

THE EU 7FP PROJECT ENCLOSE – FEASIBILITY STUDY, SOFT MEASURES AND SULP INTENTIONS FOR BALCHIK

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Abstract: *The new and modern tools about CO₂ and other gas pollutants decrease are discussed from point of view of ENCLOSE Project considering possibilities to apply and perform soft measures, feasibility study and SULP (Sustainable Urban Logistics Plan) in Balchik town. The last advanced technologies like electric vehicles and combined – electric-gas autos are presented. New technologies like remote sensing - satellite images and Google Earth software are applied to assess the distances between the supplied facilities and the transport routes, the street lengths and streets orientation in space, the local parking places and other facilities. CO₂ and other pollutants decrease is assessed by non direct measurements just following methodology of the ENCLOSE leading partners (forerunner transport logistics cities) in the filed of urban logistics and sustainability.*

Introduction

The Project **ENCLOSE** (ENergy efficiency in City LOgistics Services for small and mid-sized European Historic Towns) is a part of **IEE** (Intelligent Energy Europe) program. The official starting date is 03rd May 2012, duration: 30 months, Project Coordinator: MemEx Srl, Livorno (Italy), Funding from EU: 75%, Consortium: 16 EU partners from 13 different countries.

The urban energy-efficient transport **themes addressed** by the project are:

- needs, requirements, options and priorities of European small-/mid-size historic towns, demonstrating and assessing feasible and sustainable solutions leading to tangible and measurable changes in behaviour and impacts of logistics;
- qualifying the demand of Local Authorities and municipalities of European SMHTs for sustainable, energy-efficient urban logistics and freight distribution solutions;
- investigating and assessing the operation of “green vehicles” (FEVs, PHEVs, Bio-gas) and fleets in urban distribution and other logistics schemes with a general purpose to decrease the CO₂ emissions.

The overall objectives of ENCLOSE is raising awareness about the challenges of energy efficient and sustainable urban logistics in European SMHTs and about the concrete opportunities to achieve highly significant improvements and benefits by implementing and operating suitable and effective measures, schemes and framework approaches specifically targeted to such specific urban environments.

The Project Objectives and Structure

The Project ENCLOSE objectives are developed in six specifics called SPO (Specific Project Objectives):

SPO1

Implementation of pilot operations in 3 SMHTs: Italy (Lucca), Norway Trondheim), The Netherlands (s’Hertogenbosch);

Feasibility and transferability analysis and implementation of soft measures in 6 SMHTs: Spain (Burgos), Portugal (Almada), UK (Dundee), Romania (Alba Julia), Greece (Serres), Bulgaria (Balchik).

SPO2

*Development of **Sustainable Urban Logistic Plans** (SULPs) in the overall 9 ENCLOSE forerunner and follower towns*

SPO3

Building up a suitable and usable framework for the definition of Sustainable Urban Logistics Plans for SMHTs. Building upon the outcomes obtained under SPO1, this is a core specific objective of ENCLOSE, which will lead to a key usable tool for European towns.

SPO4

Promoting and enhancing the networking of SMHTs on the themes of sustainable and energy-efficient logistics, to facilitate the exchange of experiences, promote and achieve the adoption of Sustainable Urban Logistics Plans.

SPO5

Investigating policy-level issues and defining a suitable strategy to ensure long-term sustainability of the designed framework for Sustainable Urban Logistics Plans for small-/mid-size historic towns.

SPO6

Defining and implementing the most effective communication and dissemination strategy to ensure the maximum visibility of project activities and outcomes in all targeted town logistics areas.

The strategic objectives targeted to the long term development of the European policy are called STO and follow:

STO1

Achieving significant reduction of energy and environmental impacts in European small-/mid-size historic towns

STO2

Promoting awareness and sustainable growth of town logistics businesses and industry

STO3

Contributing to the EU strategic goal of decarbonising mobility in European cities, in the specific, relevant environment of small-/mid-size historic towns with the respective measures

The ENCLOSE consortium is constructed by 16 partners from 13 EU countries:

Austria, Bulgaria, Greece, Ireland, Italy, Norway, Poland, Portugal, Romania, Spain, Sweden, The Netherlands, UK.

