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CITY MINDED

City Monitoring and
Integrated Design for Decarbonisation

CITY MINDED – City Monitoring and Integrated Design for Decarbonisation

TEACHERS TRAINING WORKSHOP - REPORT

6 – 8 JULY 2020, SIENA

Responsible Partner:





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1. Introduction

The Teachers Training Workshop consisted in a virtual workshop carried out on the platform Zoom and organized in combination with 1st Project Management Meeting.

During this workshop, 2-3 persons (teachers, researchers, or trainers) from each partner organization presented a training session for the implementation of methodology and tools to be applied and tested during the project workshops, which will take place in Siena, Rome, Seville and Valletta. Partner contributions covered both the training seminars and the co-working sessions developed to implement a site-specific urban decarbonisation roadmap for a district or neighbourhood in the hosting cities.

The aim of the workshop was to train the members of the team that worked on the project implementation, to share and exchange knowledge on project themes, and to enable teachers to transfer the project approach and methodology to their students.



2. Agenda

Day 1 – 6th July 2020

| <i>Time</i> | <i>Name of the presentation</i> | <i>Responsible partner</i> |
|-------------|---|----------------------------|
| 14:05 | Welcome speech and presentation of the Teachers training workshop | UNISI |
| 14:20 | Presentation of the Intellectual Output O1 – Methodology and Guidelines | UNISI |
| 14:50 | Place-making framework – presentation of the training seminar content | UNIROMA3 |
| 15:30 | Co-working sessions – presentation of the group work, | UNIROMA3 |
| 16:15 | Conclusion | |

Day 2 – 7th July 2020 – Morning Session

| <i>Time</i> | <i>Name of the presentation</i> | <i>Responsible partner</i> |
|-------------|--|----------------------------|
| 09:05 | Assessment and analysis of vulnerability associated with climate change – presentation of the training seminar | UPO |
| 09:50 | Calculation and representation of vulnerability indicators – presentation of the Co-Working session | UPO |
| 10:30 | Conclusion | |

Day 2 – 7th July 2020 – Afternoon Session

| <i>Time</i> | <i>Name of the presentation</i> | <i>Responsible partner</i> |
|-------------|--|----------------------------|
| 14:05 | Carbon accounting framework – presentation of the training seminar | UNISI |
| 14:50 | Carbon Footprint mitigation assessment of target neighbourhoods – presentation of the Co-Working session | UNISI |
| 15:30 | Conclusion | |

Day 3 – 8th July 2020



| <i>Time</i> | <i>Name of the presentation</i> | <i>Responsible partner</i> |
|--------------------|--|-----------------------------------|
| 09:05 | Energy Efficiency and Renewable energy technologies in the active service of the City decarbonisation processes – presentation of the training seminar | IRENA |
| 09:30 | Design of integrated renewable energy technologies and energy efficiency measures– presentation of the Co-Working session | IRENA |
| 09:40 | Maximising energy Self-Consumption in buildings and the use of urban Smart Micro-grids | MIEMA |
| 10:10 | Presentation of the Co-Working session content | MIEMA |
| 10:20 | Final discussion – All partners | |
| 11:00 | Conclusion | |



3. Participants

| <i>Name and Surname</i> | <i>Organization</i> |
|--------------------------------|----------------------------|
| Antonio Franković | IRENA |
| Andrea Poldrugovac | IRENA |
| Simone Bastianoni | UNISI |
| Carmela Gioia | UNISI |
| Matteo Maccanti | UNISI |
| Valentina Niccolucci | UNISI |
| Riccardo M. Pulselli | UNISI |
| Lorenzo Barbieri | UNIROMA3 |
| Romina D'Ascanio | UNIROMA3 |
| Federica Di Pietrantonio | UNIROMA3 |
| Francesca Paola Mondelli | UNIROMA3 |
| Anna Laura Palazzo | UNIROMA3 |
| Josefina Lopez Galdeano | UPO |
| Pilar Paneque Salgado | UPO |
| Jesús Vargas Molina | UPO |
| Diane Cassar | MIEMA |
| Jason Masini | MIEMA |
| Jesmond Xuereb | MIEMA |



4. Report from the workshop

During the 3-days workshop 18 representative from IRENA, UNISI, UNIROMA3, UPO and MIEMA took part in the 4 sessions of the workshop.

