

BIP Task Force 3

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Introduction to the BIP and Task Force 3

About the Partnership



The launch of the BIP by EVP Timmermans and Commissioner Simson on the 28th of September during the European Sustainable Energy Week.

- The Commission's REPowerEU plan set the target of 35 BCM of biomethane by 2030.
- A new Biomethane Industrial Partnership (BIP) was established upon the REPowerEU plan to *'support the achievement of the target and create the preconditions for a further ramp up towards 2050'*.
- Scaling up the biomethane production is vital because of:
 1. The need to reduce European dependency on natural gas imports from Russia;
 2. To achieve EU energy independence;
 3. The high energy prices;
 4. The aggravation of the climate crisis.

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Potential of innovative and sustainable biomass sources

3.1

EU-wide potential assessment for sustainable **rotational and sequential cropping**

3.2

EU-wide potential assessment for feedstock production on **marginal and contaminated land**

3.3

Environmental co-benefits through integrated food and energy systems

3.4

Identification of additional **innovative** sustainable biomethane feedstocks

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Potential of innovative and sustainable biomass sources

Rotational and sequential cropping

Marginal and contaminated land

Environmental co-benefits

Innovative



Nordzucker



VATTENFALL



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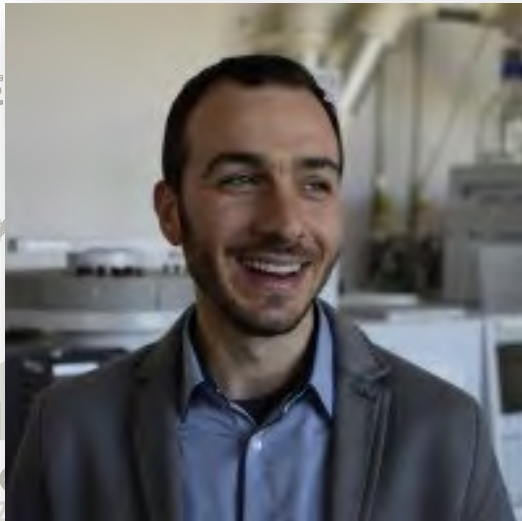
Potential of innovative and sustainable biomass sources

Rotational and sequential
cropping

Marginal and contaminated
land

Environmental co-benefits

Innovative



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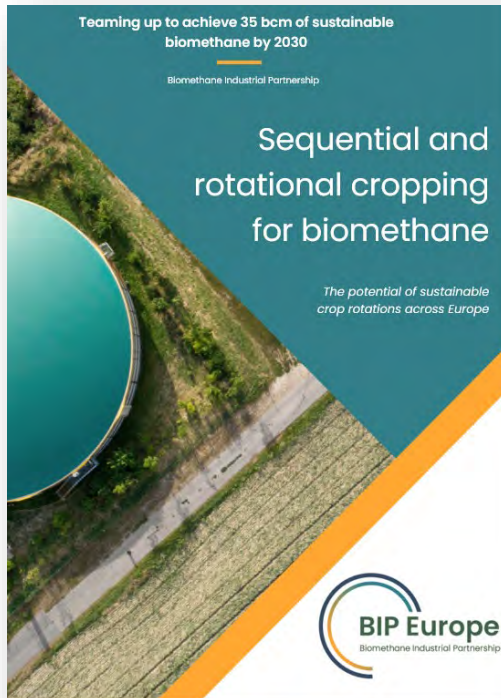
Potential of innovative and sustainable biomass sources

