



**THE ITALIAN CASE STUDY ON BIO-PLASTICS AND BIO-CHEMICAL  
- AN EXPERIMENT OF SYSTEM BASED ECONOMY-**

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**Bioeconomy in the EU: achievements and directions for the future**

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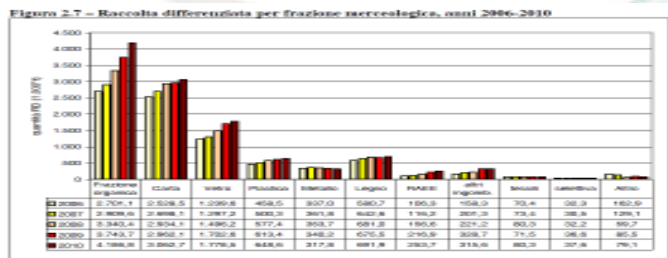
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### ITALIAN POLICY ON BIOWASTE

1. DL152/2006: 65% separate collection in 2012. Compost just from separate collection of organic waste. Organic waste to be collected either in biodegradable & compostable bags (EN13432) and paper bags or in bins

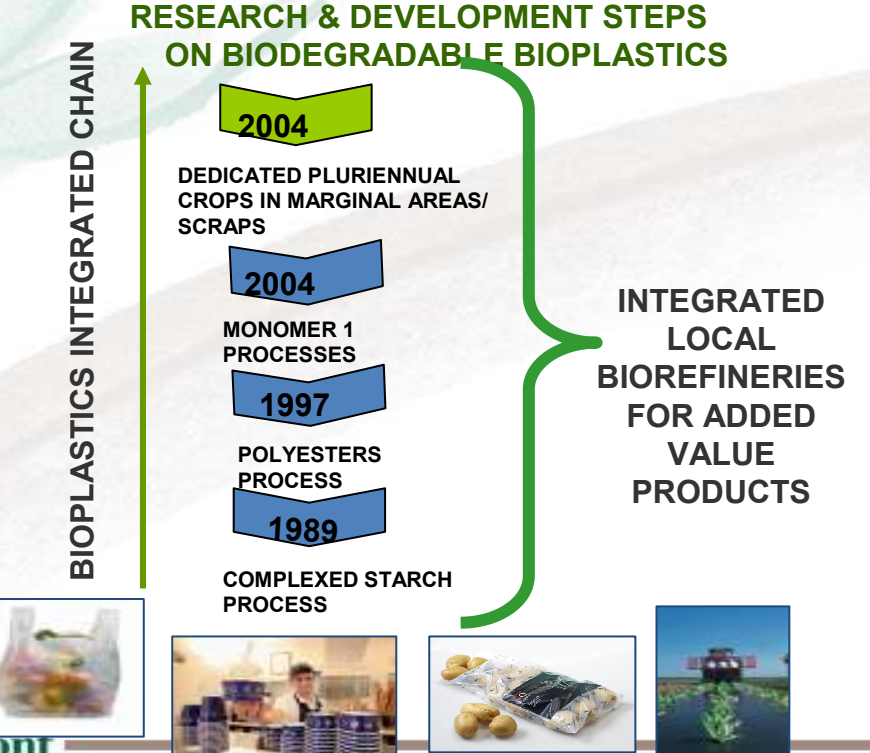


Major pollutants >200000 ton plastics:

- Shopping bags; Fruits&veg bags; Other bags; Other plastic products

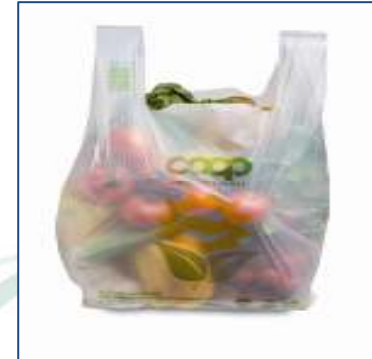
## CHEMICAL INDUSTRY SITUATION

- CASH COST ETHYLENE (2010)
  - Western Europe, nafta: 761€/ton
  - Middle East, ethane: 93€/ton
- DEINDUSTRIALIZED CHEMICAL SITES



