



SCI-TECH
CHALLENGE

REAL
UTOPIA
By Team 4

Real Utopia (by Team 4)

National Sci-Tech Challenge
2021
Italy



ExxonMobil

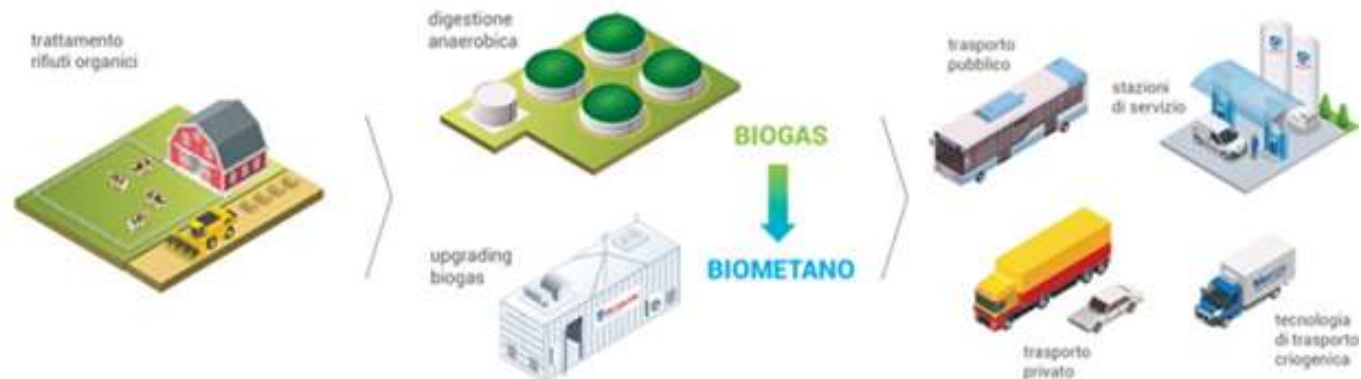
DECARBONISATION

First point: Bio-methane plants



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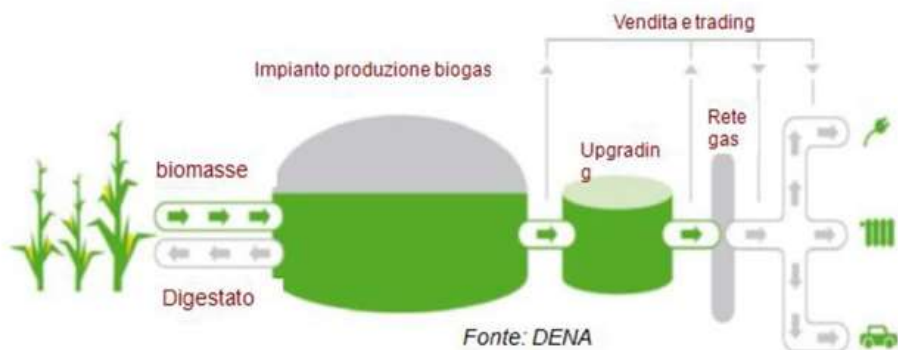
Dal biogas al biometano



