

RENEWABLE ENERGY & ENVIRONMENTAL SUSTAINABILITY

WORK SYSTEM: COMPANY PROFILE



Contents

Company

- Mission
- Organization

Activity

- Renewable Energy & Electric Storage: off-grid systems
- Projects
 - Italy / Europe
 - Africa / South America / Middle East

Future

- Flexible & Integrated Systems for Developing Contexts

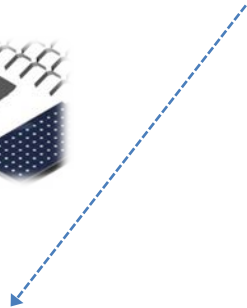
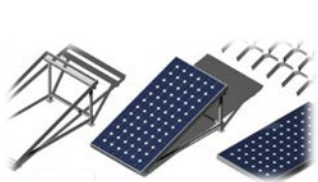
Mission

• **2009 - . . .** : Turn-key realization of Renewable Energy Power Stations
in Italy and abroad:

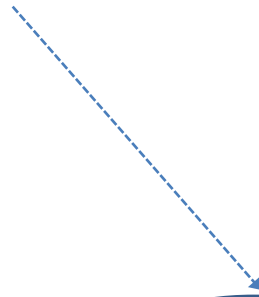
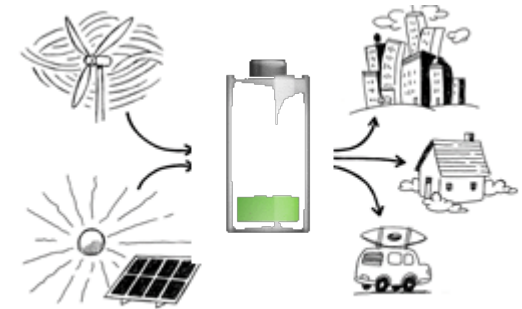
- **internalization of competences:**

