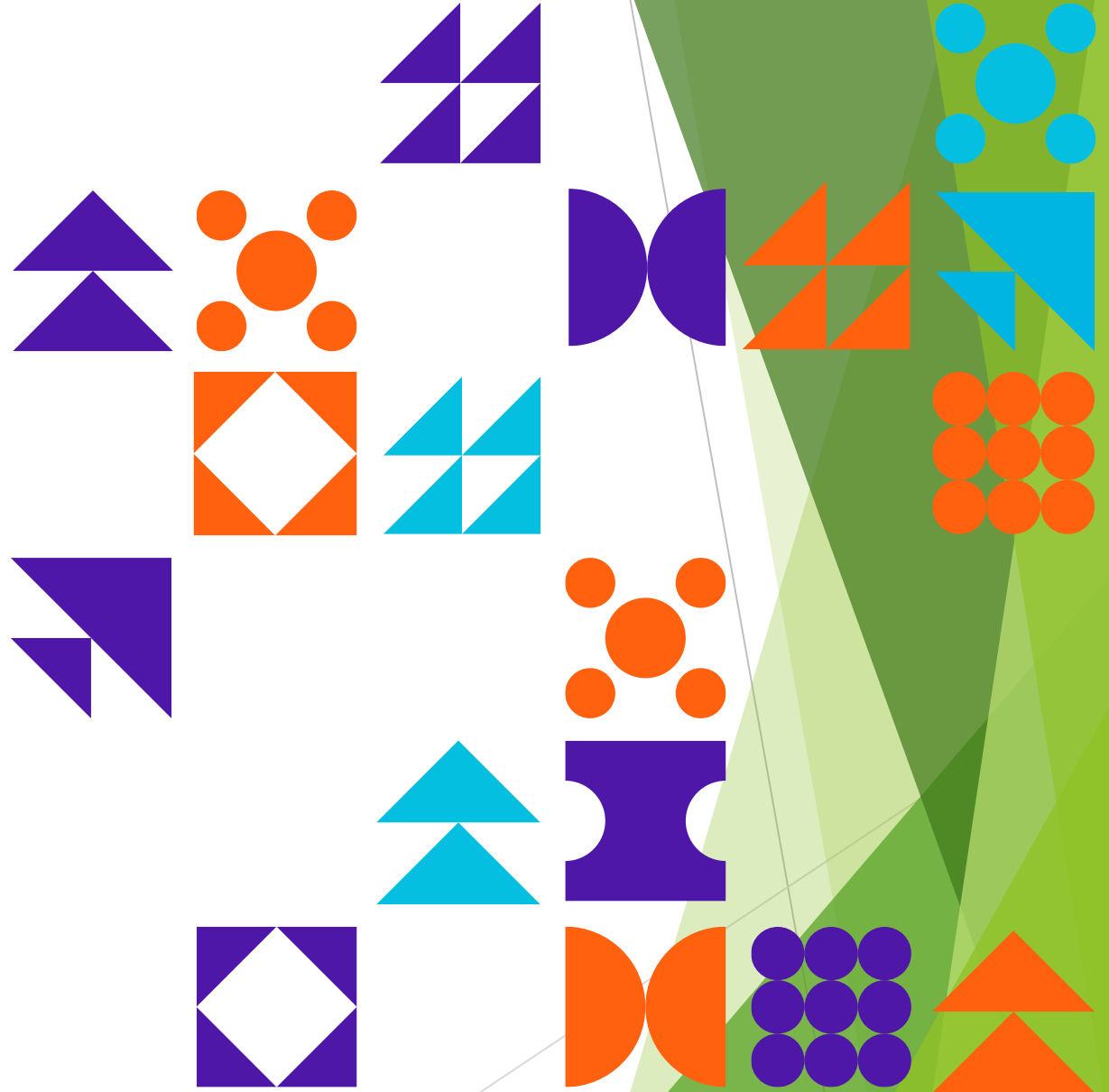


SOLAR RENAISSANCE: POWERING A SUSTAINABLE FUTURE

Developing Sustainable
Project Management Skills in
The Digital Age.

