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Fostering Public-Private Partnerships for local **bio**-business value chains of **used cooking oils**

*Partenariati pubblico-privati per incubare **imprese verdi** locali in filiere di **oli alimentari esausti***

OILECO Project Initiatives in Italy

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OILECO FINAL CONFERENCE, Madrid 13/12/2013

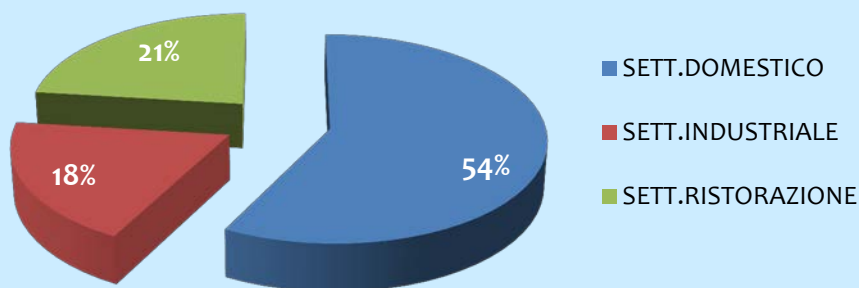
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THE MARKET OPPORTUNITY FRAMEWORK IN ITALY

Vegetable Oil Consumption & Waste

TOTAL OIL CONSUMPTION : 1.400.000 t/y
ESTIMATED UCO: 280.000 t/y from:



Source: Itabia

- Total UCO: 280.000 t/y
- Total UCO collected: 47.000 t/y
- **83%** UCO Potential not collected
- Over € 150 mln/year market

UCO market price survey (Euro/ton)

Dirty UCO	€ 100 – 450
Cleaned UCO	€ 550-700

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IMPROPER UCO DISPOSAL IMPACTS



ENVIRONMENTAL



INFRASTRUCTURAL



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SUMMARY OF OILECO ACHIEVEMENTS

Analysis phase

- EoIs and 13 opportunity studies
- 10 Pre-feasibility studies

Negotiation Phase

- 10 MoUs
- Negotiation of 5 OILECO value chain agreements
- Business plans

Pilot Projects

- Execution of agreements & pilot initiatives
- Public Campaigns
- Consolidation of value chain activities

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OILECO ACTIONS IN ITALY - VALUE CHAIN IN BRACCIANO LAKE

- ✓ 4 Municipalities with common intent to protect drinking water reservoir.
- ✓ A coordinated UCO collection + cleaning service established with 4 UCO collection centers and 2 mobile UCO stations + dedicated service to lake's restaurants.
- ✓ Each Municipality adopted a decree to "assimilate" UCO produced by restaurants into the chain.
- ✓ The private waste collection and cleaning company sells leaned UCO to a local biodiesel industry.
- ✓ A good price has been negotiated with Municipalities which use revenue for funding local initiatives + offer an incentive to restaurants.
- ✓ Biodiesel from Oileco has powered the ENEA's Drone (photo)



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The value chain partnership in Bracciano Lake



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OILECO ACTIONS IN ITALY - VALUE CHAIN IN VALDERA

- 14 Municipalities co-manage waste:
- 8 of them joined OILECO → 22 UCO collection points
- Approx. 12 tons of UCO collected in first 8 months
- Agreement with Coop supermarket for new UCO station
- Local UCO cleaning process (mostly to biodiesel buyers)



- Communication campaign:
10000 leaflets + meetings + website



- Planning of local UCO uses: local landfill machinery fuel blend + development of a chainsaw lubricant for local sales



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OILECO ACTIONS IN ITALY - POLICY

Policy issues: drastic reduction of feed in-tariff for co-generation from bio-liquids - only use of UCO as biodiesel input is normed as *End of Waste*

Promotion of normative reform:

- ✓ Policy brief to Minambiente & MISE
- ✓ Round Table on Policy issues (02/2013)
- ✓ Dialogue with the Chief of Technical Secretariat of Environment Minister. Technical meeting to discuss possible EoW decree content (3/12/2013)
- ✓ **Technical round table to discuss draft decree (02/2014)**



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Case study 1: Public swimming pool – small cogeneration

Trasimeno value chain

CHP 30 kW – cash-flow with feed-in tariff



HP

- ✓ Access to Feed in Tariff : 0,121 €/kWh
- ✓ Premium on high effic.: 0,04 €/kWh
- ✓ UCO supply quota: 65 % @ € 300/ton
- ✓ Virgin Oil supply (35%) @ € 900/ton

Case study 2: Retrofit of diesel furnace

Capannori (Lucca) value chain

ASCIT SpA, the local inter-municipal waste management company collects about 60 ton/y of UCO. The idea is to self-consume 10-12 % of such UCO supply, after cleaning, as fossil diesel substitute in the heating furnace on its own offices.

ANTE

- ✓ Consumption diesel fuel : 7,6 t/y
- ✓ Annual budget diesel: 13.750 €/y
- ✓ Diesel unit cost: **1,81 €/kg**

75% substitution

Investment 2.200 €

Cost of cleaned UCO fuel:
0,58 €/kg*
- 1,23 €/kg

- ✓ Consumption cleaned UCO: 6,1 t/year
- ✓ Consumption Diesel fuel: 1,9 t/year
- ✓ Annual budget diesel + UCO fuel: 7.200 €/year

- 47% annual expenditure

100% substitution

Investment 6.600 €

- ✓ Consumption cleaned UCO : 8 t/year
- ✓ Annual budget UCO fuel: 4.300 €/year

- 68% annual expenditure

*0,46 €/kg per vendita + 0,09 €/kg per pulizia olio + 0,031 €/kg accisa

CONCLUDING REMARKS

- ✓ Significant potential for UCO valorization still largely unexplored
- ✓ OILECO has paved the way to wider use of PPP mechanisms that facilitate value chain agreements for UCO collection, cleaning and energy use
- ✓ Necessity to facilitate local public bodies attitude towards PPPs and related decision making and assumption of responsibility
- ✓ Local cleaned UCO fuel uses exist for bankable investments but necessity for:
 - a) simplification of authorization processes (end-of waste);
 - b) re-modulation of incentives (bias for bio-diesel market) to better support local energy use