Rotational and sequential cropping

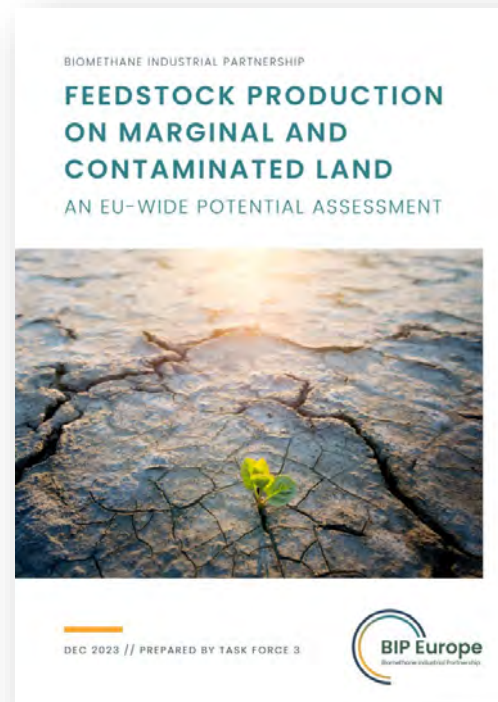
Marginal and contaminated land

Environmental co-benefits

Innovative

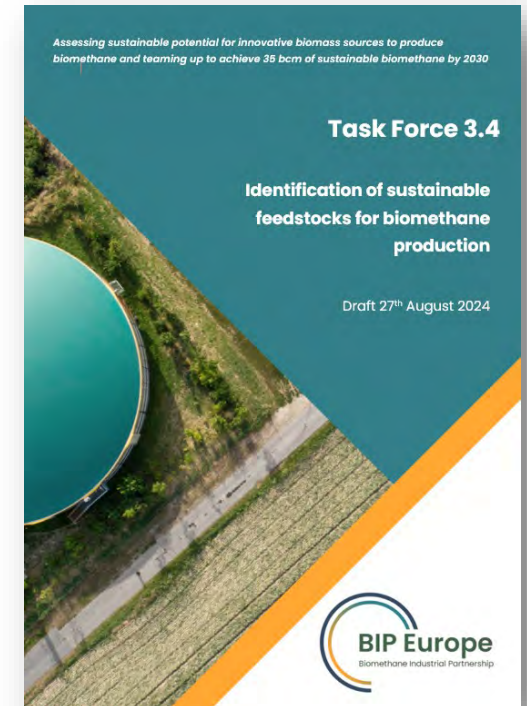


Publishing ASAP



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Re-focusing work



Draft complete

Rotational and sequential
cropping

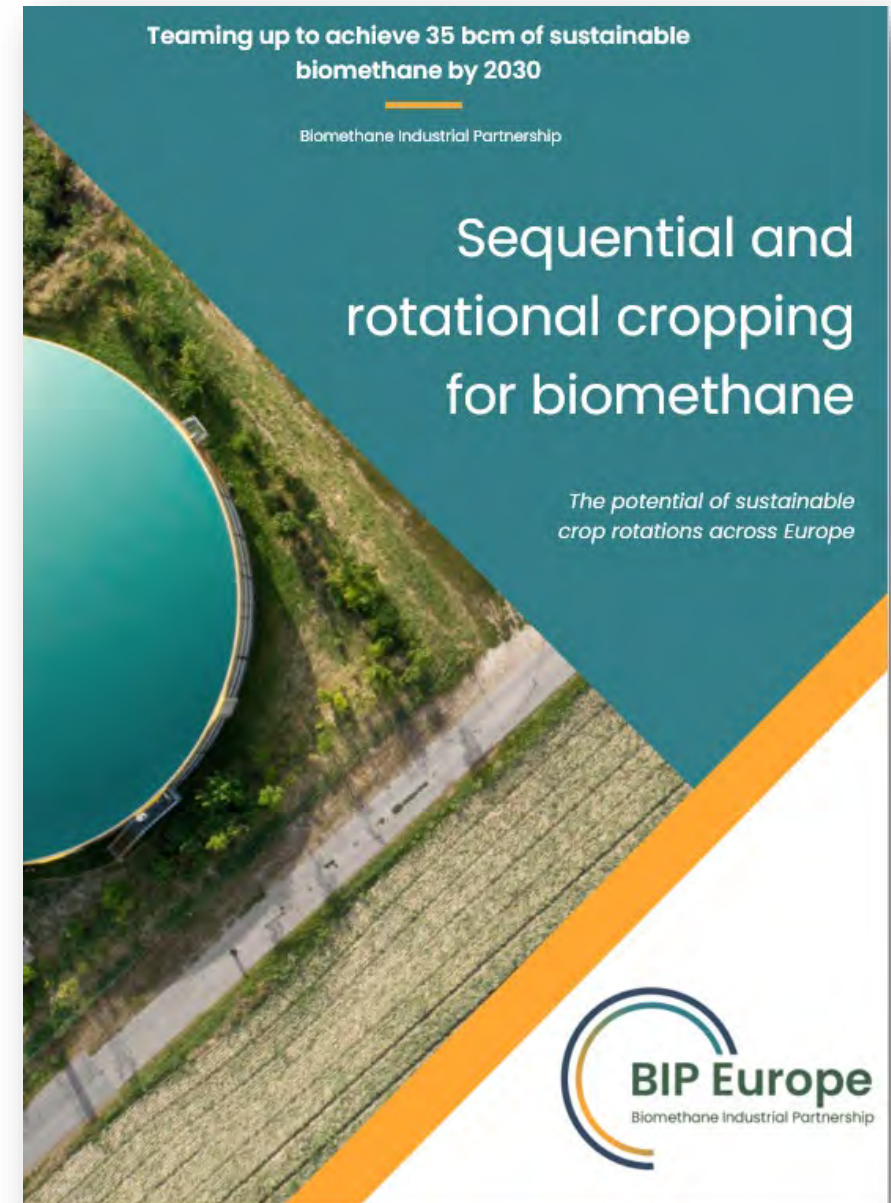
Sequential and rotation cropping for biomethane:

