



## Youth Engagement in Water-Solar Energy Technologies and Implementation in Ethiopia

EMPOWERING THE NEXT GENERATION FOR SUSTAINABLE SOLUTIONS



# Ethiopia

Over 120million  
population

75 %lives in rural  
location

55% have access to  
Electricity in total

11% Rural  
electricity access

# Activities in Solar PV technologies in Ethiopia

Pico-solar  
Appliances



Solar Home  
Systems



C&I Standalone  
Systems



Mini-grid  
Systems







# STIFTUNG SOLARENERGIE- SOLAR ENERGY FOUNDATION

## ○ Who we are:

- We are an International NGO active since 2007 in Ethiopia
- Our core activities are electrifying rural communities and institutions (Health Facilities and schools with solar power)
- We install solar power for Productive use purposes (Solar water pump, Solar mill, Solar cooling, Solar Incubator etc.)
- We provide training on solar PV technologies on Design, Installation and Maintenance

# What we do at Solar Energy Foundation

Rural Electrification



Productive use technologies



Training



Solarizing institutions



Community water supply





# Overview of Water-Solar Energy Technologies



## Solar-Powered Water Supply

Different projects developed solar-powered water supply systems that provide clean water to communities, enhancing access to essential resources.

## Solar Irrigation Systems

Solar irrigation systems utilize solar energy to irrigate crops, providing a sustainable solution for agriculture in water-scarce areas.

# Benefits of Integrating Solar Energy with Water Systems



## Reduced Energy Costs

Integrating solar energy with water systems can significantly lower energy costs, making water management more affordable.

## Improved Water Access

Solar integration can enhance water access, especially in remote areas where traditional energy sources are limited.

## Enhanced Sustainability

This synergy promotes environmental sustainability by reducing reliance on fossil fuels and lowering carbon footprints.

## Energy Independence

Integrating solar energy with water systems contributes to greater energy independence for communities and nations.



# Government Policies and Support



## Promoting Renewable Energy

Ethiopian government policies are focused on promoting renewable energy sources, especially solar energy, for sustainable development.

## Investment Framework

The established framework encourages investments in water-solar energy projects, fostering economic growth and sustainability.





# Importance of Youth Participation

## Advocacy for Sustainable Energy

Youth play a critical role in advocating for sustainable energy solutions, influencing policies and practices for a greener future.

## Relevance to Community Needs

Involving young people in energy projects ensures that solutions are tailored to meet the specific needs of their communities.

## Fostering Ownership

Youth participation fosters a sense of ownership in projects, motivating them to take responsibility for sustainable practices.





# Programs and Initiatives Supporting Youth

## Youth Empowerment Programs

Various programs aim to empower youth in the water-solar energy sector by providing essential training and resources.

## Training Workshops

Training workshops are designed to equip young individuals with the necessary skills and knowledge in the solar energy sector.

## Mentorship Opportunities

Mentorship opportunities connect youth with experienced professionals in the water-solar energy field to guide their career development.





# Solar Energy Foundation Training Programs

## TOT trainings for TVET instructors



### Theoretical Knowledge

The programs provide participants with essential theoretical knowledge about solar energy systems, preparing them for industry challenges.

### Hands-On Experience

Participants in the training programs receive practical, hands-on experience with solar energy technologies, enhancing their learning.

### Career Preparation

The training equips participants with skills that are critical for pursuing successful careers in the solar energy industry.





# Curriculum: Solar PV Design, Installation, and Maintenance



## Solar PV System Design

Participants will learn about the fundamentals of designing efficient solar PV systems tailored to various applications.

## Installation Techniques

The curriculum covers best practices for installing solar PV systems, ensuring safety and efficiency during the installation process.

## Maintenance Practices

Participants will be trained in essential maintenance practices to keep solar PV systems operating optimally and prolong their lifespan.





# Participation and Outcomes



## Youth Participation

The Solar Energy Foundation has engaged a significant number of youth in its programs, promoting sustainability and skill development.

## Employment Opportunities

Programs have led to increased employment opportunities for participating youth, contributing to economic development in Ethiopia.

## Project Implementations

Successful project implementations have resulted from youth involvement, enhancing community access to renewable energy.

# Scaling up Youth Engagement Initiatives



## Expand Community Reach

Expanding initiatives to more communities will enhance youth involvement and engagement in various projects.