- engineering
- supply chain management
- construction /commissioning of plants

- focus on **integration of** renewable energy **independent systems**

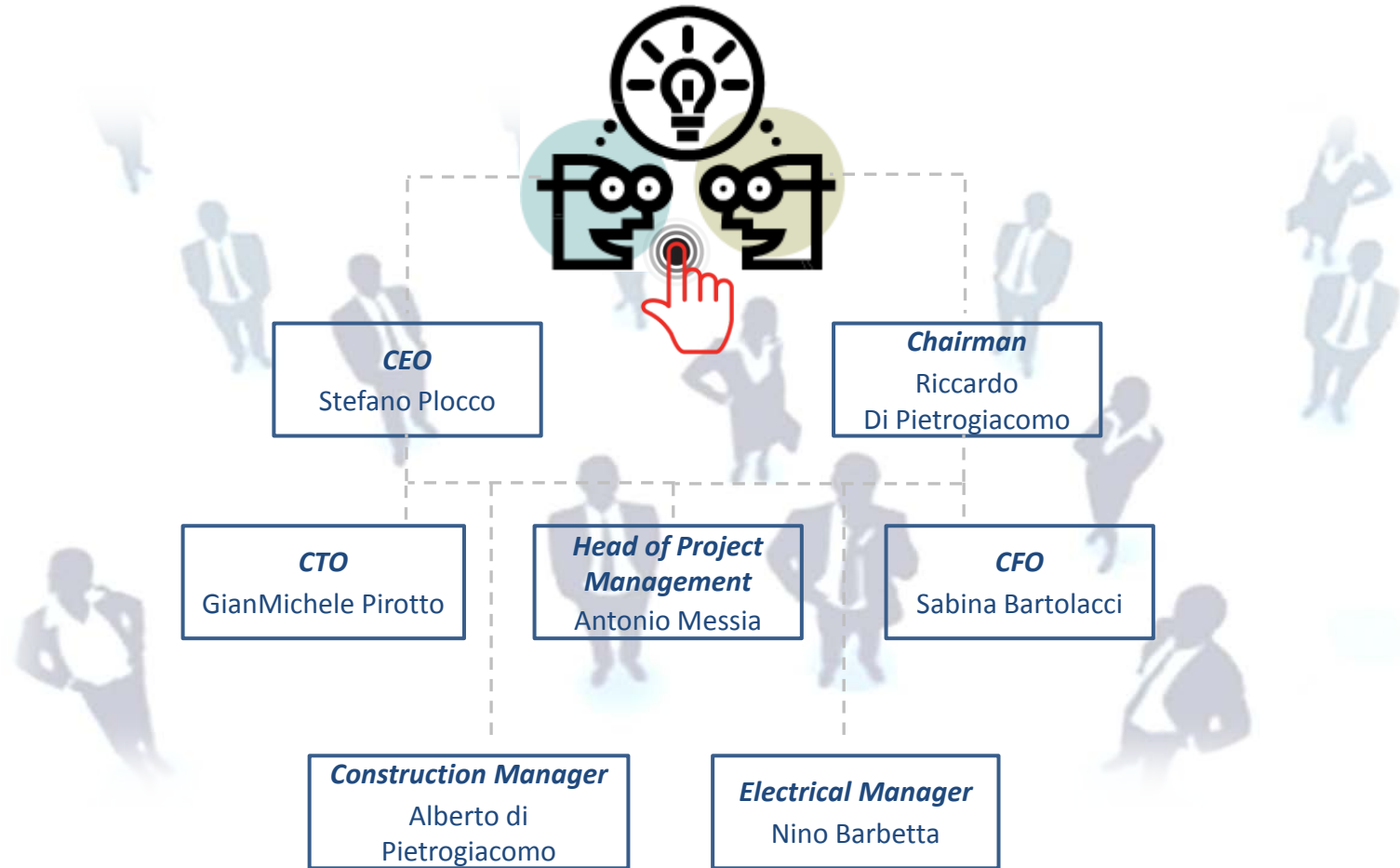


▪ **EPC** (Engineering Procurement and Construction)
of medium/large PV Power Plants



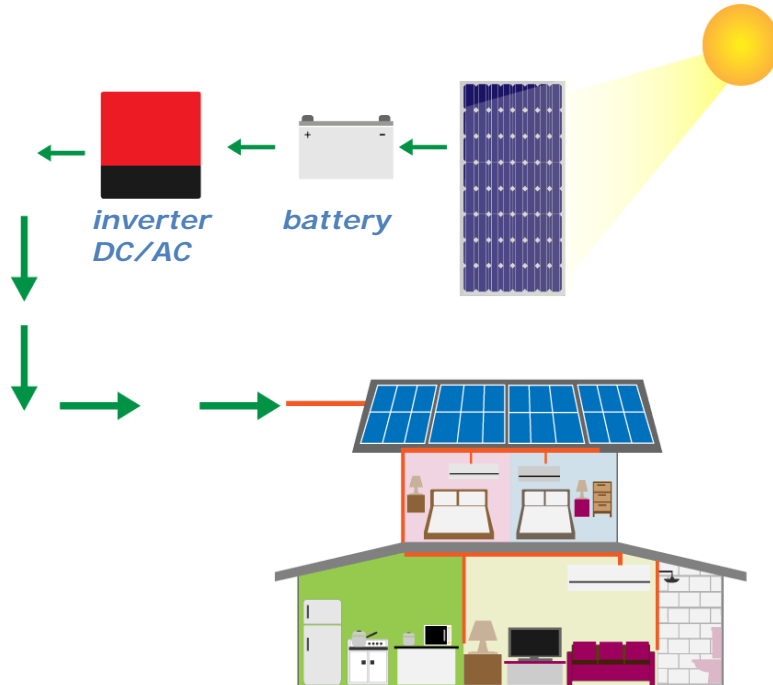
▪ **Off-grid** flexible & customized solutions for
different needs and contexts (Africa, Europe)