The main topics covered in the presentations are listed below:

Day 1 – 6th July 2020

UNISI – Prof. Simone Bastianoni

Welcome speech and presentation of the Teachers training workshop

General introduction

UNISI - Riccardo M. Pulselli

Presentation of the Intellectual Output O1 – Methodology and Guidelines

General objective of the City Minded workshops

Aim of the ‘learning-by-doing’ methodology

Lab Preparation: stakeholder involvement

Lab Execution: training and co-working sessions

Generic agenda explanation

The Closing event

Partners’ contributions

UNIROMATRE – Lorenzo Barbieri & Romina D’Ascanio

Training session - Place making framework

Working group presentation

Decarbonisation and urban environment

Climate change: mitigation and adaptation

Some adaptation examples

Green infrastructure

Nature based solutions

Eco district planning

Slow mobility within a neighbourhood

Walkability

Summing up: a basic glossary

UNIROMATRE - Lorenzo Barbieri, Romina D’Ascanio and Prof. Anna Laura Palazzo

Co-working session - 6 (tentative) modules of the future workshop

1. (Survey)
2. Methods for community mapping
3. Short/long term perspectives on the neighbourhood



- Landscape and environment
 - Urban mobility
 - Urban facilities and stakeholders
4. Neighbourhood surveys
 5. Measuring walkability (Letizia)
 6. Building a common agenda
 7. Scenarios for impact assessment

Day 2 – 7th July 2020 – Morning Session

UPO – Prof. Pilar Paneque

Training seminar - Assessment of vulnerability associated with climate change

1. Research Group presentation
2. Assessment of Vulnerability associated with climate change
 - Methodological framework
 - Components of Vulnerability
 - Dimensions of Vulnerability
3. Selection of hydro-climatic risks to be assessed
 - Floods
 - Droughts
 - Heat waves
4. Indicators proposal
 - Exposure Indicators
 - Sensitivity Indicators
 - Adaptive Capacity Indicators
5. Conclusions

UPO - Jesús Vargas

Co-working session - Vulnerability Index calculation and representation

1. Work scale
2. Techniques and tools
3. Data sources
4. Standardisation and integration of indicators
5. Vulnerability Index Calculation
6. Analysis of the structure of vulnerability
7. Analysis of the dimensions of vulnerability
8. Vulnerability index representation

Day 2 – 7th July 2020 – Afternoon Session

UNISI - Riccardo M. Pulselli

Training seminar - Carbon accounting framework



The City-Zen roadshow experience
Organisation of the workshop
Participating design processes
Urban energy plan
Urban design plan
Carbon accounting
Conclusions

UNISI - Matteo Maccanti

Co-working session - Carbon Footprint mitigation assessment of target neighbourhoods
Data collection – typical household profiling
Data elaboration
Emission Factors selection
Carbon accounting mitigation actions
Set of actions: explanation

Day 3 – 8th July 2020

IRENA - Andrea Poldrugovac

Energy Efficiency and Renewable energy technologies in the active service of the City decarbonisation processes

Presentation of the content and the working group

Energy Efficiency measures in the service of City Decarbonisation

- Presentation of possible energy efficiency measures
- Energy refurbishment of heritage buildings
- Potential and solutions for energy savings in households/building
- Legal aspects
- Funding sources

Examples of energy efficiency best practices

Renewable energy technologies in the active service of the City decarbonisation processes

- Presentation of renewable energy sources
- Possibility for the use of renewable energy sources in the cities
- Renewable energy technologies

Examples of best practices in the use of renewable energy sources.