▶ 2024 ANNUAL PROJECT MANAGERS' CONFERENCE



FLAVIOUS COFFEE

- ▶ **MUNYATI POWER STATION**
- ▶ **ABB**
- ▶ **STAR TRACK PROJECTS**
- ▶ **ROSCO AFRICA**
- ▶ **ZIE, IET, EA**
- ▶ **ENGINEERING COUNCILS (ZIM, UK, NER)**
- ▶ **GREEN SOLAR ACADEMY**
- ▶ **PMP**
- ▶ **PRESIDENT PMI ZIM CHAPTER (2020-2021)**



SUSTAINABILITY



Solar Renaissance: Powering A Sustainable Future

22 June 2024

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SUSTAINABILITY

- ▶ **Sustainability** is the practice of meeting our present needs without compromising the ability of future generations to meet their own needs.



ENVIRONMENTAL SUSTAINABILITY

- Reduction of Greenhouse Gas Emissions
- Conservation of Natural Resources
- Reduction of pollution.



ENVIRONMENTAL SUSTAINABILITY

- **No Greenhouse Gas Emissions**
- **Conservation of Natural Resources**
- **Minimal ecological footprint compared to fossil fuels**



ECONOMIC SUSTAINABILITY

- ▶ Economic growth
- ▶ Job creation
- ▶ Fostering innovation



ECONOMIC SUSTAINABILITY

- ▶ Cost efficiency and stability
- ▶ Job creation and economic growth



SOCIAL SUSTAINABILITY

- ▶ Social Equity
- ▶ Health
- ▶ Education
- ▶ Human rights



SOCIAL SUSTAINABILITY

- ▶ Energy Access and Security
- ▶ Community Resilience

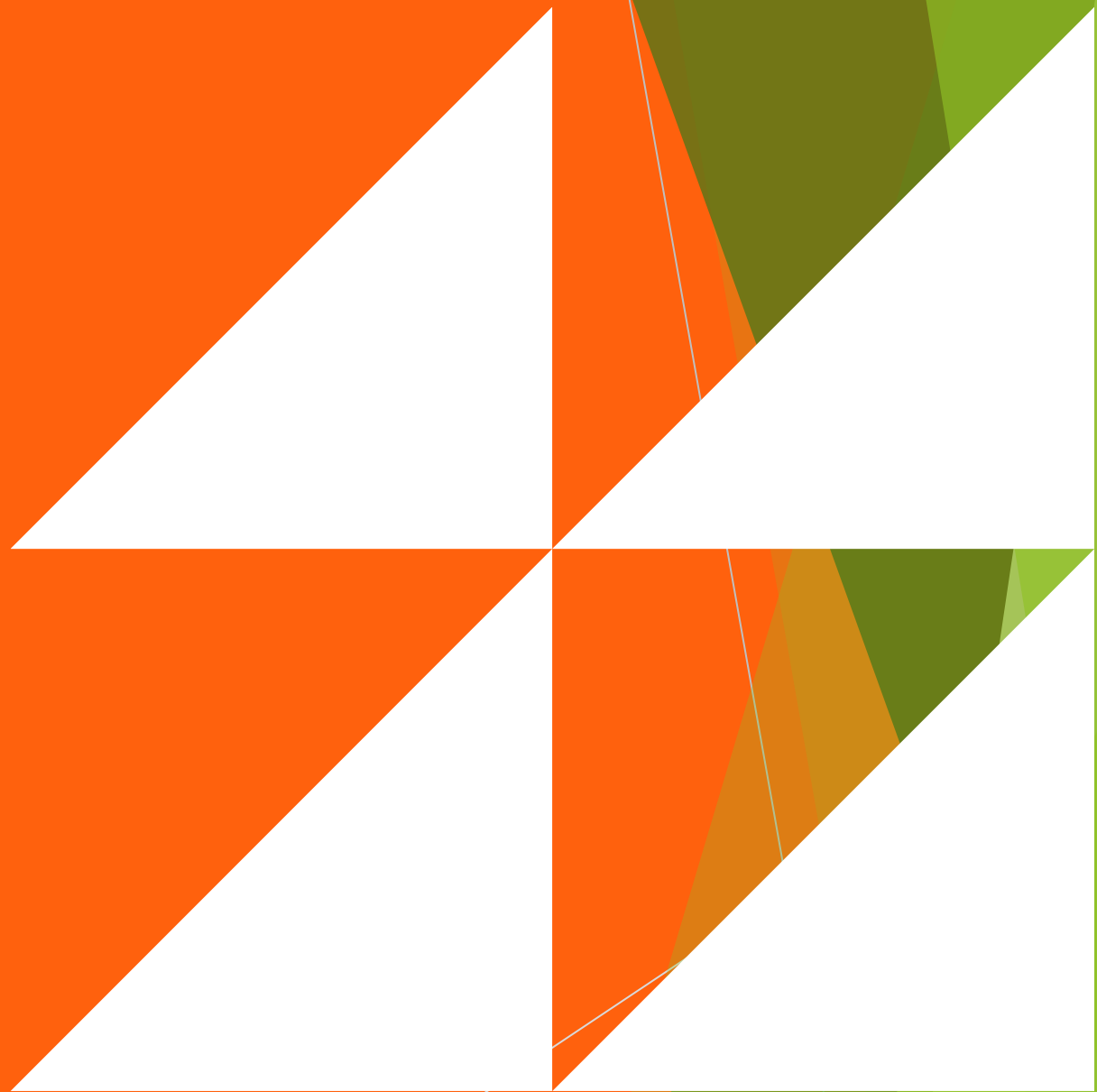




SOLAR ENERGY

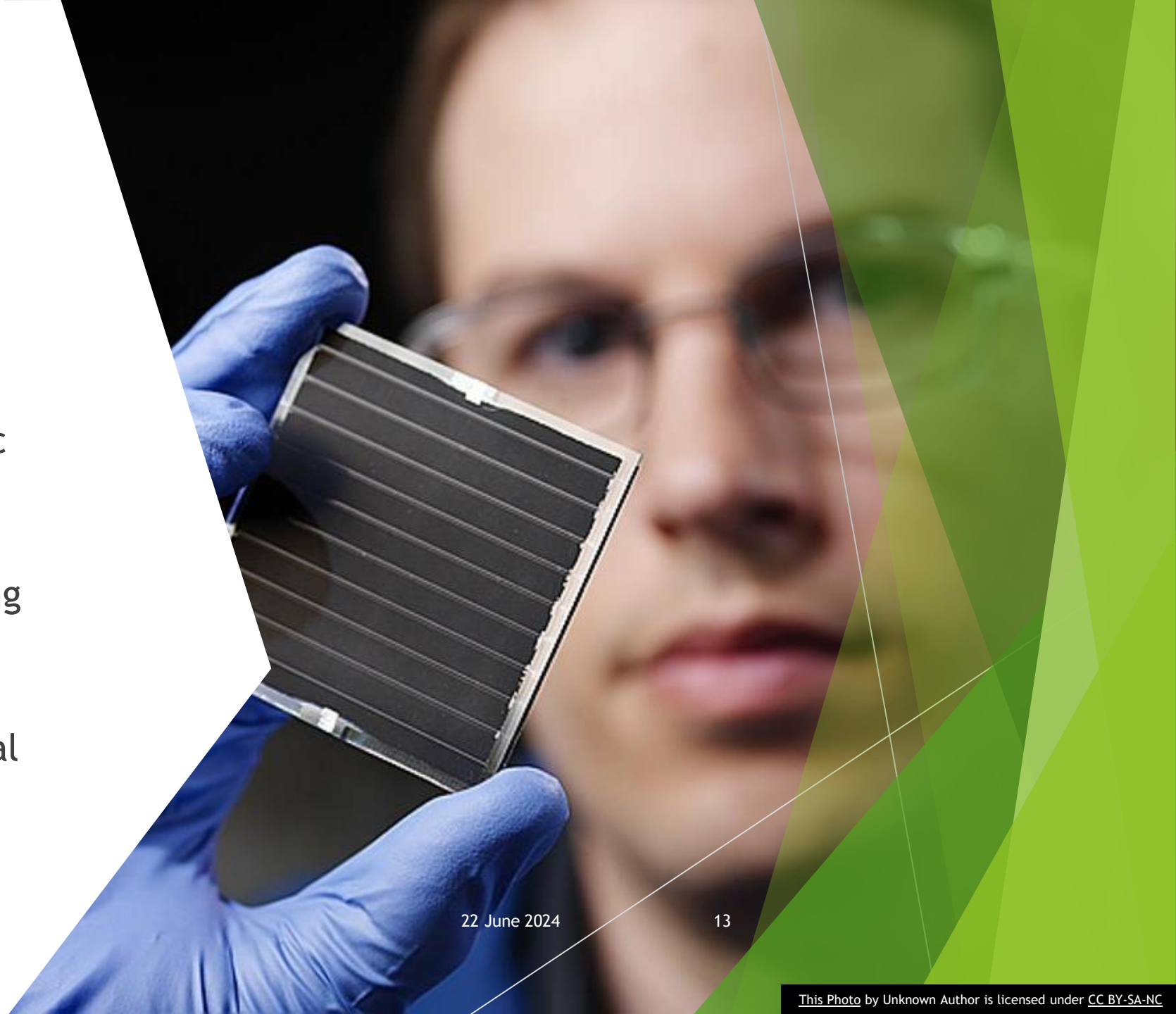
GAME CHANGER FOR SUSTAINABILITY

THE SOLAR RENAISSANCE



HISTORICAL CONTEXT

- ▶ 1839: French physicist Edmond Becquerel discovered the photovoltaic effect
- ▶ 1905: Albert Einstein published a paper explaining the photoelectric effect
- ▶ 1954: Bell Laboratories developed the first practical silicon solar cell



HISTORICAL CONTEXT

- ▶ 1970s: The energy crisis of the 1970s spurred interest in alternative energy sources, including solar power.
- ▶ 1980s: The cost of solar panels began to decrease, and efficiency improved.
- ▶ 1990s: Thin-film solar cells, which use less material and are cheaper to produce, were developed.



HISTORICAL CONTEXT

- ▶ 2000s: The adoption of grid-tied solar systems began to increase
- ▶ 2010s: Solar became competitive with traditional energy sources in many regions.
- ▶ 2015: The Paris Agreement highlighted the importance of renewable energy in combating climate change



PRESENT DAY

- ▶ **GLOBAL ADOPTION:** Solar power is now a mainstream energy source
- ▶ **RECORD EFFICIENCIES AND LOWER COSTS:** Solar is now the most cost-effective energy sources available.
- ▶ **SUSTAINABILITY AND CLIMATE GOALS:** Solar power is central to achieving sustainability and climate goals,

