



A net-zero energy city : a community in circle!

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#URBACTfest



URB-EN PACT ambition: no later than 2050

Towards net-zero energy territory

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2 EXPERTS

>Lead Expert

>Ad Hoc Expert

7 PARTNERS ACROSS EUROPE



BIAŁOSTOCKI
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GALAȚI



Comune di
Palma di Montechiaro
"Terra del Gattopardo"



eco
FELLOWS



métropole
ROUENNORMANDIE

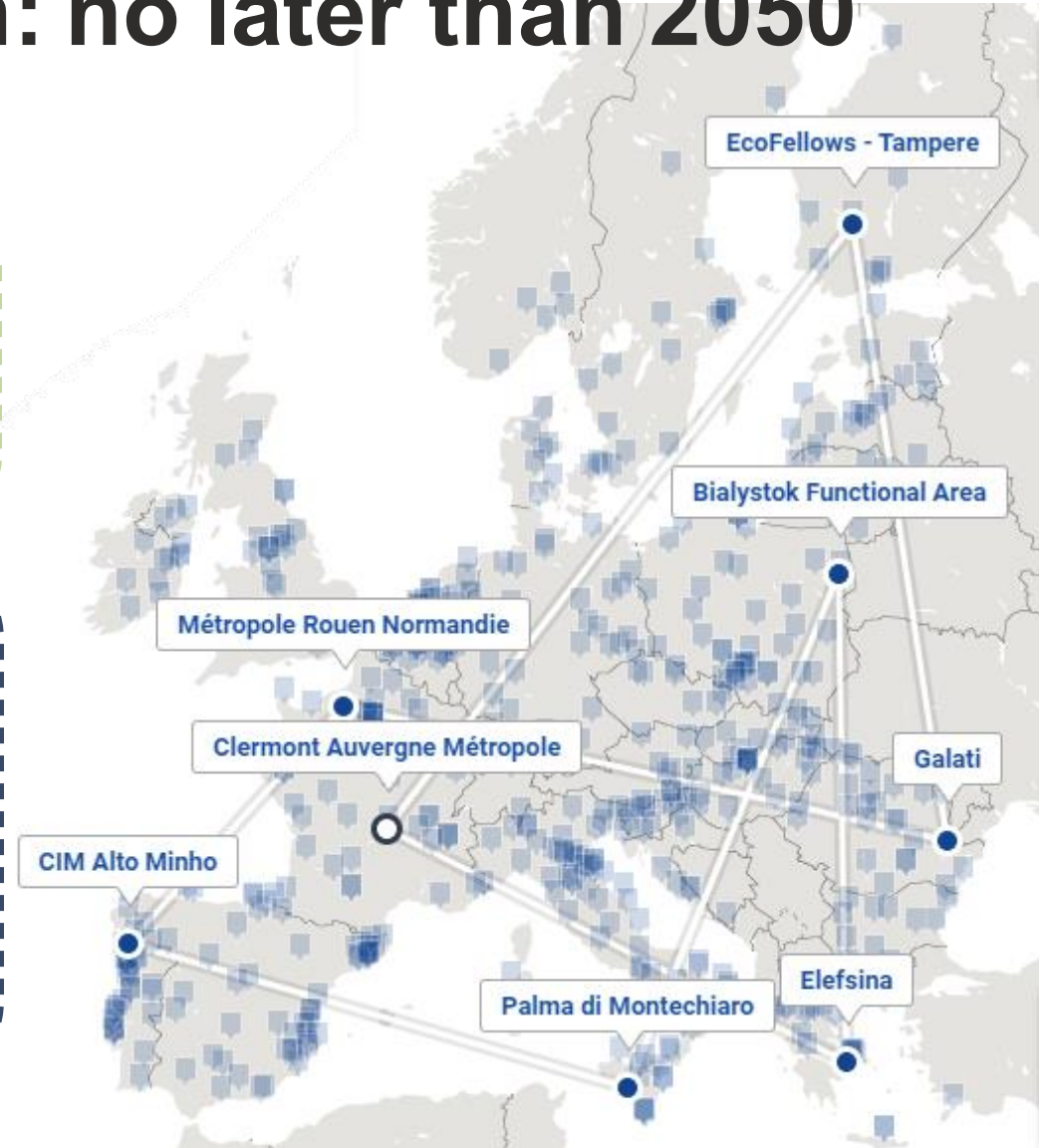


ΔΗΜΟΣ

ΕΛΕΥΣΙΝΗΣ

