

Beyond Energy Action Strategies



D.3.2. – Workshop report on bankable projects and business models

Title of the Workshop: Bankable projects and business models for energy projects in local community

Date realised: 24 March 2015

Location: Villa Koruna, Municipality of Ston, Dubrovnik-Neretva County, Croatia



Submission date: 30 June 2015



Co-funded by the Intelligent Energy Europe Programme of the European Union

CONTENTS

| | |
|---|---|
| 1. General | 3 |
| 2. Objective | 3 |
| 3. Description and overall evaluation | 3 |
| 4. Outcomes and conclusions..... | 4 |
| 5. List of Participants | 5 |
| 6. Agenda..... | 7 |
| 7. Photos..... | 8 |
| 8. Dissemination material | 8 |

1. General

| | |
|-------------------------------|---|
| Topic | Bankable projects and business models for energy projects in local community |
| Date | 24 March 2015 |
| Location | Villa Koruna, Municipality of Ston, Dubrovnik-Neretva County, Croatia |
| Number of participants | 20 |

2. Objective

Purpose of this workshop was to present potential bankable energy projects and business models for small municipalities in Dubrovnik-Neretva County. Projects presented were part of ALTENER “Proven technologies” cluster and STEER cluster. Since this County is located in Mediterranean most of the proposed energy projects from ALTENER “Proven technologies” cluster are focused on utilization of solar energy. STEER cluster presented projects include promotion of electric vehicles in municipalities car fleet and among citizens with searching and evaluating of best locations for charging infrastructure.

3. Description and overall evaluation

Faculty of Mechanical Engineering and Naval Architecture at University of Zagreb along with other partners, Regional Development Agency of Dubrovnik Neretva County and 9 Municipalities in Dubrovnik Neretva County, are trying to implement bankable renewable energy actions from SEAP, promote electric vehicles and find suitable locations for installation of charging stations.

The workshop on bankable energy projects and business models was held as a part of Dubrovnik Neretva County Energy Days, which were organized from 24th till 27th March. More than 20 people attended workshop representing Dubrovnik-Neretva County, Development agency of Dubrovnik-Neretva County (DUNEA), City of Dubrovnik development agency (DURA), municipalities, port authorities and utility companies from County.

The meeting started with visit to construction site at Elementary School Ston where work on installation of 10 kWp two-axis solar-tracking system is currently in progress. The work is part of a pilot project from IPA Alterenergy project. Also, solar thermal collectors for preparation of hot water will be installed, and current lighting will be replaced with LED lights. This was followed by introductory speeches from County Prefect Nikola Dobroslavić and Director of DUNEA Melanija Milić.

Workshop was divided into two parts and lasted just over two hours. In first part presentations were given on bankable energy projects and factors that influence bankability. This was focused on presenting possible bankable project for solar heating, cooling and electricity production with analysis of factors that influence bankability of these projects. Second presentation was focused on business models and financing for energy project in small Adriatic communities. Several models were presented with financing opportunities such as ESCO model, Public-Private Partnership, Energy cooperatives, Crowdfunding, Green and sustainable public procurement, etc.

This was followed by dividing participants into two groups which tried to develop business models for implementation of small photovoltaic power plant (10 kWp recommended for private housing, 30 kW for public buildings) on one side, and installation of charging infrastructure for electric vehicles with introduction of electric vehicles into municipal fleet on the other side. Business models were developed using Business Model Canvas for generation of new and innovative business models. Main features of this model are 9 building blocks: customers segment, value propositions, channels, customer's relationship, revenue streams, key resources, key activities, key partnerships and cost structure. This method was used so that participants could obtain an overall picture of business model development, complexity of business model and factors that influence on it.

Finally, workshop finished with group discussion on business model generation, which was followed by lunch break.

4. Outcomes and conclusions


The main objective of the workshop was to present local partner's new method for developing value-driven business models. For that purpose two actions were selected for which business models were developed. Small photovoltaic power plant developed through ESCO model on islands in Dubrovnik-Neretva County, and installation of electric vehicles charging infrastructure on island of Korcula with introduction of electric vehicles into municipal fleet.