7 AFFORDABLE AND CLEAN ENERGY



PROJECT MANAGEMENT SKILLS FOR SOLAR ADOPTION

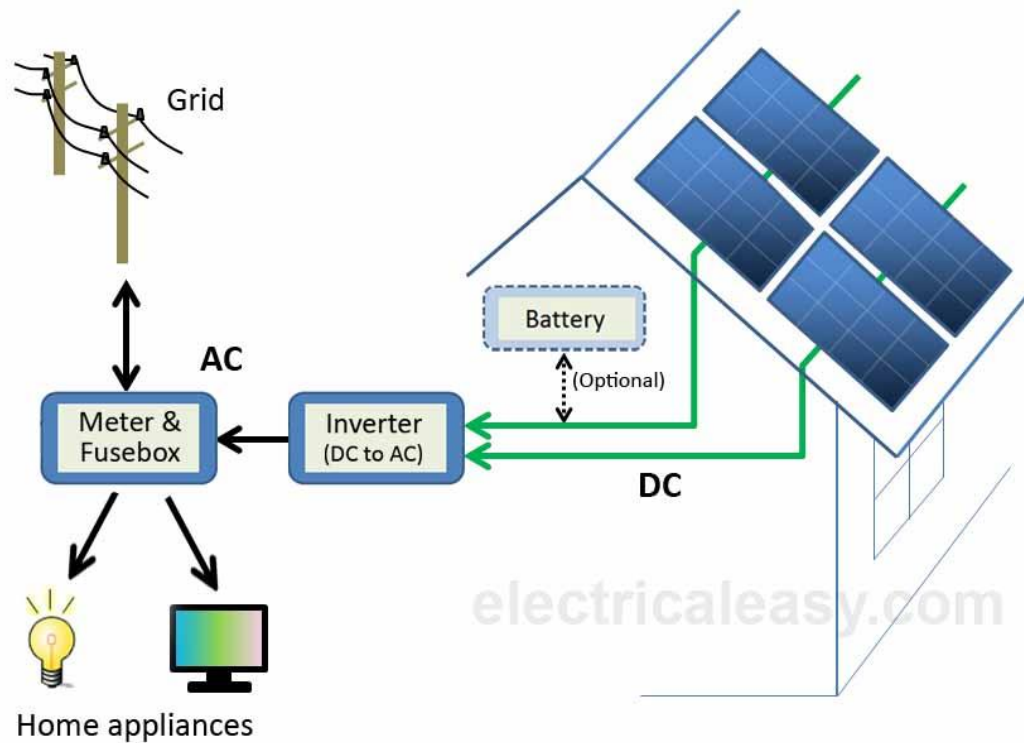


ANALYTICAL SKILLS



- ▶ Data Analysis and Interpretation
- ▶ Predictive Analytics

TECHNICAL PROFICIENCY



Typical grid connected PV solar system

- ▶ Understanding Renewable Technologies
- ▶ Staying Updated with Innovations

FINANCIAL ACUMEN

- ▶ Cost-Benefit Analysis
- ▶ Funding and Incentives

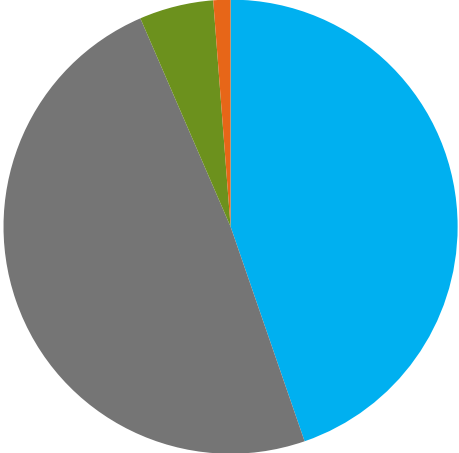


ZIMBABWE SITUATION



ELECTRICITY GENERATION IN ZIMBABWE

Electricity Generation by Source



■ Hydroelectric ■ Thermal ■ Solar ■ Other



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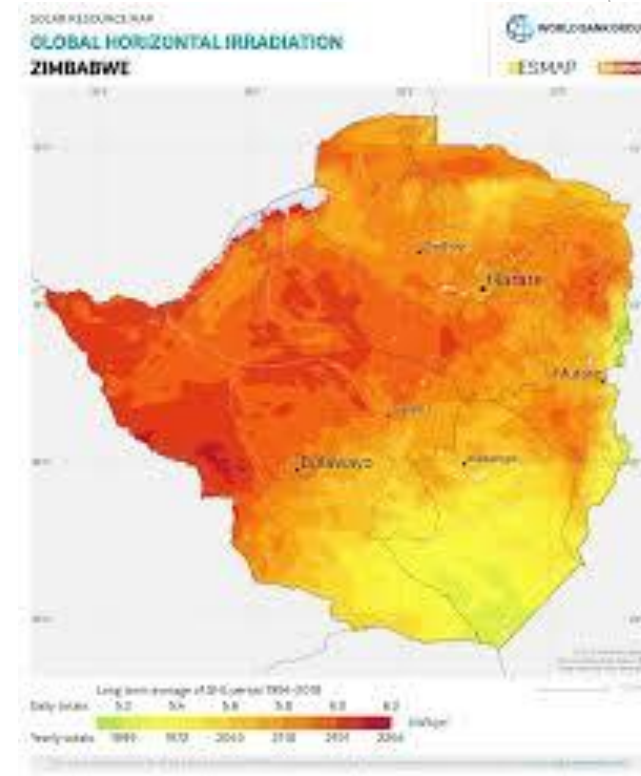
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SOLAR ENERGY POTENTIAL