## ITALIAN POLICY ON CARRIER BAGS

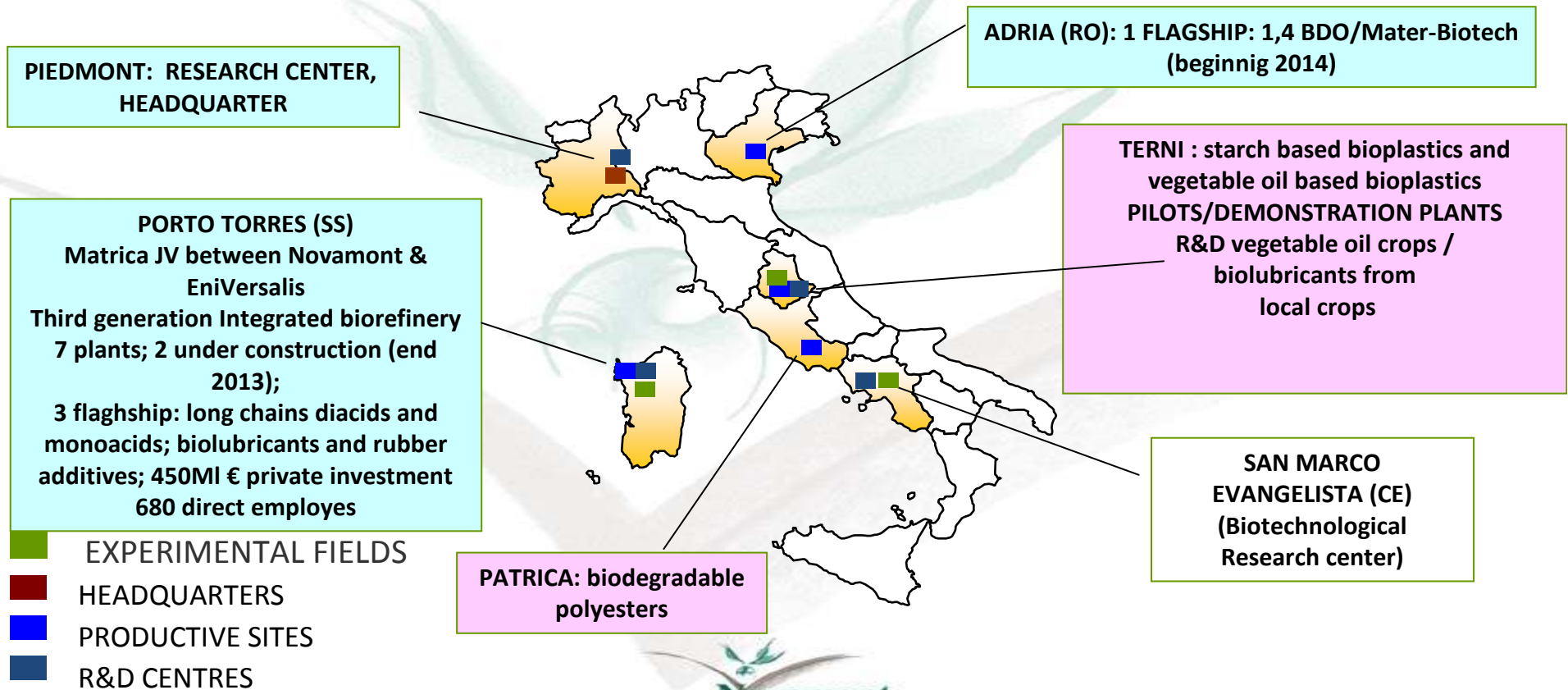
1. Financial law 2007: Shopping bags since January 2011 have to be either biodegradable and compostable or reusable
2. New law 28, 24/3/2012 : non reusable shopping bags have to be certified biodegradable & compostable according to the norm EN13432 by accredited bodies. Threshold thickness for reusable bags



### RESULTS

- 50% REDUCTION OF CARRIER BAGS USE IN RETAIL
- 50% OF BAGS FOR SEPARATE COLLECTION OF ORGANIC WASTE ARE SHOPPING BAGS – HIGHER QUALITY OF COMPOST
- .RECYCLING OF BIODEGRADABLE BAGS IN TRADITIONAL RECYCLING STREAM TESTED BY COREPLA (NATIONAL CONSORTIUM OF RECYCLING) – UP TO 10% NO PROBLEMS . REPORT BY CONAI /COREPLA AVAILABLE . NO BIODEGRADABLE PLASTIC BAGS IN THE PLASTICS STREAM WHERE SEPARATE COLLECTION OF ORGANIC WASTE IS IN PLACE
- MARINE BIODEGRADATION - RESULTS OF BIODEGRADATION TESTS: LESS THEN 1 YEAR FOR BIODEGRADATION
- MORE THAN 80% OF BAGS PRODUCERS ARE ABLE TO CONVERT BIODEGRADABLE BIOPLASTICS
- STILL 72% OF CARRIER BAGS ARE NON BIODEGRADABLE BECAUSE OF UNCERTAIN LEGISLATIVE FRAMEWORK

# THE NOVAMONT MAP OF INDUSTRIAL INITIATIVES RELATED TO BIOPLASTICS IN ACTION



# THE INNOVATION CYCLE FOR BIOBASED PRODUCTS: SYSTEMIC APPROACH AND COHERENT POLICIES TO UNLEASH GROWTH



High innovation cycle speed: acceleration of policies able to stimulate secondary innovations reducing costs and improving eco-efficiency of products and services



**“THE CHALLENGE OF OUR MILLENNIUM IS IN THE BALANCE BETWEEN THE TECHNICAL MEANS THAT HUMANITY POSSESSES AND THE WISDOM IN HOW WE WILL MAKE USE OF THEM”**