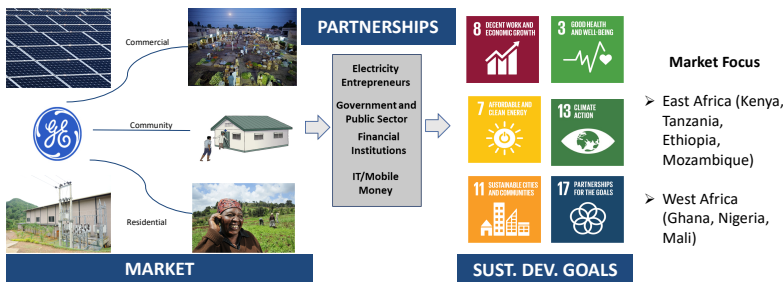
- 1.2 billion people around the world have no access to a power grid, (Source: International Energy Agency)
- Lighting and phone charging alone costs about \$27B a year and some estimates put total annual energy costs at more than \$60B.
- Potential global solar energy market of \$422B by 2022 from \$86B in 2015 with CAGR of 24.2%

Africa Market

- Africa is lagging, with less than 40 % of African households connected (Source: IEA Data)
- Leading players include: Greenlight Planet, d.light, Off-Grid Electric, M-KOPE Solar, Fenix International, and BBOX
- Major Entrants: Schneider, ABP, EDF and Engie

GE POWER	BUSINESS CHALLENGE	PROJECT FOCUS
<ul style="list-style-type: none"> ❖ 85,000 employees, Generates 31% of industrial segment revenues, Fairly new-entrant to the Africa market for renewable energy ❖ GE Power generated \$26.8 billion revenues, 29% of the total GE revenues ❖ Global Leader in Heavy-duty, Gas Turbines, Advanced Nuclear Tech Solutions, Water Treatment Systems, Quality Energy Systems 	<ul style="list-style-type: none"> ❖ GE has struggled to innovate and diversify its key revenue streams of conventional power generation and grid ❖ Resulted in extremely small "new energy" divisions compared to peers (i.e. Tesla, First Solar) ❖ This threatens the company with low performances and negative impacts of the company's shares 	<ul style="list-style-type: none"> ❖ Generates \$1M in revenue from emerging market small scale solar business, esp. from Africa markets from "Diesel / Solar Hybrid Micro-Grid Power System" ❖ Focus is to "Increase revenue with scalable business models of positive net impact on environment and Africa social well-being using Digital Strategy & Business Model" ❖ Increase to \$2M, with near-term scale to >\$100M and long-term scale to >\$1B

MARKET ANALYSIS & FINDINGS



BUSINESS MODEL CANVAS

<p>1 PARTNERS</p> <ul style="list-style-type: none"> • Entrepreneurs • Government and Public Sector • Financial and Educational Institutions • IT /Mobile Money Platforms • Innovative Centers • Suppliers & OEMs • Distributors 	<p>2 ACTIVITIES</p> <ul style="list-style-type: none"> • Produce and Support Efficient Off-Grid / Micro-Grid Devices for African Countries • Build a Digital Platform and Strategize Efficiencies to Reach Millions of Customers • Acquire funding for advanced research and innovation <p>3 RESOURCES</p> <ul style="list-style-type: none"> • GE Power Capital and Off (Micro) Grid Transformation Fund • Design Innovators and New Ideas • In-House Research • GE Global Network 	<p>4 VALUE PROPOSITION</p> <ul style="list-style-type: none"> • Integrated Solutions for Africa Rural Outreach • Renewable Energy at Prices Below Utility Rates • Advanced R & D to leap into Renewable Energy through High Efficient Batteries • Sustainable Solidarity through products and Empower Economy 	<p>5 CUSTOMER RELATIONSHIPS</p> <ul style="list-style-type: none"> • Long-term Customer Agreements • Financing Facilities • On-going Service and additional Efficient Solutions over time • Cost Savings based on Spending <p>6 CHANNELS</p> <ul style="list-style-type: none"> • Efficient Marketing • Partner Network turning into Platform Network • Direct Platform Sales • Customer Loyalty Programs 	<p>7 CUSTOMER SEGMENTS</p> <ul style="list-style-type: none"> • Government and Public Sector • Institutes such as Private Universities and Innovation Centers • Commercial Customers • Residential Customers
<p>8 COST STRUCTURE</p> <ul style="list-style-type: none"> • Manufacturing and Distribution Costs • Customer Acquisition Costs • Installation and Operations Costs • Research & Development of Energy Efficient Solutions 			<p>9 REVENUE STREAMS</p> <ul style="list-style-type: none"> • Platform Charges and Customer Analytics • Customer Loyalty & Long-term Margin • Customer Lifetime Value • Target Growth & Flexible Terms such as Pay-As-You-Go Services • Additional from Innovation and Economic Growth 	

Derived From - Business Model Canvas; Osterwalder, Pigneur & al. 2010

STRATEGIC SOLUTIONS

First to the Market	Improved Cx & Service	Growth Partnerships
<p>"Go Big" Non-Conventional</p> <p>A digital platform of GE products with Competitor products with sources from GE Power, Competition, Partners and Customers.</p> <ul style="list-style-type: none"> • Sell Products of GE Power, Partners, Competitors • Broaden with a mobile app for buyers and sellers • SaaS Model, Competitor Dependency, Customer Loyalty • Customer Analytics through "data network effects" • DisAdv: Tech Investment, Higher Customer Acquisition Costs 	<p>Conventional</p> <p>A platform to create a unique experience to customers - serve customers with the help of impact partners (US Power Africa / EC of Nigeria)</p> <ul style="list-style-type: none"> • Sell GE products to customers through institute funding • GE become the command center with efficient financing • Customer Loyalty, Product Affordability, Partnerships • Cross-side Sales through New and Resale of Products • DisAdv: Tech and Customer Acquisition Costs, Tenured Partnerships 	<p>Innovation EpiCenter</p> <p>An epicenter of innovation with entrepreneurs, small business owners and distributing partners come together.</p> <ul style="list-style-type: none"> • Sell GE Products only with advancement of research • Loyalty Partnerships, Scalable Products, Innovation Hub • Loyalty, Effective Partnerships, Community Leader • R & D Focused Approach • DisAdv: R & D, Tech and Customer Acquisition Investment

Project Host: **Ricky Buch, GE Power – Strategic Marketing Leader**
 Project Mentor: **Prof John David Sterman, Dir. of System Dynamics Group**
 Project Team:



Faisal Seraj
SF '18



Prasad Savarapu
SF '18



Peipei Qiu
MSMS '18



Jean-Jerome P
EMBA '19