Company's Organization



Renewable Energy & Electric Storage

Off-Grid Systems



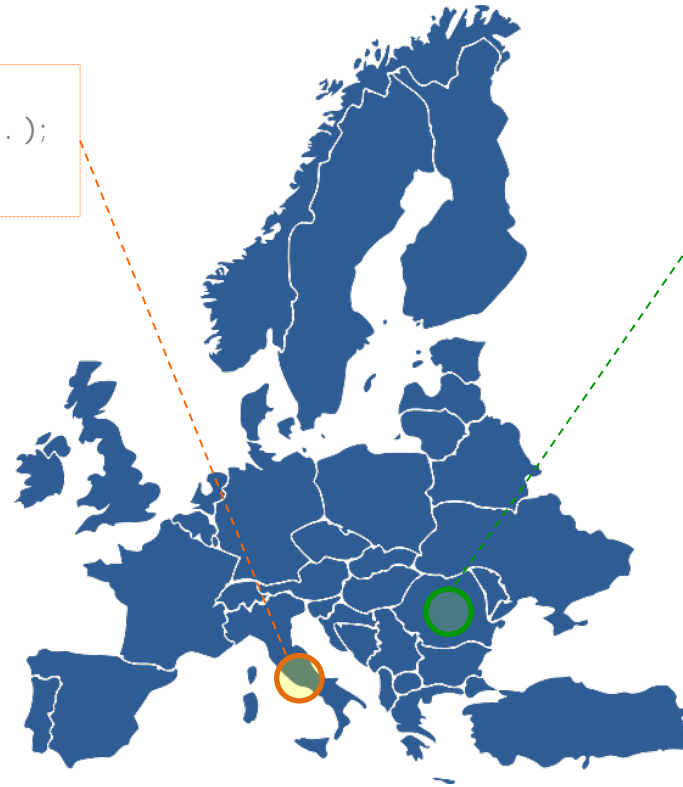
- supply of electricity in **remote areas**, far from grid
- unreliability of electric grid: **back-up** for production



- extreme **flexibility** (energy sources, storage systems);
- **specific** solutions for each particular need;
- no standardized solutions = high-**competences** market niche

Main Projects (1)

Europe



Italy:

- **12** PV plants realized (2009- . .);
- total capacity ~ **30 MW**

Romania:

- **2 PV plants** realized (2014)
- capacity ~ **4 MW**

Main Projects (2)

Central-South America



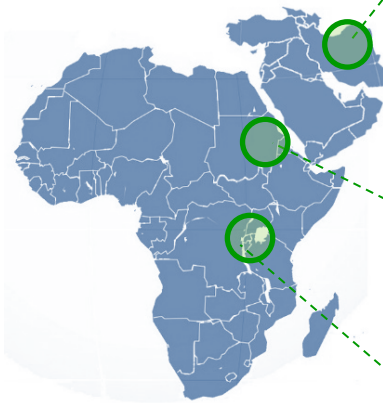
Jamaica:

january 2015: commissioning of 500 kWp plant

Peru:

may 2017: award **Enel Green Power** tender (100 KWp PV/wind hybrid plant)

Africa and Middle East



Iran:

Public tender (ongoing) (**80 MW**)

Eritrea:

European Community Project (ongoing) - - > **1,6 MWp**

Uganda:

Ssesse Islands Project (ongoing)

The Future



- Italy: Development and Realization of PV Projects in **Grid-Parity** and **Market-Parity** conditions

- Promotion of **independent**, flexible solutions for the production of **electricity** from Renewable sources (PV, mini-eind, mini-hydro) and **drinkable water**

Italy: 'island' model

- coverage of electricity demand without grid connection
- promotion of 'smart communities'

Developing Countries

- Electrification of rural communities;
- Adaptability to particular need:
 - Food preservation;
 - Air/environment conditioning;
 - Increase of farming practices efficiency



Management

Riccardo di Pietrogiacomo (*Chairman*): founder, 20 years of experience in building/photovoltaic sector

Stefano Plocco (*CEO*):

- Joint European Torus (JET, 2005-2008);
- Founder & CEO (2008-2015) of Enertronica s.p.a.;
- 2015-2016: CEO International Project of Innovatec Group

Gianmichele Piroto (*Chief Technical Officer*): 20 years of experience in Electro-technical engineering sector (bachelor degree in Industrial Engineering)

Antonio Messia (*Head of PM*): chemical engineer:

- Eni s.p.a. (2003-2015): Oil Downstream Div. – R&D Dept (Not Conventional Energies)
- 2014-2016: Executive Master in Energy Management (Milan Polytechnic)

Alberto di Pietrogiacomo (*construction manager*): co-founder, more than 40 years of experience in building, PM, Renewable energy

Nino Barbetta (*electrical manager*): 25 years of experience in installation of electric systems (abt. 10 years dedicated to small/medium PV)

Sabina Bartolacci (*CFO*): 3 years of experience in administrative roles in Australia, from 2015 administrative responsible of WS.