IRENA - Andrea Poldrugovac

Co-working session - Design of integrated renewable energy technologies and energy efficiency measures

Preliminary modules for the city decarbonisation itinerant workshop

1. Neighbourhood survey
2. Analysis of the conducted survey



3. Building possible scenarios for energy efficiency improvement in the targeted neighbourhood
4. Design of the guidelines with measures and actions for the energy efficiency improvement and use of renewable energy sources in the targeted neighbourhood

MIEMA – Diane Cassar

Maximising energy Self-Consumption in buildings and the use of urban Smart Micro-grids

Presentation of the content and the working group

Integration of RES in buildings for self-consumption

- Overview of the benefits of using RES for self-consumption
- Design of nearly zero energy buildings
- Building renovation strategies
- Energy management within buildings
- Best practices presentation

Integration of smart micro-grids

- Overview of micro-grids and main characteristics
- Technical and economic value of the micro-grid
- Regulatory framework
- Usage and production curves and simulation of scenarios
- Cost benefit analysis and economic factors
- Micro-grid technologies (renewables, energy storage)
- Micro-grid implementation in a local environment – case study

Co-working session

- Classification of building categories within the urban environment
- Surveys and data collection
- Cost benefit analysis for RES and micro-grids
- Barriers: legal, social, financial



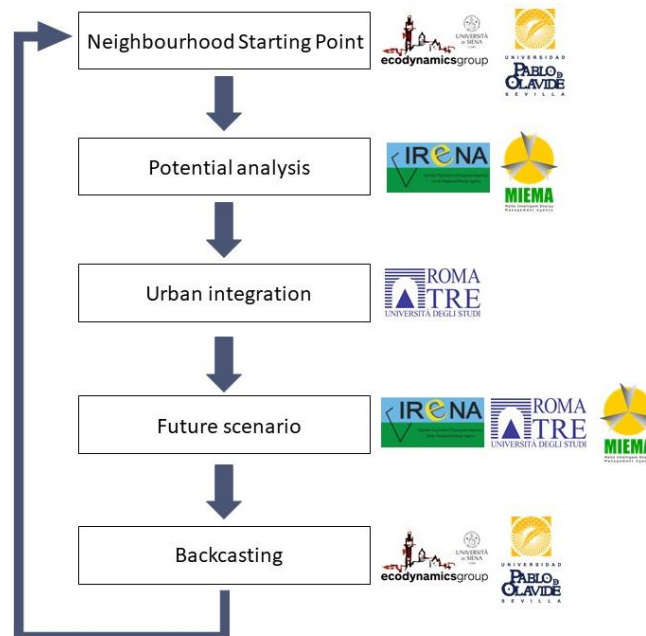
The workshop was held regularly by using the "Zoom" platform. It was organized and coordinated by IRENA and UNISI and all partners took part in the works, in a constructive and participatory way. The workshop was an important moment of cooperation, debate, and mutual knowledge between partners.

Representatives of each partner presented their proposals for both the training and the co-working sessions for the implementation of the future itinerant project workshops.

Following the presentations, a consistent framework for the implementation of the workshops was outlined with the identification of the contribution of each partner:

- Energy planning (IRENA + MIEMA)
- Urban design (ROMATRE)
- Carbon accounting assessment (UNISI)
- Vulnerability assessment (UPO)

The scheme below shows the iterative process defined during the Teachers Training Workshop for the fulfillment of the decarbonisation itinerant workshops: the starting point will be the visit to the neighbourhood and collection of data. Energy potentials analysis will be the basis for the implementation of the urban energy transition. Future scenarios of the neighbourhood will be then hypothesized and, following a backcasting method, actions, and solutions will be determined to reach the carbon neutral status of the neighbourhood.





Some important points were remarked and highlighted during the discussion:

- It is necessary to modulate and calibrate the methodology also based on the specific skills and competences of the students of each university that will host the workshop, in order to optimize the final results.
- The workshops will be a fruitful opportunity for meeting local stakeholders, like administrations and SMEs; it will be a unique chance for the students to directly experience processes in real contexts.
- The presence of local stakeholders will be concentrated in the first two days (possibly even only on the first day) with a full immersion that will allow to experience a participatory design environment.

This decision is also dictated by the fact that it is unlikely that representatives of local authorities can take part in the entire duration of the workshop.

- Questionnaires can be eventually used for a preliminary survey to know in advance the neighbourhood peculiarity and have feedbacks from the community; the idea is to think and design a survey that combines both online and face-to-face questionnaire approach.
- The presentation material will have to be simple, effective, engaging, and interactive.
- A moment of fundamental importance is represented by the final conference: much attention must be paid to the preparation and “wrapping” of the contributions for the final conference, in order to assemble an easily understandable presentation with consistent contents that also looks interesting and appealing for non-specialists.