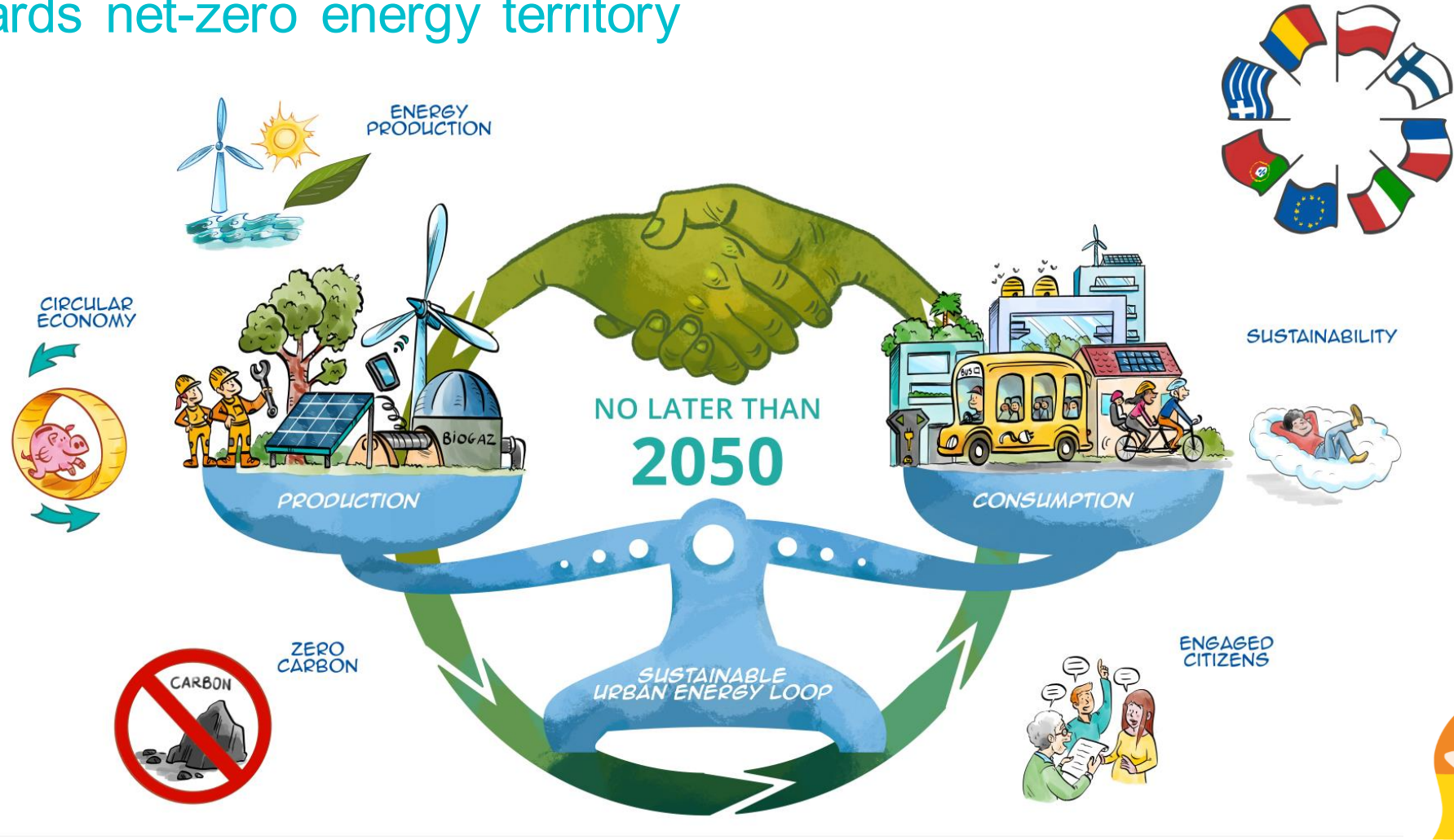


cim alto minho
comunidade intermunicipal do alto minho

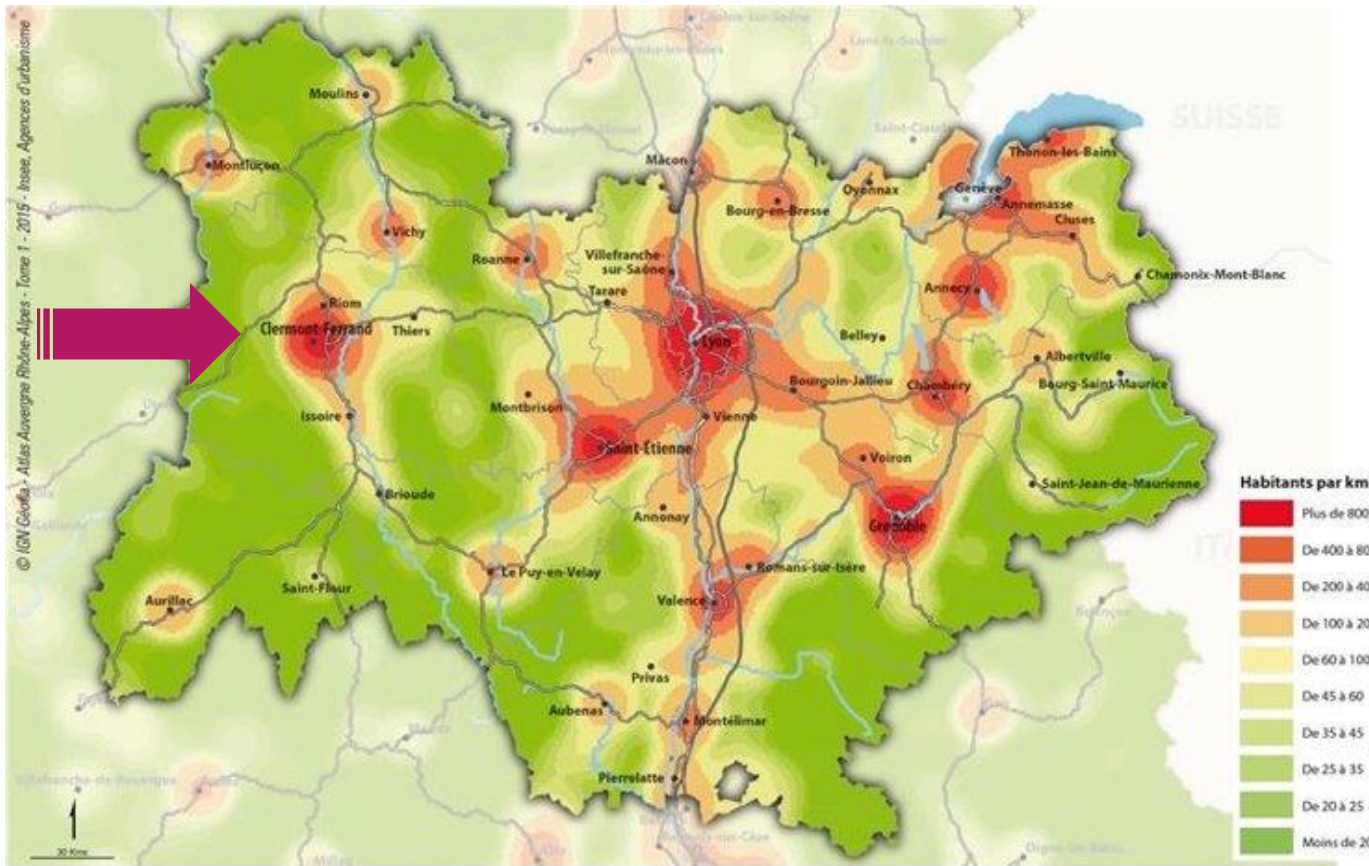


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Urban community Clermont Auvergne Métropole (city of Clermont-Ferrand)