SORGENTI DI BIOGAS

DAL BIOGAS AL BIOMETANO

UTILIZZI DEL BIOMETANO



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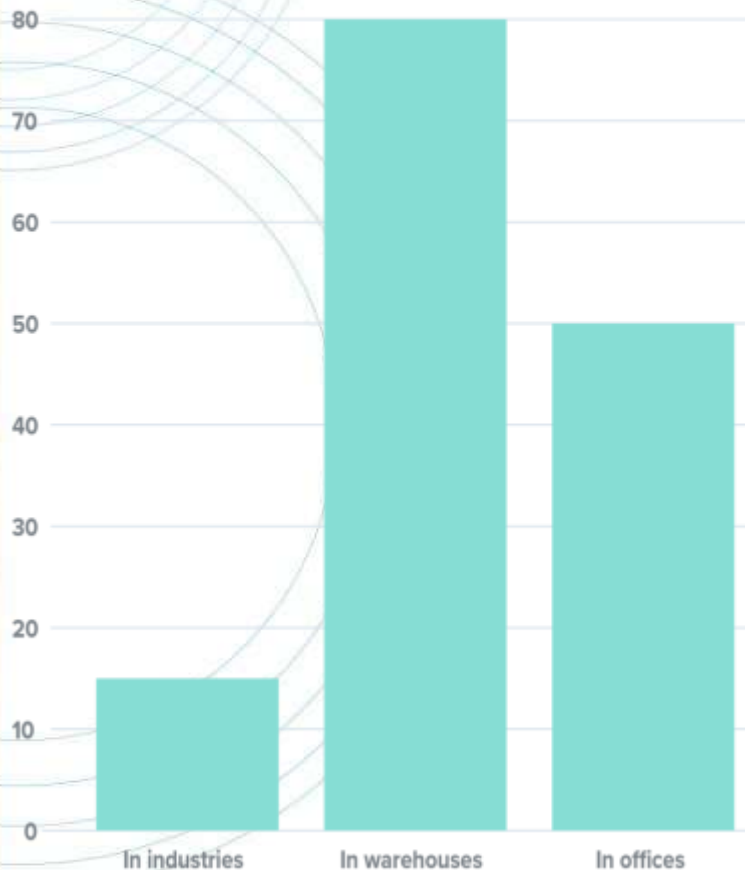
DECARBONISATION

Second point: Relamping



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Total energy consumes spent on lighting



ILLUMINI MEGLIO,
RISPARMI DI PIÙ.
PIÙ CHIARO DI COSÌ!



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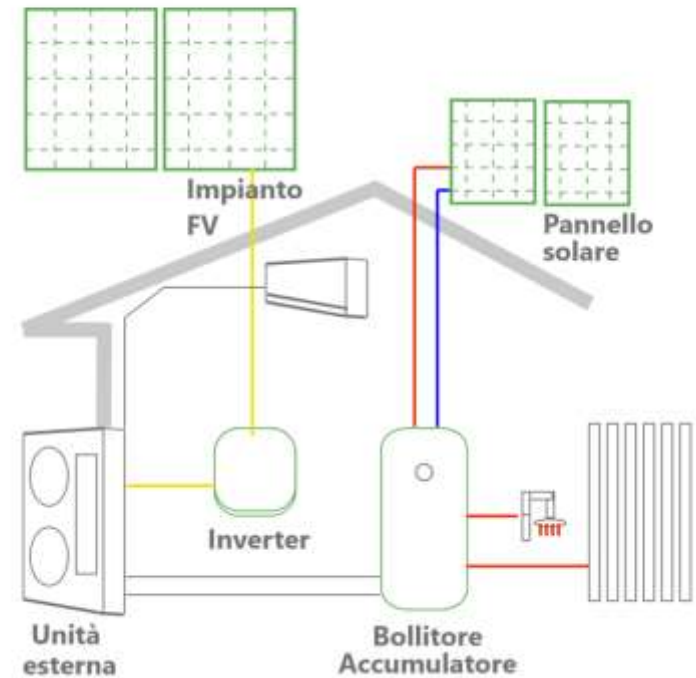
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DECARBONISATION

Third point: photovoltaic heat pumps



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FOTOVOLTAICO

POMPA DI CALORE



+



= 80% in meno sui consumi energetici!



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ECONOMY



TOTAL COSTS:

- 1) Bio-methane plant: $€15,895,000 - €2,000,000 = €13,895,000$ + unexpected events
- 2) Relamping (1,000 light bulbs) : $€38,395 - €15,358 = €23,037$
- 3) Heat pumps plant: $€10,000 - €2,000 = €8,000$

TOTAL: $€13,926,037$ + unexpected events



CONCLUSION



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	Price per KWh
Photovoltaic energy	<5 cents/kWh
oil/carbon fueled energy	5-18 cents/kWh

	CO2 saved	Money saved
LED bulbs	4,77 x 10 ⁸ kgCO2	€15,358
Incandescent bulbs	4,3725 x 10 ⁷ kgCO2	€38,395
DIFFERENCE	4,33275 x 10 ⁸ kg CO2	€23,037

	CO2 saved	money saved
Bio-methane system	1.9 millions tons	€13,895,000
oil system	4.2 millions tons	€ 33,789,000
DIFFERENCE	2.3 millions tons	€19,894,000