- Concentrated solar power estimated potential of 39,5GW.
- High Solar radiation
- Large area
- Energy access needs
- Government Initiatives





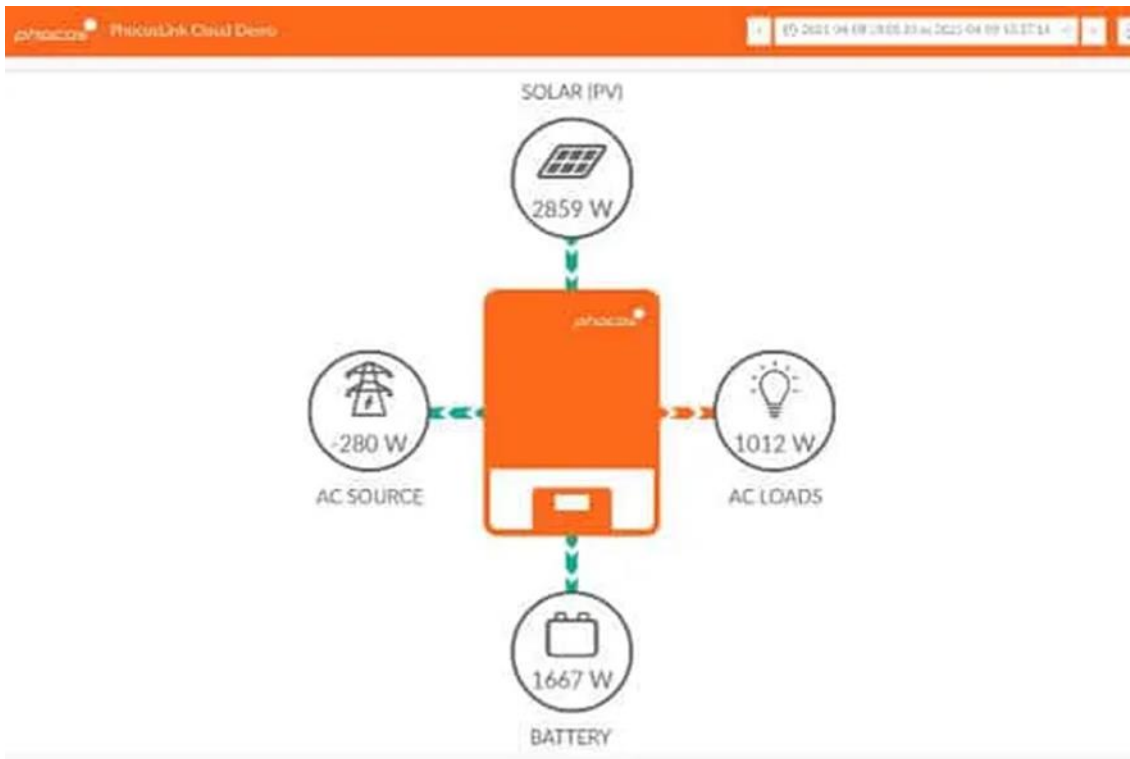
NATIONAL RENEWABLE ENERGY POLICY

•Renewable Energy Targets:

- Solar: Installation of 1,575 MW by 2030.

•Incentives for Investment:

SOLAR NET METERING



- SI 2018-86
- Started in 2020
- Compensation factor
- 145 points by September 2023
- Threshold now 5MW
- About 300 households(20MW) by Apr 2023

ZIMBABWE SOLAR PROJECTS



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SOLAR PROJECTS- MUNYATI

- ▶ Munyati Solar PV Park is a ground-mounted solar project.
- ▶ The project cost is expected to be around \$130m.
- ▶ Metallurgical Corporation of China is expected to render EPC services for the solar PV power project.
- ▶ JA Solar Holdings will supply PV modules for the solar power project.