Source : Insee, Recensement de la population 2012





Clermont Auvergne Métropole

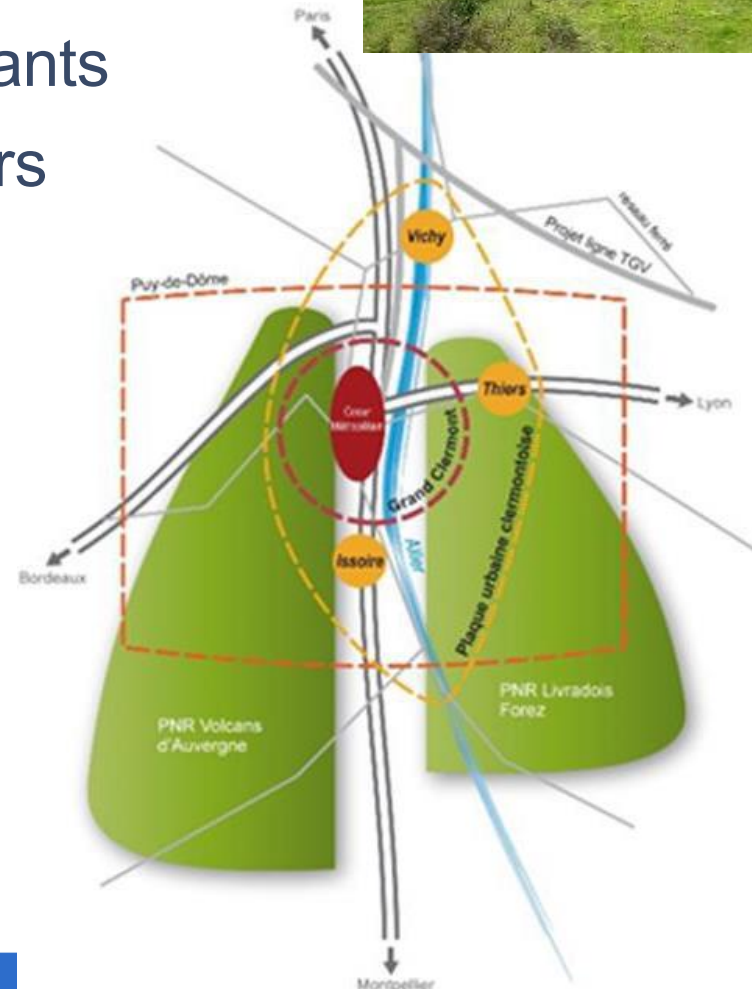
Urban centre in a green oasis

21 municipalities # 290 000 inhabitants
41 000 students # 7 500 researchers

Economic hub of Central France

14 000 companies # Headquarters of
Michelin # Limagrain # Clusters,
incubators etc.

Not a fortress, not insular,
a connected territory!



The PACT = the energy balance on a territory

A PACT for and by the society, towards a new society

1. Energy sobriety

Citizen#Companies#
Academics#Public services

Mobility#Industry#
Housing# Food#
Services#Goods



2. Green energy production

Renewable local sources
Carbon neutrality
R&D, experimentation
Smart investments
Green growth

3. Territorial foundation

Responsibilities/Exemplarity
Governance & commitment
Virtuous loop
Circular economy
Integrated planning



Some examples...

Municipality of Galati (RO)

Galati Wastewater Treatment Plant: Complete treatment of municipal wastewater and resulting sludge for 395 000 inhabitants in the Danube Delta

>>> Biogas producer system from sludge fermentation as a result of wastewater treatment

>>> Two biogas burner engines (power generators), connected to a cooling unit with heat recovery



Galati Wastewater Treatment Plant

- >Less soil pollution / better drinking water
- >Direct creation of 250 jobs
- >**Biogas plant ROI = 2 years!**

In Clermont, a similar project with the estimations:

- Annual biogas production: 14 GWh = heating for 1 400 households
- Annual revenues: 1,5 million €



Some examples...