Main Projects (1)



Siracusa, 1 MW

- Commissioning date: January 2016;
- Location: Siracusa (Sicily, Italy)
- Nominal Power: 1.000 kWp
- 4000 modules (Si poly-c) + 4 Friem inverters



Ceprano, 1 MW

- Commissioning date: February 2014
- Location: Ceprano (Frosinone, Lazio - Italy)
- Nominal Power: 999 kWp
- 8.080 modules (Si poly-c) + 3 Gefran Radius inverters



Castelvecchio, 1 MW

- Commissioning date: October 2013
- Location: Castelvecchio (L'Aquila, Abruzzo - Italy)
- Nominal Power: 996 kWp
- 4.000 modules (Si poly-c + 3 Gefran Radius inverters)



Radicondoli, 1 MW

- Commissioning date: August 2011
- Location: Radicondoli (Siena, Tuscany, Italy)
- Nominal Power: 998 kWp
- 4.250 modules (Si poly-c) + 2 Schneider Electric inverters



Main Projects (2)



Fiumicino, 9 MW

- Commissioning date: August 2013;
- Location: Fiumicino (Rome, Lazio - Italy)
- Nominal Power: 9.019 kWp
- 69380 modules (Si micro-amorphous) + 4 Aros inverters



Parco della Mistica, 5 MW

- Commissioning date: March 2012
- Location: Rome (Lazio - Italy)
- Nominal Power: 4.980 kWp
- 19.920 modules (Si micro amorphous) + 10 Santerno inverters



Sermano, 3.2 MW

- Commissioning date: February 2011
- Location: Sermano (Piacenza, Emilia Romagna - Italy)
- Nominal Power: 3.167 kWp
- 13.460 modules (Si poly-c) + 6 SMA inverters



Ferrara, 1.3 MW

- Commissioning date: February 2011
- Location: Ferrara (E. Romagna, Italy)
- Nominal Power: 1.259 kWp
- 5.360 modules (Si poly-c) + 3 SMA inverters



Main Projects (3)



Romania, 2 x 2 MW

- Commissioning date: July 2014
- Location: Giulvaz (Timisoara, Romania)
- Nominal Power: 2.000 kWp
- 8.000 modules (Si poly-c) + 6 Gefran Radius inverters



- Commissioning date: November 2014
- Location: Mănăștiur (Timisoara, Romania)
- Nominal Power: 2.000 kWp
- 8.000 modules (Si poly-c) + 6 Gefran Radius inverters





Ssese Islands Programme - - - > elettrificazione of rural communities



Kitobo Island, 228 kW_p off-grid

- Commissioning date: **October 2016**
- Location: Kitobo Island (Kalangala, Uganda)
- Nominal Power: 228 kW_p
- 880 moduli (Si poli-c) + inverters
- 4 Vanadium redox Flow Batteries (Gildermeister: 520 kWh)



Bukasa Island, 100 kW_p off-grid (on going...)

- Commissioning date: **October 2016**
- Location: Bukasa Island (Kalangala, Uganda)
- Nominal Power: 100 kW_p
- Vanadium redox Flow Batteries (250 kWh)



... electrification of remaining 25 islands ...

International Projects: Eritrea



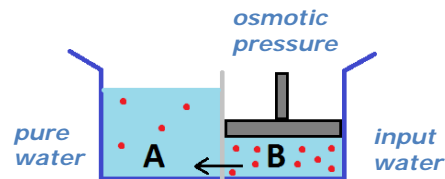
Asmara, 220 kW_p + storage

- Commissioning date: December 2015
- 880 polycrystalline modules
- 2 EEI inverters
- Storage Capacity: 750 KWh



Massaua, St Francis Church (system integration)

- . . . on going (commissioning date: end 2017)
- Electricity used to produce drinkable water (osmosys plant)



- electric power: 48 kW



'ERITREA 2' Project

- Commissioner: European Community
- Main Contractor: Enertronica
- Total Power: **1,6 MW**
(73 sites, on grid and off-grid)
- Commissioning date: end 2017

