



**ICAO AVIATION AND SUSTAINABLE
ALTERNATIVE FUELS
WORKSHOP**



ICAO Headquarters, Montréal, Canada

18 to 20 October 2011

**Partnership Mexico-Spain:
Analysis of positive social impacts
related to biofuels deployment**

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**Aeropuertos y
Servicios
Auxiliares**



César Velarde

SENASA



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COOPERATION ASA (MEXICO)/SENASA (SPAIN) IN THE FIELD OF AVIATION BIOFUELS



CONTENT

1. Cooperation ASA – SENASA in the field of Aviation Biofuels
2. ASA “Flight Plan” Program.
3. Applicability of sustainability criteria on production
4. Opportunities for underdeveloped or abandoned rural areas.
5. Productive reconversion
6. Job creation potential of a Biojet industry.

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**COOPERATION
ASA (MEXICO)/SENASA (SPAIN) IN
THE FIELD OF
AVIATION BIOFUELS**



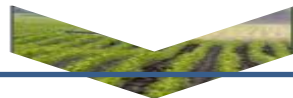
1. Cooperation ASA – SENASA in the field of Aviation Biofuels



NOV 2010



**FRAMEWORK AGREEMENT ON AIR TRANSPORT, SAFETY AND SUSTAINABILITY
SIGNED BETWEEN THE MEXICAN STATE SECRETARIAT OF COMMUNICATION AND
TRANSPORT AND THE SPANISH STATE SECRETARIAT OF TRANSPORT**



SPECIFIC AGREEMENT TO COOPERATE IN AVIATION BIOFUELS DEPLOYMENT

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1. Cooperation ASA – SENASA in the field of Aviation Biofuels

Identification of areas of common interests

Emissions reductions
National Action Plans



Sustainable production
Agricultural potential



Development of rural areas
Employment generation



Energy dependence
reduction



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SPECIFIC AGREEMENT TO COOPERATE IN AVIATION BIOFUELS DEPLOYMENT

BOOST AVIATION SUSTAINABLE FUELS DEVELOPMENT AND DEPLOYMENT

ASA/SENASA Working Group to:

- Common use of information and tools (models).
- Data sharing on regulations, procedures, technical developments, agricultural yields and costs, to facilitate policy making.
- Applicability of RSB sustainability criteria.
- Analysis of social impacts.





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2. ASA "Flight Plan" Program



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Involvement of:

- ✓ Civil organizations,
- ✓ Governmental institutions,
- ✓ Private sector
- ✓ Research centres

Goals:

- ✓ 1% of National demand use by 2015 (40M L. /year)
- ✓ 15% of National demand use by 2020 (700M L. /year)



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2. ASA “Flight Plan” Program

Integration of all value chain talents

Active participation of all actors
collecting **ideas, proposals,**
experiences...



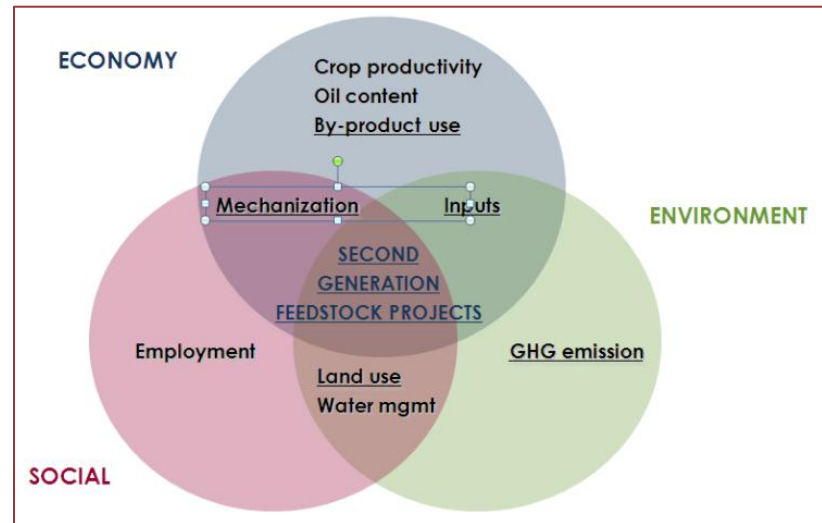


3. Applicability of sustainability criteria on production

Can they be applied in both countries and with different feedstock?



Indicators of Compliance for the RSB Principles and Criteria





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4. Opportunities for underdeveloped or abandoned rural areas

The last two years **685.000** hectares of cereal land were abandoned in Spain

Tabla 4. Evolución del tierra cultivable para cereales de otoño-invierno en España.