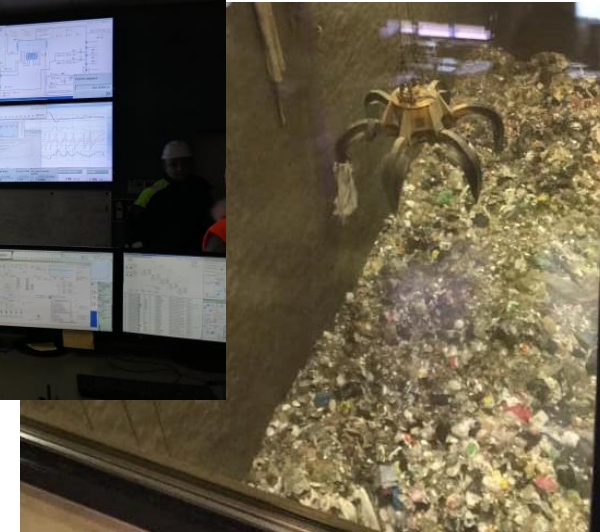
Białystok Functional Area (PL)

Integrated waste management system for the Białystok agglomeration (10 municipalities: 419 428 inhabitants)

>>> Waste incineration plant which combines heat and power plant

>>> An extensive heating network

+ Biogas production in a sewage treatment plant



Waste Disposal Plant

>Waste treatment

- 15.5 tonnes of waste / hour
- 120 000 tonnes of waste / year

>Annual production

- 38,000 MWh of electric power > 16,000 households
- 360,000 GJ of heat > 1,000 households in winter





Some examples...

Clermont Metropole (FR):

Methelec: Biggest biogas production plant in France (2017)

- >>> Independent: the ambition of a pioneer farmer
- >>> Multi energy plant: solar, biogas, electricity
- >>> Treatment of local biomass (livestock manure & agro-industrial waste)
- >>> Biogas > transformed into electricity or injected into the natural gas network
- >>> Heat > used on site (for drying beetroot)
- >>> Digestate > crop fertilizer



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Biogas production plant

>Livestock manure treatment:

- 36 000 tonnes / year
- 50% from neighbouring farms

>Annual supply:

- Biogas: 3 500 000 m³
- 12,4 GWh electricity: eq. 4 000 households
- 14 GWh heat: eq. 1 200 households





Urb-En Pact is on the road to...

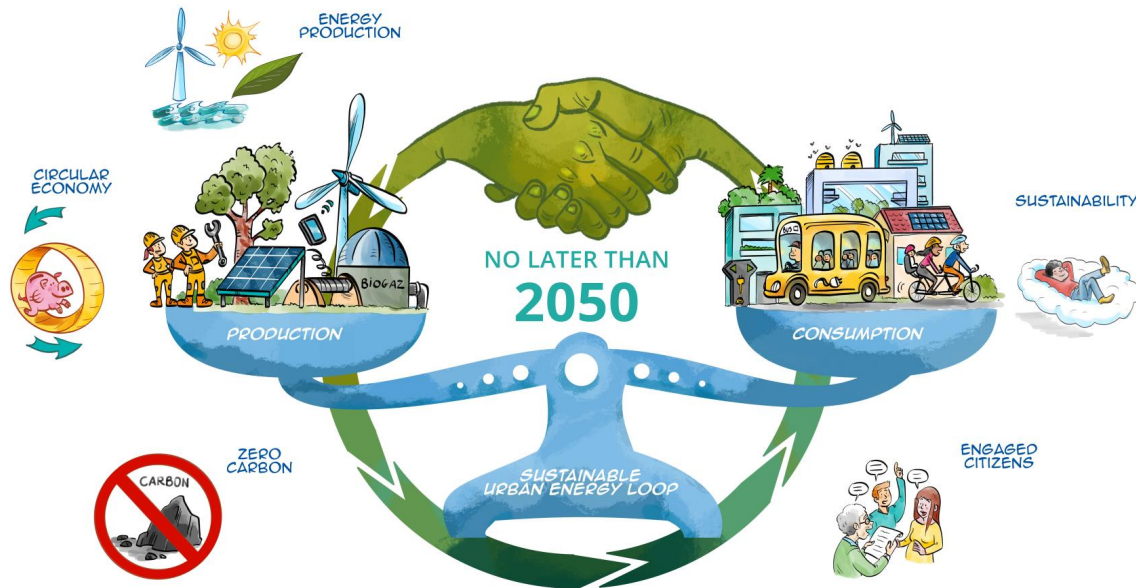
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IN PARTNERSHIP WITH ITALY



At City level : a PACT and a METHOD for and by the society
A territory as a living lab to fight climate change
A city as a "bandmaster" of the strengths and actions



An energy loop run by the circular economy

A "community-in-circle" for becoming a net-zero energy territory



Thank you!

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