The consortium actions program requires forerunner (pilot) towns and follower (learner) towns):

Forerunner (pilot) towns:

Lucca (Municipality), Trondheim (Posten Norge), s'Hertogenbosch (Municipality);

Follower (learner) towns:

Burgos (Association Plan Strategico), Almada (Municipality), Dundee (Municipality), Alba Julia (Municipality), Serres (Municipality), Balchik (Municipality)

Participating Agencies/Universities:

Energi Kontor Sydost (Energy Agency), Tipperary Energy Agency, Austria Tech (Technology), ILIM (Logistics);

Association:

EATHR (Historic Towns Association);

Specialized Companies:

MemEx (management, Coordination and Technical issues), MCOMM (Communication and marketing)

The ENCLOSE project actions are organised into 7 Work packages:

- 1 concerning Project Management and coordination (**WP1**)
- 4 (core packages **WP2-WP5**) covering the Key Project Activities aimed at good practice demonstration, evaluation, transferability and experience sharing
- 2 (**WP6** and **WP7**) implementing the appropriate Communications, Dissemination and IEE concentration activities

The respective **WP's** and their tasks are:

- **WP1** - Project Management and Coordination (MemEx):

T1.1 - Consortium and project management (MemEx)

T1.2 - Financial control and reporting (MemEx)

T1.3 - Monitoring and evaluation of project progress/results and dissemination activities (MemEx)

T1.4 - Reporting and quality assurance (AustriaTech)

- **WP2** - Energy efficient urban logistics in SMHTs: situation, needs and challenges (ILIM)

T2.1 - Review and assessment of European situation (ILIM)

(This task makes the review of existing real application and European project results)

T2.2 - Stakeholders goals and User Needs Analysis (Lucca)
 (The methodology of User Needs Analysis (also for defining the stakeholders goals and town objectives) is mainly based on the work already made in Lucca towns in the past years. In T2.2 each involved towns, following a common data collection, will define its “baseline” that will be the start point for supporting the Sulp production (WP03 part 2), the evaluation process (to be carried al local level, WP03 part1) and the cross evaluation (WP05).

T2.3 - Challenges, opportunities and priorities (Almada)
 (This task will set up the scenario in terms of challenges and main opportunities that will be used in WP03 and WP04.)

- **WP3** - Improving energy efficiency of urban logistics in SMHTs: piloting, assessment, transferability and development of Sulp (Lucca)

T3.1 - Pilot implementations and showcasing (Forerunner towns operations) (Lucca)
 (Pilot implementations and showcasing in Forerunner towns, aims to develop pilot operations, data collection and demonstration/activation of new logistics services in the 3 Forerunners towns of Lucca, Trondheim and s'Hertogenbosch.)

T3.2 - Feasibility and Transferability analysis (Follower towns operations) and implementation of soft measures (Burgos)
 (This task consists of two specific parts: Part 1 – Development of 6 Feasibility and transferability analysis and Part 2 - Implementation at least 2 soft measures in each Follower site.)

T3.3 - Local assessment of mobility and energy benefits: development of Sustainable Urban Logistics Plans in the 9 ENCLOSE towns (ESS)
 (This task consists of two specific parts: i) the local evaluation and assessment of mobility and energy benefits of the identified urban logistics measures and schemes, ii) Development of Sustainable Urban Logistics Plans in the 9 ENCLOSE towns)

- **WP4** - Good practice analysis, knowledge sharing and exchange of experiences (DenBosch)
 (This WP includes visits to the forerunners and follower towns and best practices exchange)

- **WP5** - Evaluation and Policy tools (MemEx)

T5.1 - Cross-evaluation of ENCLOSE energy-efficient urban logistics measures and schemes (ESS)
 (Definition of a common validation and evaluation methodology framework based on evaluation categories and indicators as defined from the IEE Common Performance Indicators and on the performance indicators)

T5.2 - Normative frameworks, policy instruments and business models (Dundee)
 (Develop methods of identification and actions providing the site common core elements and main differences for application by partners. The results will be a review of the different frame conditions (perspectives: regulatory, policy and business).

T5.3 - SULPs: framework and policy road-map (MemEx)
 (Development of a reference framework for the development of SULPs) providing a reference general structure and guidelines.)