SOLAR PROJECTS- NYANGANI RENEWABLE ENERGY

- ▶ Riverside Solar Power Station
- ▶ 2018
- ▶ 2.5MW



SOLAR PROJECTS- SCHWEPPE

- ▶ 2019
- ▶ 1MW
- ▶ 2000 PANELS



SOLAR PROJECTS- TANGANDA

- ▶ 2020
- ▶ 1.8 MW



SOLAR PROJECTS- NYABIRA

- ▶ 2023
- ▶ 2.5/25 MW



SOLAR PROJECTS- HARAVA

- ▶ 20MW-
- ▶ PHASE 1 UNDER
CONSTRUCTION



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SOLAR PROJECTS-PPC

- ▶ 10MW AT BULAWAYO
- ▶ 20MW COLLEN BAWN



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SOLAR PROJECTS- BLANKET MINE

- ▶ 2022
- ▶ 12,2 MW
- ▶ 21% COSTS



FUTURE TRENDS IN SOLAR ENERGY



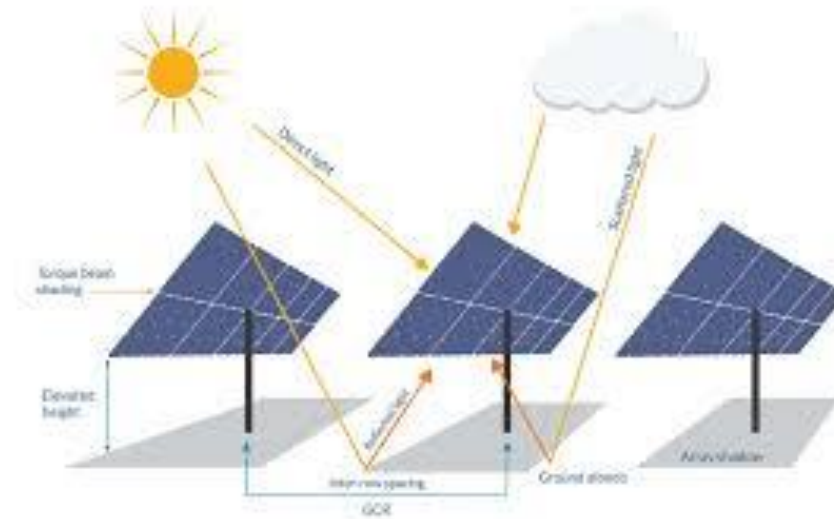
FUTURE TRENDS IN SOLAR TECHNOLOGY

Perovskite solar cells-
25% efficiency



FUTURE TRENDS IN SOLAR TECHNOLOGY

- ▶ Bi Facial Solar panels-
- ▶ 30% extra power



FUTURE TRENDS IN SOLAR TECHNOLOGY

FLOATING SOLAR FARMS





FUTURE TRENDS IN SOLAR TECHNOLOGY

Building Integrated Photovoltaics



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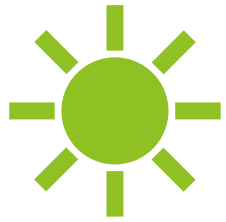


QUESTION & ANSWERS

CONCLUSION



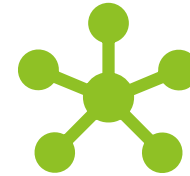
SUMMARY



THE IMPORTANCE OF
SOLAR POWER FOR A
SUSTAINABLE
FUTURE



THE CRITICAL ROLE
OF PROJECT
MANAGERS IN DRIVING
SOLAR INITIATIVES



EMBRACING DIGITAL IN
PROJECT OUTCOMES

CALL TO ACTION



- Encouragement to integrate sustainable practices in project management
- Commitment to continuous learning and adaptation in the digital age



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 - ▶ Second level Arial 24
 - ▶ Third level Arial 18
 - ▶ Forth level Arial 18
 - ▶ Fifth level Arial 16

"I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that."

— Thomas Edison



"Solar power is the last energy resource that isn't owned yet - nobody taxes the sun yet."

— Bonnie Raitt



"The future is green energy, sustainability, renewable energy."
— Arnold Schwarzenegger





Project
Management
Institute.
Zimbabwe

THANK YOU

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