The potential of sustainable crop rotations across Europe

- ✓ Improve agricultural resilience
- ✓ Restore soil health
- ✓ Sequester carbon in soils
- ✓ Diversify agricultural incomes
- ✓ Enrich biodiversity
- ✓ Enhance food security

AND

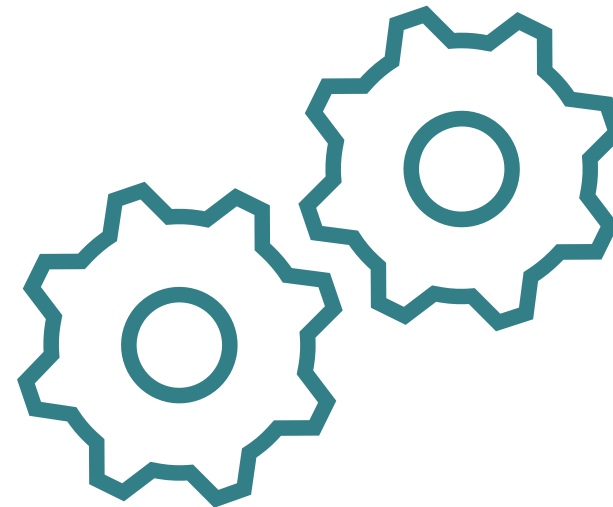
- ✓ Increase the production of biomethane



Principles for sustainable growth

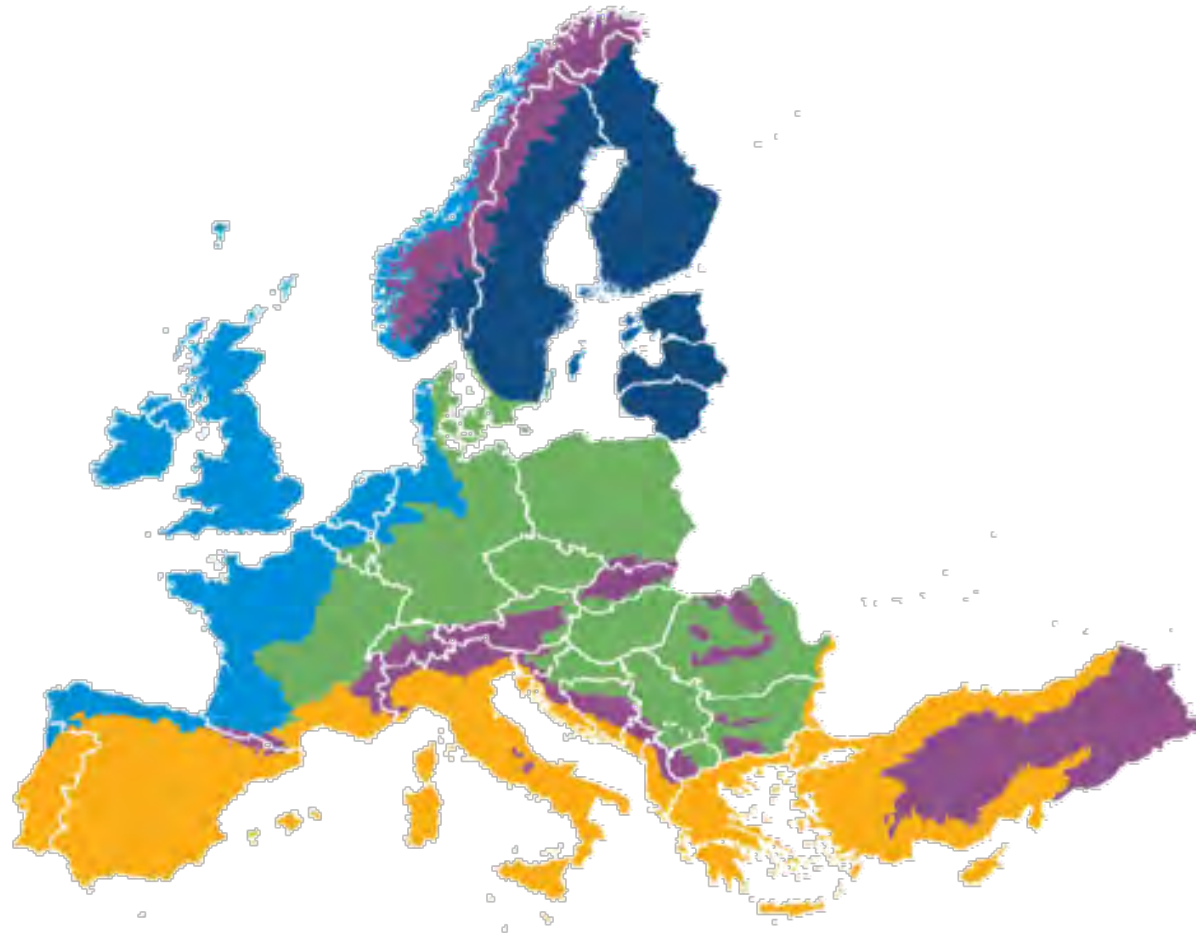
Explores a set of principles in which arable farms should seek to align with when growing crops for biogas – the following introduces the key considerations:

