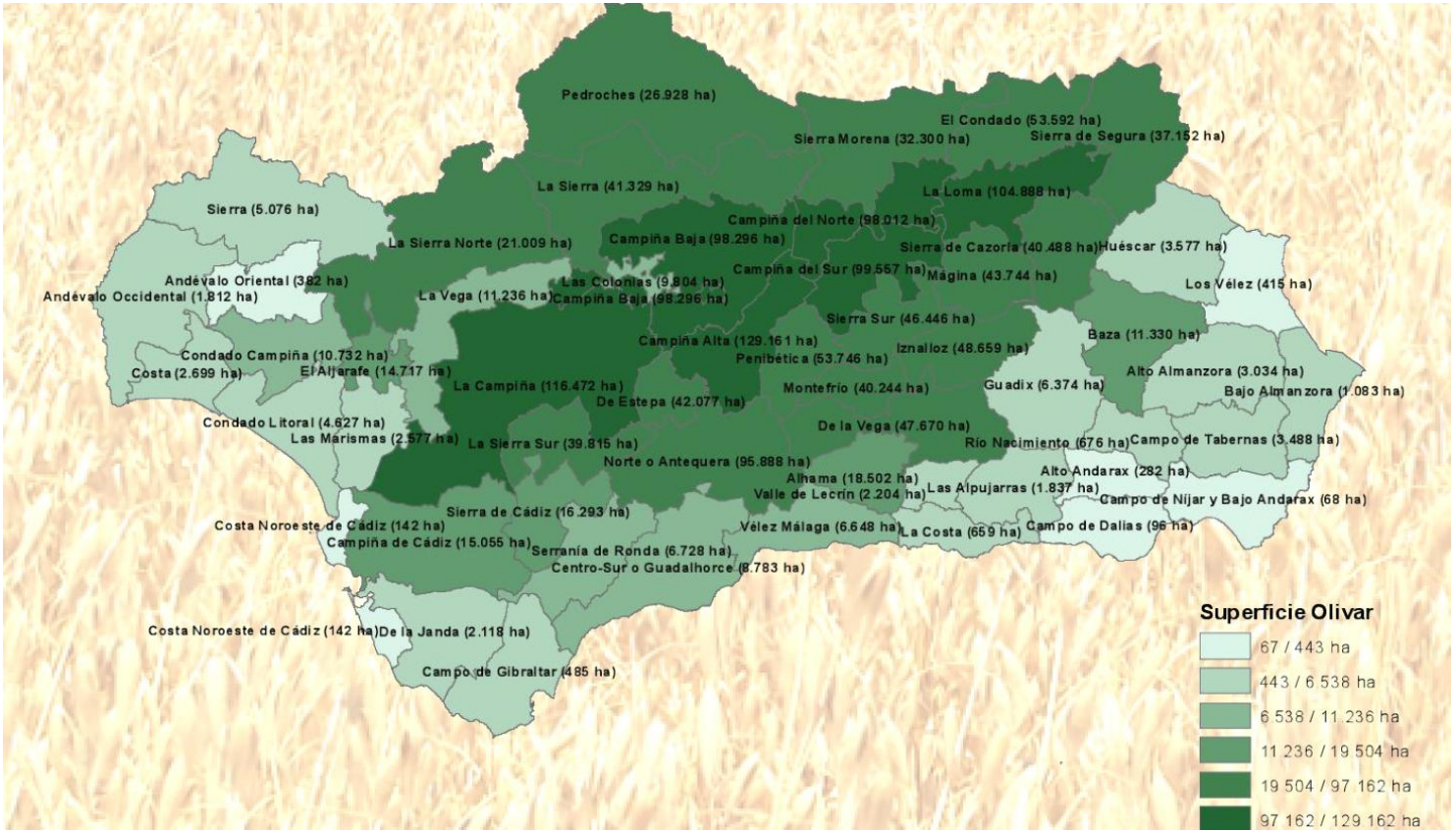
Biomass and Biofuels: Key Pillars for Sustainable Agri-Food and Bioeconomy Development in Andalusia

Amparo Manso, Andalusian Energy Agency

Junta de Andalucía
Consejería de Industria, Energía y Minas
Agencia Andaluza de la Energía

Andalusia: Sea of Olive trees



1.480.000 t/year olive oil&olive dressing / 5.205.000 t/year byproducts &residues

Andalusia olive sector: Products, byproducts and residues

125.000 t olive pomace oil

41 oil olive pomace oil extractors

olive exhausted pomace: 1.775.000 t/year

olive pomace: 4.700.000 t/year

- 1.021.000 t olive oil
- 334.000 t olive dressing

868 oil mills + 224 olive dressing

olive stone : 430.000 t/year

olive leaves: 300.000 t/year

olive washing water

5.736.000 t olives

1.653.000 ha (14% worldwide)

2.700.000 t/y olive prunning

What to do NOW with 5.205.000 t/year byproducts &residues?

biomass logistics developed for energy enables the development of high added-value bio-products

5-10 % High value byproduct

antioxidants, medicinal products, food & feed, biochar

30-35% fertilization, irrigation and soil input

olive prunning and olive washing water (oil mills)

60-65% Energy

Olive stone. Prunning, exhausted pomace, leaves.

- 274 Mwe
- 17 biomass power plant

- 1.850 Mwt
- 29.000 biomass boilers & stoves

The role of innovation in the olive bioeconomy

Challenges olive sector

- Increasing campaigns will increase the production of waste and by-products.
- Lack of capacity in the extraction sector to receive and treat all the pomace received,
- Progressive reduction in CAP aid, which will increasingly be linked to sustainable practices in the olive grove.
- Greater weight of issues related to climate change and the need to reduce CO2 emissions.
- Management costs for certain waste/by-products (penalties, construction of ponds, authorised managers, etc.),
- Increasingly strict and demanding legislation on environmental issues.

Innovation and bioeconomy

- Innovation in the sector allows a reorientation of the business model, which is not based only and exclusively on the production of oil as the main product, and on the subsequent thermal and electrical use of the biomass generated.
- Currently, the development of processes to improve the cascade use of olive biomass for the extraction of components and bioproducts with high added value is being pursued, as well as progress in energy use towards the production of renewable gases such as biomethane, gasification gas and H2.

GRACIAS