T5.4 - Roll-out strategy and recommendations to regional, national and European policy makers (AustriaTech)
 (Derive and deliver a set of recommendations to European policy makers at all relevant levels – regional, national and EU related – with indication of a suitable roll-out strategy for the replication of sustainable urban logistics measures in SMHTs throughout Europe)

- **WP6** - Evaluation and Policy tools (MCOMM)

T6.1 - Communication strategy and dissemination plan (MCOMM)

T6.2 - ENCLOSE communication and dissemination tools

T6.2.1 - Dissemination through the EAHTR and s'Hertogenbosch networks (EAHTR)

T6.2.2 - ENCLOSE Web Site (Lucca)

T6.2.3 - Other dissemination activities (MCOMM)

T6.3 - Communication and promotion towards non-ENCLOSE European historic towns (DenBosch)

T6.4 - ENCLOSE Final Conference (Burgos)

- **WP7** - EACI Dissemination Activities (MemEx)

T7.1 - Contribution, upon request by the EACI, to the development of information material (MemEx)

T7.2 - Participation and/or contribution, upon request by the EACI, to information, training and dissemination events (MemEx)

T7.3 - Delivery, upon request by the EACI, of an update/further input of the action's contribution to the “IEE Common performance indicators” (MemEx)

All these activities need a lot of applications related to the satellite technologies and distant images processing. Balchik municipality and SRIT-BAS have long-lasting cooperation in the field of distant methods use and applications about many parameters needed by ENCLOSE Project, such like distances measurements, autos travel optimization, exact positions determination of different objects – hotels, restaurants, shops, and other trading supplied facilities. The cooperation with the Association of the Historical towns is essential.

Balchik soft measures and Sulp

After ARE1 (First Awareness Raising Event) meeting in Balchik held in July 2013 several soft measures have been discussed and some of them implemented.

Two soft measures have been identified for application in the Balchik study area.

These are:

- Time limitation of vehicles access to the hotel area near the sea-shore
- Space limitation of vehicles and tourist cars

Extra soft measures have been identified and implemented - Promenade:

- there is 1 guarded barrier on the entrance to the seashore line
- 2 parking places – 1 guarded and 1 guarded with barrier

Soft measures proposed and not implemented:

- Time limitation near the Balchik Municipality building.

This measure was rejected due to the necessary access to the main administrative building in the town.

- FEVs and HEVs introduction as replacement and additional measure of the busses to serve to the disabled and aged people. This measure was rejected due to the lack of funds.

Soft measures intended to the future, to be implemented:

- "Blue" zones –

The local administration intend to introduced since the beginning of next year so called "blue" zone (such experience exists in some big cities – Sofia, Varna, etc.). The idea is to introduce the paid "blue" zones to limit the time to park on the streets. These are zones marked in "blue" colour, where the parking time is counted and paid to the machine or special persons on duty issuing tickets. The existing experience shows that usually the local people are against such innovation.

- Parking places

The highest difficulties in the city logistics are related to the limitations of the parking places. Due to the very hilly and steep slopes in Balchik, dominated by local landslides, the space for parking places during the summer times is very limited. To eliminate these difficulties there are several parking places, but they can not ensure the increased traffic during the summer time. A measure proposed is to build up new parking places near the entrances of the town. They are located to relatively flat areas, where the construction of such large parking places is possible. This can ensure the calm traffic during the tourist season. Such measure is effectively implemented to other seaside towns (Sozopol, Nesebar, etc.). The problem is still the lack of money for such huge investment.

Balchik feasibility study and Sulp

The feasibility study consists of:

1. General City context
2. General Logistics context
3. Setting logistics baseline
4. "Candidate Measures/Services" identification
5. "Candidate Measures/Services" analysis and assessment
6. Selected Measures/Services design
7. Stakeholder assessment and final delivery

According to the performed study all topics above have been investigated and described, except No7 - Stakeholder assessment and final delivery. This point will be assessed and developed in the near future according to the schedule of the Project ENCLOSE.

The Sulp itself is an extension of the feasibility study with the road map and the future intentions covering the following 10-15 years of implementation. The development of Sulp is also a matter of near future execution of the Project.

Conclusions

As a follower town Balchik is the only small historical city included in the ENCLOSE project. The CO₂ and other gas emissions and pollutants decrease could be reached by several intended measures. Soft measures – such like time limitations in supply transport and/or optimisations of the roads access. Develop and create Sulp – as a long term measure including in future the introduction of the supply transport industry facilities – such like FEVs, PHEVs, local and/or regional terminals, "blue zone" introduction, etc. – is a large discussed possibility of the environmental pollution elimination. The application of remote sensing methods could be an effective tool to optimise the logistics of Balchik.

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