For the first model, photovoltaic power plant developed through ESCO model, the conclusions derived were; If possible, integration with solar thermal is beneficial due to increased efficiency of the combined system, although it has a higher investment price; Proper legislature workflow should be adhered to; If necessary, all legal documentation should be in place and filled out correctly; Applications to national funds for energy efficiency should be a priority due to high level of subsidy available, especially in islands; Mapping of public buildings and preliminary feasibility studies into installation of photovoltaic power plant should be determined by the municipalities; Coordination of efforts with the utility company on the distribution level is necessary for proper sizing and operation of power plants and necessary development or reinforcement of the grid; Introduction of smart grids via smart meters for the initial phase and demand side management further on is advised; Online monitoring system to follow real-time production from public building rooftops was proposed.

For the second model, installation of electrical vehicles charging infrastructure, the conclusions derived were; Detailed mapping of needs for the utility companies is needed as an initial step; Possible locations for electric vehicle charging need to be determined; The locations need to be viable on energy basis determined by the distribution utility; Legislature for the installation of the charging stations should be studied to determine the optimal mode of use; Decision on fast daily charging or slow overnight charging leads to different requirements for types of vehicles and battery sizes; Merger of utilities fleets under a single authority with an aim of more volume in fleet procurement for better financial terms and ease of maintenance while in service; Improvement in the distribution grid for handling of the extra electrical load; Implementation of smart charging system for oversight and load-balancing of the charging; Implementation of fleet management system could be an added opportunity as new vehicles enter service to improve the level of service.

5. List of Participants












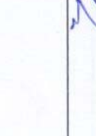


List of workshop participants is scanned and listed below:



Energetski dani Dubrovačko-neretvanske županije:

Radionica „Bankabilni projekti i poslovna partnerstva za energetske projekte u lokalnoj zajednici“

Mali Ston – Vila Koruna, 24.03.2015.

| Br. | Prezime i ime | Institucija | Email - kontakt | Potpis |
|-----|-------------------|---|-----------------------------------|---|
| 1. | MIKOLA PATAK | FSB | miroljub.patak@fsb.hr |  |
| 2. | IVO KLARIŠ | DUZE | ivo.klaris@duze.hr |  |
| 3. | VEDRAN ANUNICA | OPĆINA STON | opcina.ston@opcina-ston.hr |  |
| 4. | NIKOLA DOBROŠUČIĆ | IZPANYA d.o.o. | zupane@izp.hr |  |
| 5. | IVANA FAZINIĆ | KORFA | korfa@korufa.hr |  |
| 6. | HORT KRISTIĆ | DUNE | hort.kristic@dune.hr |  |
| 7. | ZVONKO ČUJAT | DUNEA | zculjat@dunea.hr |  |
| 8. | BRUNO ŽEBIĆ | DUNE A | brbic@aduna.hr |  |
| 9. | FRANJO BRBORA | ERUITO-TECH d.o.o. | franko.brborac@eruito-tech.hr |  |
| 10. | MIRKO ČOŠMA | DURA | mcozman@dur.hr |  |
| 11. | ANDRO ORŠKVAJ | DURA | androsorkvaj@dur.hr |  |
| 12. | TRAVO GRUŠIJEZ | OTČINA VOTAVLE | travo.grusijez@otcina-votavle.com |  |
| 13. | ANTONIO MUIĆ | KISTARSKI ELEKTRIČARSKI USTANOVA K.T.D. MINDEL OFICINA LUMBARDA | antonio.mucic@kistara.hr |  |
| 14. | STEFAN PEJLIĆ | SOLARSTON/KORUNA | solarnastor@stefcon.hr |  |



