



CiViTAS
Cleaner and better transport in cities



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**« Pure Vegetable Oil and Recycled Cooking Oil
experimentations in La Rochelle »**

La Rochelle in CIVITAS-SUCCESS

- Where?
- Giving life to the concept of Urban Ecology
- SUCCESS Consortium

Together with Ploiesti (RO) & Preston (UK):
three medium-sized cities involved towards
clean transportation



Clean Transportation in La Rochelle

Before CIVITAS II:

- Electric vehicles (electric car renting service, goods delivery)
- 'Diester' supplying the whole bus fleet

Clean transportation within CIVITAS-SUCCESS:

- Implementation of 2 hybrid shuttles between the Southern P+R and the city centre (Nov 06)
- Significant improvement of the electric car-sharing system
- 10 EEV buses will circulate by the end of 2008.



Biofuel in Europe & in France

- Experiences in biodiesel led in other European cities: Graz, Burgos (cooking oil) – in France, Villeneuve sur Lot (Pure Vegetable Oil)
- Willingness of local political decision-makers to develop a biofuel project in La Rochelle : pure vegetable oil & recycled cooking oil
- Legal framework: a grey area
 - At European level: directives adopted in 2003 on the use of oils and related taxes,
 - At national level: EU directive not yet transposed in national legislation
 - Slight evolution of the legislation since January 07



Pure Plant Oil (PPO) experimentation (1/2)

- **Objective:** Use of biofuel for vehicles of the Urban Community
- Purchase of rapeseeds and their pressing into oil.
- Biofuel made up of 70% diesel and 30% PPO. No chemical additive. Limitation at 30% for technical reasons: small adaptation on engines required.
- Installation of biofuel pumps at two filling stations.
- Automatic blending system combining diesel and PPO coming from two separate tanks.



Pure Plant Oil (PPO) experimentation (2/2)

- 8 lorries using biofuel from 2007
- Total : 16 lorries & 30 light vans foreseen by 2009
- **Technical monitoring** (gas emissions) by IFHVP (National Institute of Pure Vegetable Oils) : encouraging results :
 - no alteration of the engine
 - lower impact of the vehicles on the environment (less CO)
- A strong local and national **partnership**
- **Promotion** through the vehicles' livery



From PPO to Recycled Cooking Oil (1/3): Objectives and context

- **Objective:** the recycling and use of cooking oils in the fleet of the Urban Community
- An **opportunity** : a large number of restaurants in La Rochelle (250). Potential quantity : 150 000 litres / year
- An **obligation** : restaurants may not throw their used cooking oil into the sewer network
- Progressive replacement of the PPO by the recycled cooking oil



From PPO to Recycled Cooking Oil (2/3): step-by-step approach

- **Study phase completed**
 - Technical & economical feasibility study
 - Technical visit and knowledge transfer from Graz
 - Market study among restaurants
 - Detailed study to define the most appropriate process
- **Next steps**
 - Finalization of an attractive pricing strategy
 - Call for tender for the collection and the exploitation of the site
 - Collection due to start in January 2008
 - Exploitation three weeks after
 - A 1-year experimentation at a small scale and at a larger scale if successful



From PPO to Recycled Cooking Oil (3/3): Organisation and functioning

- **Collection**
 - Priority given to clean transportation for the oil collection
 - Organisation of the collection : Cans / tanks
- **Process**
 - Choice of a simple & environmental-friendly process
 - without any chemical additive
 - Three-week settling period
 - Filtration
 - Selection of the types of oils to be collected (e.g. palm oil not convenient)



Conclusion

- Experimentations technically feasible and hopeful
- Significant involvement of the stakeholders
- Simplicity and moderate investment costs for vehicles adaptation : potential transferability to other small & medium sized cities
- If the national legislation evolves, La Rochelle could consider to go further by supplying passenger fleet with the produced biofuel.



Thank you

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