1. GHG emissions
2. Soil health
3. Carbon Sequestration
4. Biodiversity
5. Agricultural resilience
6. Productivity
7. Pollution and contamination



Analysis:

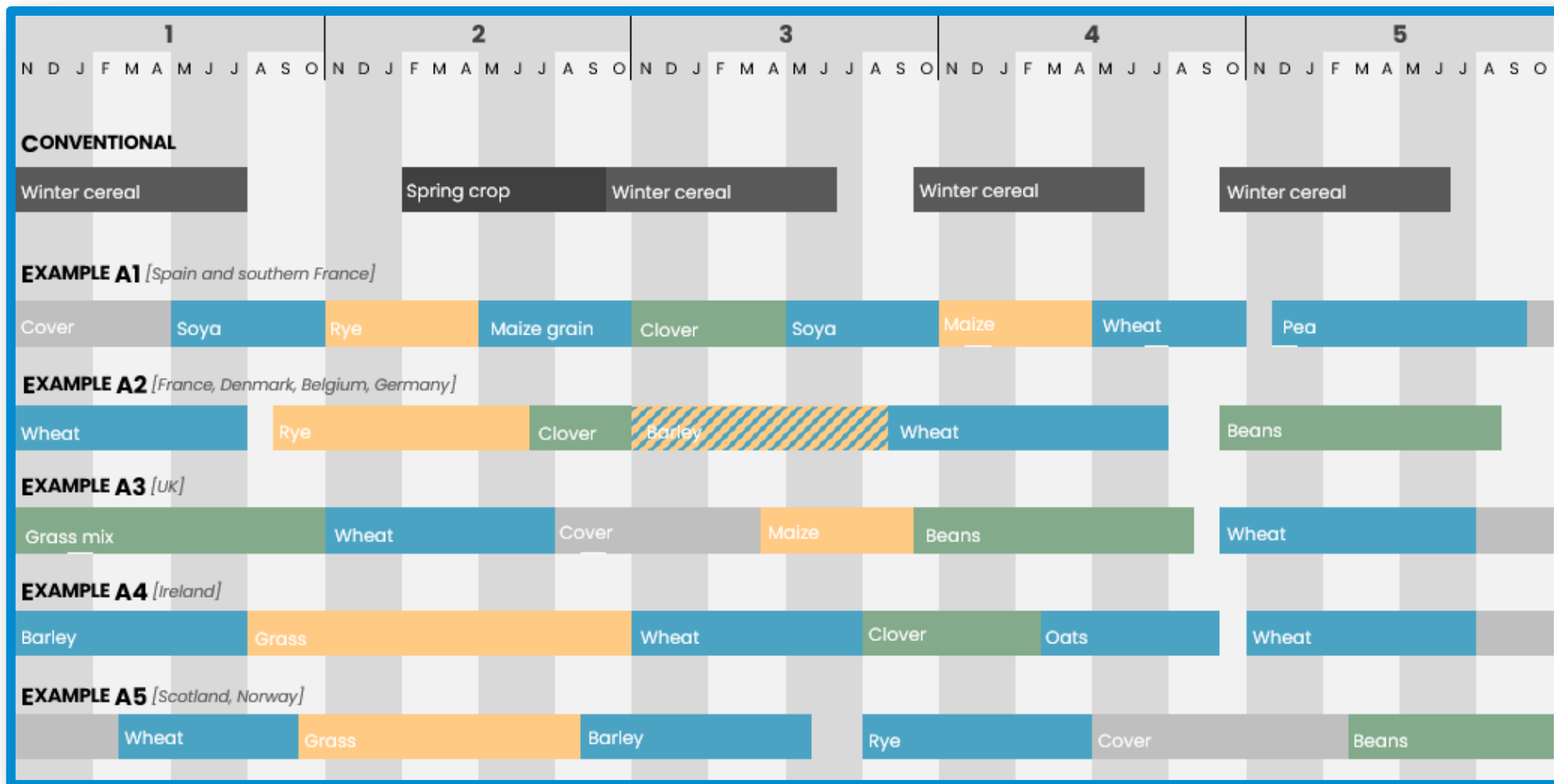
Developed potential crop rotations for each European region