Comunidad autónoma	Cereales otoño-invierno 2008 (ha)	Cereales otoño-invierno 2010 (ha)	Tierras que abandonan actividad agrícola 2008-2010 (ha)
Castilla y León	2.253.826	1.873.924	379.902
Castilla La Mancha	1.322.665	1.274.917	47.748
Aragón	784.873	764.256	20.617
Andalucía	737.009	589.023	147.986
Cataluña	320.157	306.628	13.529
Extremadura	282.351	218.725	63.626
Navarra	196.215	184.625	11.590
Total cereales otoño invierno (ha)	5.897.096	5.212.098	684.998

Analysis of social impacts



The desertion of agriculture/farming causes underdevelopment





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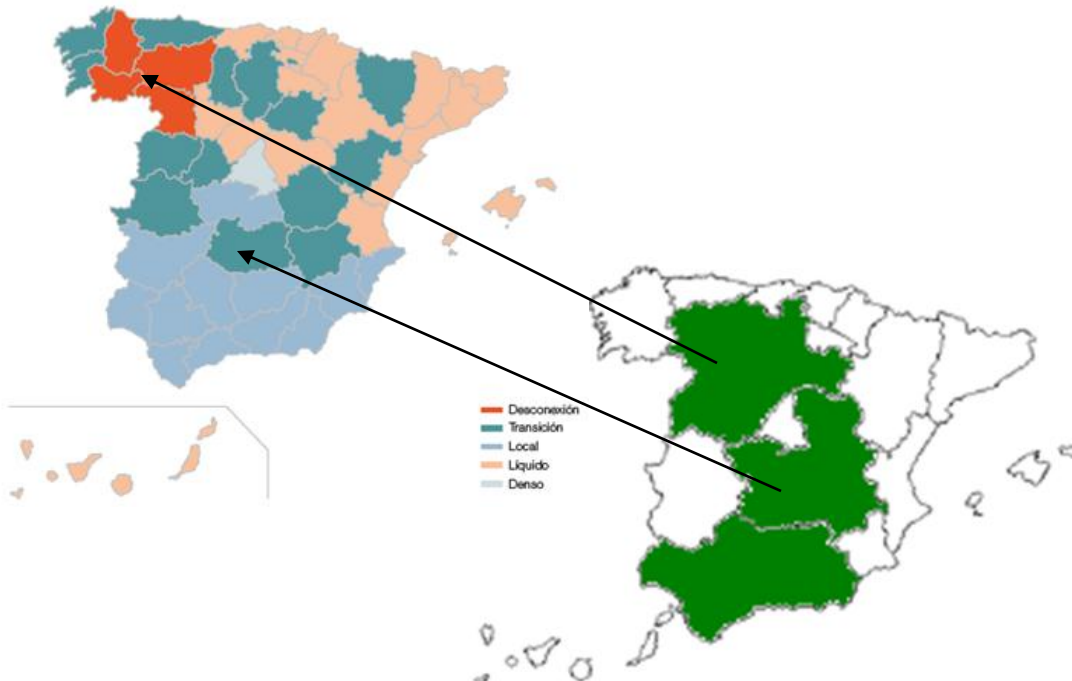


4. Opportunities for underdeveloped or abandoned rural areas

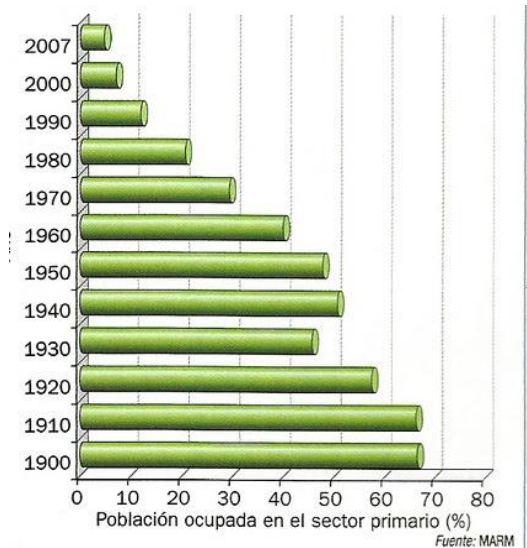
The preferred regions to grow camelina are the ones most suffering this processes



Modelos de ruralidad



Evolution of employment in primary sector in Spain





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5. *Productive reconversion*

Social dimension of sustainability

How to make land more productive to face the challenge of Biofuels for aviation





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5. *Productive reconversion*

Pillars: **Operational / technological improvements** also applies to agricultural practices





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6. *Job creation potential of a Biojet industry*



OBJECTIVE: Grow **100.000** hectares
of land in abandonment process

- ✓ Estimates: Each **100 hectares** creates **1,5 direct jobs** and **0,7 indirect jobs**
- ✓ 82% in agriculture and 18% in extraction, transport & auxiliary services





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6. *Job creation potential of a Biojet industry*



OBJECTIVE: Grow **100.000** hectares
of land in abandonment process

- ✓ Total employment generation:
2.200 jobs
- ✓ Total affected rural population:
10.000 persons
- ✓ Wealth generation:
70 M \$ / year





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Thank you!

¡Gracias!

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