

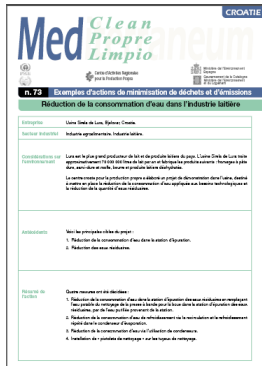


Resource efficiency as a tool of green competitiveness

**Conference on Resource efficiency
Paris , France
24th of April
Virginia Alzina, Ph. D.
Director**



**Regional Activity Centre
for Cleaner Production**



MedClean

100 Mediterranean companies applied eco-management tools obtained positive environmental impacts with **short pay-backs** and **large economic savings**

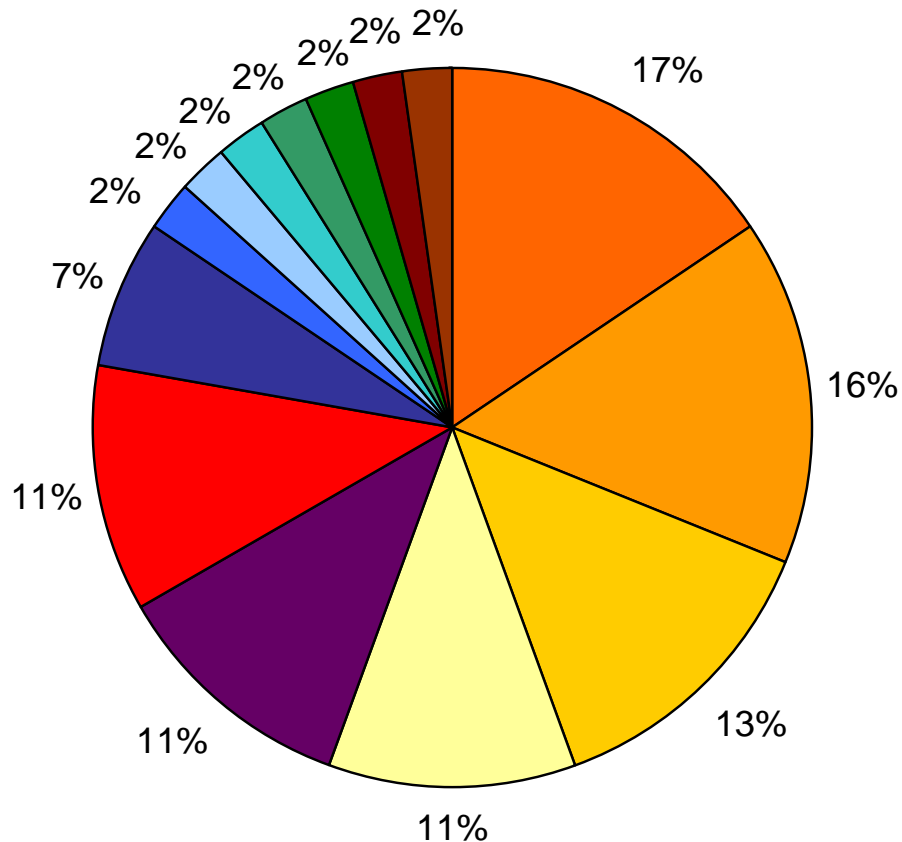


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MedClean

MedClean published by sectors



- Surface treatment & piece painting
- Dairy industry
- Printing industry
- Tanning industry
- Cars manufacture
- Electronics & electrics
- Machinery and products fabrication
- Paper industry
- Plastic industry
- Hotels - services
- Wood
- Aeronautics
- Naval industry
- Waste management



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Textile industry, Turkey



- **Activity:** cotton textile wet processing
- **Action carried out:** installation of a heat exchanger to recover heat from the production
- **Environmental impacts:**
 - Reduction of power consumption (28,85 %)
- **Economic benefits:**
 - Investment → 10.556,00 €
 - **Total annual savings → 193.223,00 €/year**
 - *Saving in power consumption*
 - Pay back period → **1 month**





Lura's Sirela factory, Bjelovar, Croatia



- **Activity:** milk and dairy products
- **Action carried out:** 4 measures to reduce water consumption
- **Environmental impacts:**
 - Savings of drinking water → 92.325 m³/year
 - Reduction on waste water amount → 92.325 m³/year
 - Reduction of waste water pollution load (COD) → 18%
- **Economic benefits:**
 - Total investment → 1.500,00 €/year
 - **Total annual savings → 115.000,00 €/year**
 - *Savings of drinking water*
 - *Diminution of waste water amount*
 - Pay back period → **55 days**





Bonjus Lebanon Fruit Juice Co.



- **Activity:** Agro-Food industry – crisps production
- **Actions carried out:** Recycling of water, recovery of used oil and heat, replacement of hazardous substances.
- **Environmental impacts:**
 - Reduction of water consumption → 18 m³/day
 - Reduction of waste water generated
 - Reduction of energy consumption
 - Better management of waste products
- **Economic benefits (available for water only)**
 - Investment → 5.703,20 €
 - **Annual savings → 3.285,04 €**
 - *Savings in drinking water*
 - *Diminution of waste water amount*
 - Pay back period → **< 2 years**





Food industry, Morocco



- **Activity:** Food industry – canned fish
- **Actions carried out:** 5 measures to reduce water consumption and 6 measures to save energy
- **Environmental impacts:**
 - Savings of water → 8,000 m³/year
 - Energy savings → 9 t fuel/year and 41 TOE/year (Tons of Oil Equivalent)
 - Valorisation of a waste product (guano)
- **Economic benefits**
 - Total investment → 22.214,14 €
 - **Total annual savings → 15.122,03 €/year**
 - *Savings in water / reduction of the organic load of wastewater → 1.441,16 €/year*
 - *Energy savings → 13.680,87 €/year*
 - Pay back period → **< 2years (average)**





Sila Edible Oil Company, Egypt



- **Activity: Oil and soap production**
- **Actions carried out:** Good housekeeping practices, process modification, material substitution, water and energy conservation, reuse and recycling, wastewater segregation.
- **Environmental impacts:**
 - Water consumption reduced by 46%
 - Boiler fuel consumption reduced by 48 %
 - Waste water treatment reduced by 66 %
 - Recovery of oil, soapstock and meal
 - Respect of environmental policies
- **Economic benefits:**
 - Total investment → 21.450,00 €
(from 0 € to 9.000,00 € depending on the action)
 - **Total annual savings → 445.083,00 €**
 - *Recovery of oil, soapstock and meal → 207.795,00 €*
 - *Upgrade steam network → 165.888,00 €*
 - *Preventive maintenance programme → 9.000,00 €*
 - Pay back period → **< 2months (average – going from 0 to 6 months)**





“In the long term, the economy and the environment are the same thing. If it's unenvironmental it is uneconomical. That is the rule of nature.”

Mollie Beattie (director of the US Fish and Wildlife Service from 1993 to 1996)



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THANK YOU



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