## Funding for Youth Projects

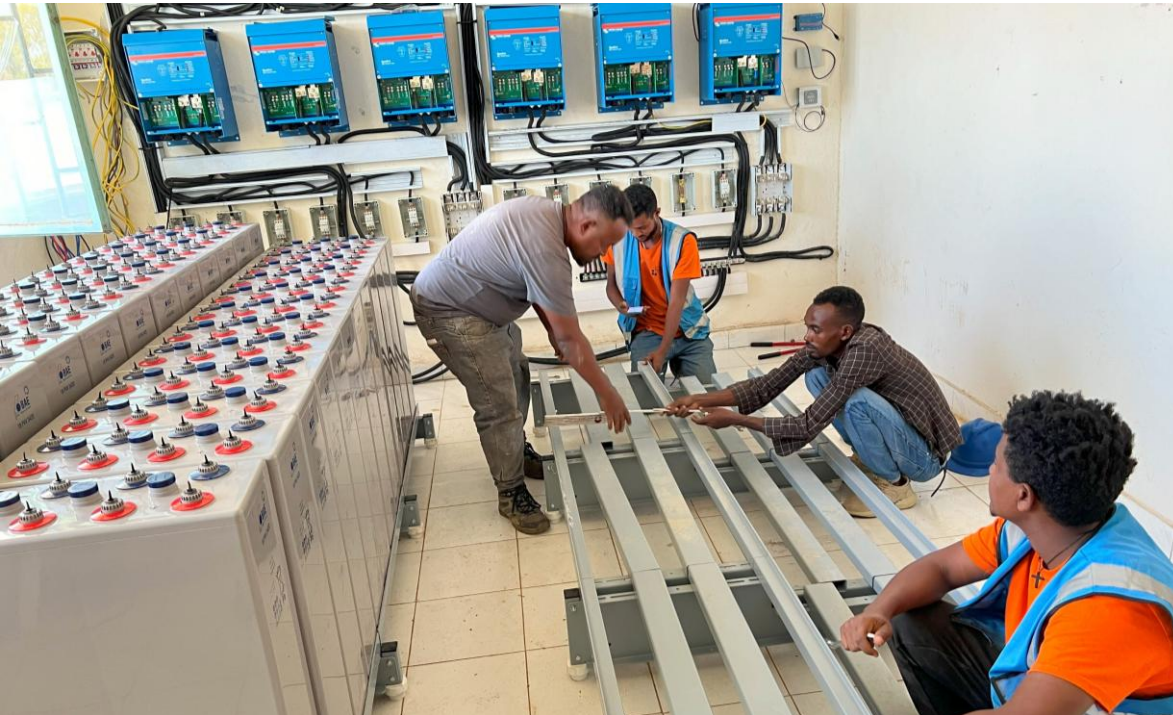
Increased funding and resources for youth-led projects can significantly amplify their impact and overall effectiveness.

## Support for Youth Initiatives

Providing support to youth initiatives encourages collaboration and innovation among young leaders.



# Challenges and Opportunities



## Funding Limitations

Funding limitations pose a significant challenge to the implementation of water-solar energy technologies in Ethiopia, hindering progress.

## Technological Barriers

Technological barriers also impede the adoption of water-solar energy technologies, affecting efficiency and scalability in Ethiopia.

## Youth Engagement

Increasing youth engagement presents a unique opportunity for driving innovation and adoption of sustainable energy solutions in Ethiopia.

## International Collaboration

International collaboration can enhance resource sharing and expertise, offering pathways to overcome challenges in water-solar energy adoption.

# Policy Recommendations and Strategic Plans



## Youth Engagement in Renewable Energy

Engaging youth in renewable energy initiatives fosters innovative solutions and promotes sustainable practices for the future.

## Educational Initiatives

Education is essential for equipping youth with the necessary skills and knowledge to contribute to renewable energy advancements.

## Funding and Support

Providing adequate funding and resources is crucial to support youth-led renewable energy projects and innovations.

## Creating an Enabling Environment

Establishing policies that support innovation will encourage youth to participate actively in the renewable energy sector.





# Conclusion

## Youth Engagement Importance

Engaging youth in water and solar energy technologies is essential for addressing Ethiopia's sustainable development goals.

## Investing in the Future

By investing in young people's skills and knowledge, we can tackle pressing energy and water challenges effectively.

## Creating a Brighter Future

Fostering youth involvement will pave the way for a sustainable and prosperous future in Ethiopia.