| Br. | Prezime i ime | Institucija | Email - kontakt | Potpis |
|-----|-----------------|-----------------------|------------------------------|--------------------|
| 15. | MARŠTODIĆ NARLO | NIKO DUBOVIŃIĆ D.O.O. | mar.ice@nko-dubrovnik.hr | <i>[Signature]</i> |
| 16. | GORAN GASPARIĆ | FSB | GORAN.GASPARIĆ@FSB.HR | <i>[Signature]</i> |
| 17. | GORAN KRPAJACIĆ | FSB | goran.krpajac@fsb.hr | <i>[Signature]</i> |
| 18. | TOMISLAV ŽUNIĆ | DUVEA | trudinjica@duvea.hr | <i>[Signature]</i> |
| 19. | IRIHTIĆ PAVIC | AURORA URENA HR | paubramnik@aurora-urena.hr | <i>[Signature]</i> |
| 20. | BORIŠ ŽIVELA | ŽLU VELA LUKA | boris.zivela@zluvl.hr | <i>[Signature]</i> |
| 21. | ŽELJKA MATIĆ | ŽLU Dubrovnik | operativac@zluvl.hr | <i>[Signature]</i> |
| 22. | ANTON BANOVAC | LU DNB | antopti@ludnb.hr | <i>[Signature]</i> |
| 23. | MIKO BUTIČIĆ | LU DPT | mihaila@ludnt.hr | <i>[Signature]</i> |
| 24. | ŽARKO KLISURA | ŽLU KORČULA | zarko.klisura@portkorcula.eu | <i>[Signature]</i> |
| 25. | | | | |
| 26. | | | | |
| 27. | | | | |
| 28. | | | | |
| 29. | | | | |
| 30. | | | | |
| 31. | | | | |
| 32. | | | | |
| 33. | | | | |
| 34. | | | | |

6. Agenda

A copy of workshop agenda is given below:

Co-funded by the Intelligent Energy Europe Programme of the European Union

access to local energy data
Meshartility

Ston, 24.03.2015.

| TERMIN | AKTIVNOST |
|---------------|--|
| 9:30 – 09:45 | Registracija sudionika |
| 09:45 – 10:00 | Pozdravni govori |
| 10:00 – 10:15 | Projekti u provedbi – DUNEA |
| 10:15 – 12:15 | Bankabilni projekti i poslovna partnerstva za energetske projekte u lokalnoj zajednici |
| 12:15 – 12:45 | Pauza |
| 12:45 – 13:00 | Učinkovita javna rasvjeta |
| 13:00 – 14:00 | Energetska učinkovitost u lučkim područjima |
| 14:00 – 14:15 | Rasprava i zaključci |

Beyond Energy Action Strategies
 BEAST

Sveučilište u Zagrebu
Fakultet strojarstva i brodogradnje

energetski DANI 2015
DUBROVAČKO NERETVANSKE ŽUPANIJE

Dubrovačko-neretvanska županija

REGIONAL DEVELOPMENT AGENCY
DUBROVNIK-NERETVA COUNTY
DENE
REGIONALNA RAZVOJNA AGENCIJA
DUBROVAČKO-NERETVANSKE ŽUPANIJE

7. Photos

Photos from the workshop are given below:



Photo 1

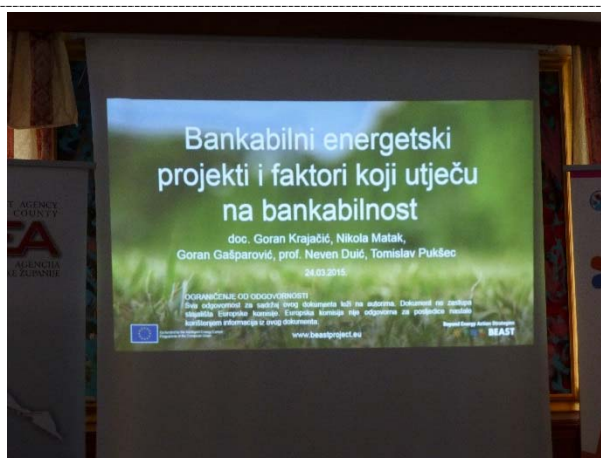


Photo 2



Photo 3



Photo 4

8. Dissemination material

No dissemination material other from the handout invitation was disseminated and project posters was used for the workshop.

A TV interview was conducted on the site of Ston elementary school and aired nationally and locally on several TV stations, while several newspapers followed up on the event in their local issues.