Analysis:

Developed potential crop rotations for each European region

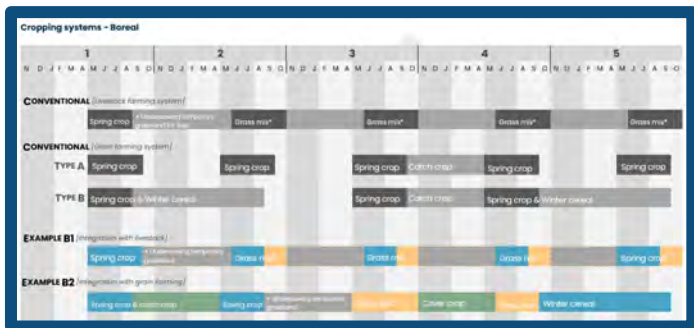
Atlantic



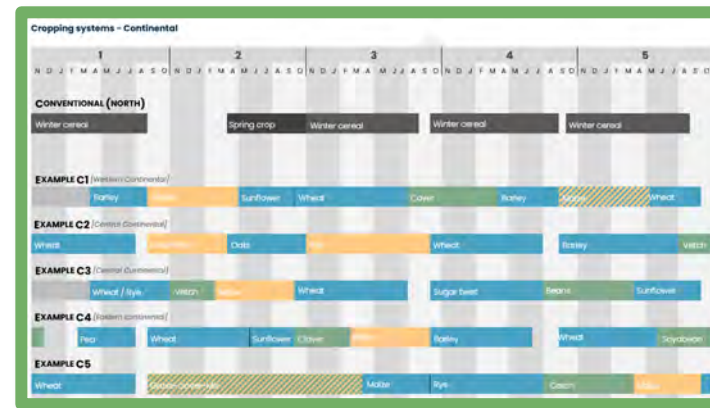
Analysis:

Developed potential crop rotations for each European region

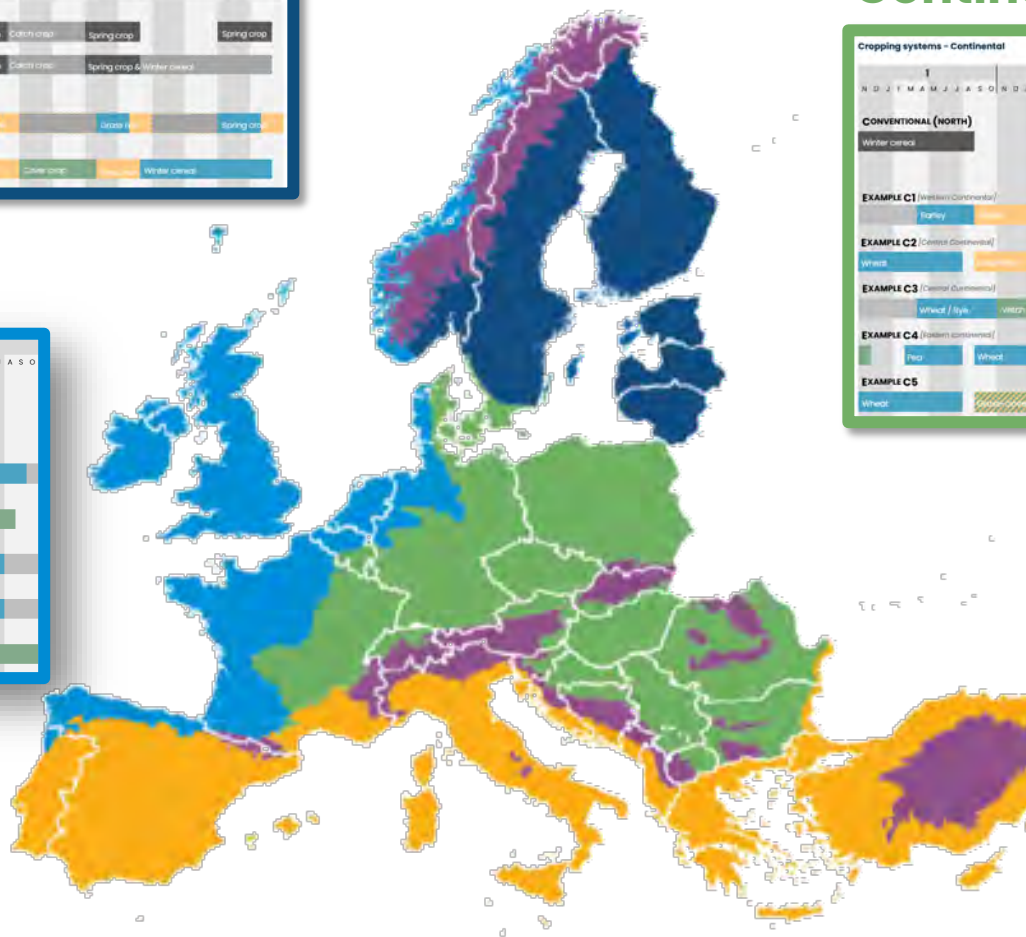
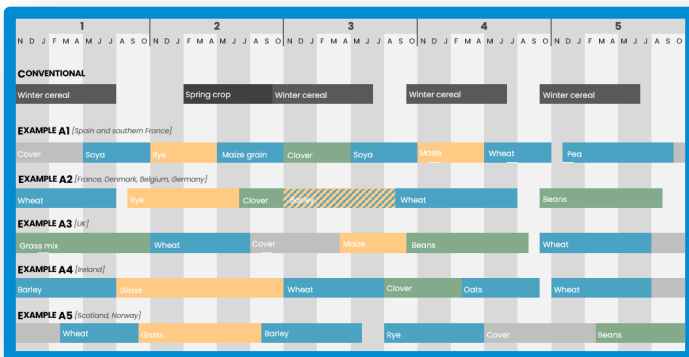
Boreal



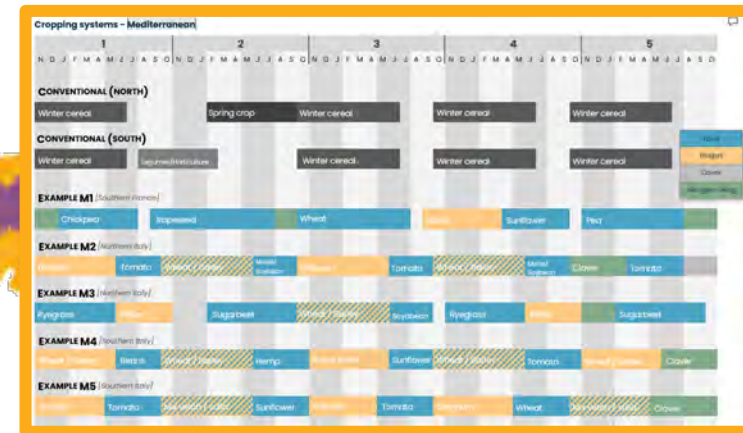
Continental



Atlantic



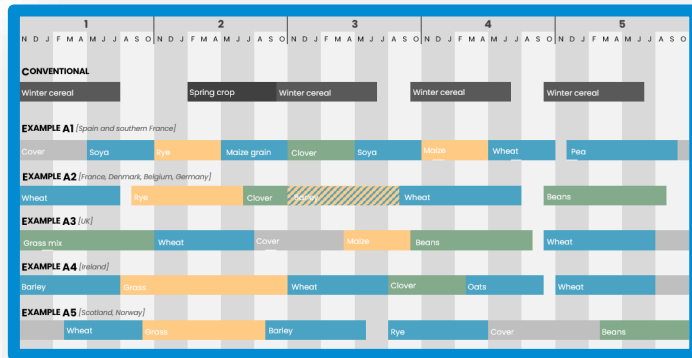
Mediterranean



Analysis:

Developed potential crop rotations for each European region

Atlantic









Country	Total arable land (ha)	Proportion of land within the Atlantic biogeographical region (%)	Crop rotation assumed	Average annual biomass grown for AD (tonnes)	Biomethane max potential per year (bcm)
Belgium	870,420	50%	2	1,175,067	0.3
Denmark	2,357,950	30%	2	1,909,940	0.6
France	18,044,450	50%	1 ^(10%) & 2 ^(90%)	26,976,453	8.7
Germany	11,657,900	20%	2	6,295,266	1.9
Ireland	434,940	100%	4	1,043,856	0.2
Netherlands	1,003,450	100%	2	2,709,315	0.8
Spain	11,732,660	10%	1	6,570,290	2.1
<i>Non-EU</i>					
Norway	804,310	15%	5	193,034	0.0
UK	5,857,460	100%	3 ^(50%) & 5 ^(50%)	12,886,412	3.4

Analysis:

Applied correction factors

**Maximum
biomethane potential**
= 90.7 bcm
(EU27 + UK, Switzerland and Norway)

			Example data
1.	Food vs Fuel		100%
2.	Biomass competition		98%
3.	Arable competition		89%
4.	Soil readiness		78%
5.	Climate change		Unknown
6.	Uncertainty		80%

**Deliverable
biomethane potential**
= 45.7 bcm
(EU27 + UK, Switzerland and Norway)

Analysis:

Comparison with other estimates



Max
46 bcm
Magnolo et al. (2021)



Min
40 bcm
Dale et al. (2020)



Abstract

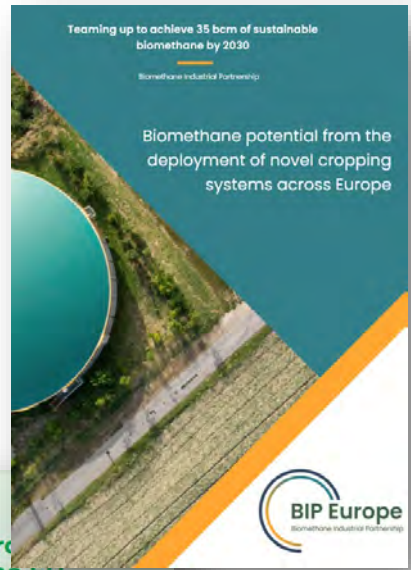
Current food production practices tend to damage and deplete soil, diminish biodiversity and degrade water supplies. For agriculture to become environmentally sustainable and simultaneously increase food output for a growing world population, fundamental changes in agricultural production practices are required.

Renewable energy can reduce greenhouse gases (GHGs) but we also need simple, low-cost approaches to remove atmospheric carbon and sequester it in stable forms. Recycling of digestate from anaerobic digestion of agricultural and waste materials to soils can sequester atmospheric carbon and provide many other economic, social and environmental benefits.

Biogasdoneright™ (BDR) is a set of practices that link biogas production with sustainable agriculture. The BDR approach to sustainable agriculture is being implemented at larger scale in Italy. In this paper, we examine the potential impact of implementing BDR in selected other countries. The biomethane potential in these countries, estimated conservatively, varies from about 10–30% of their current annual natural gas consumption. Biomethane from sequential (BDR) crops provides by far the greatest fraction of the biomethane potential. Double-cropping also drives many of the environmental and economic benefits of BDR systems.

Depending on where and how widely it is implemented, producing biogas in BDR systems could have very significant national-level impacts. For example, sufficient biomethane could be produced in Argentina to completely offset its current natural gas, equivalent to about 28% of Argentina's 2017 total deficit. In the United States, renewable biogas could generate electricity nearly equal to all the electricity currently produced by domestic solar and wind resources.

Deliverable
44–46 bcm
BIP (2024)



46 bcm
Gas for Climate (2022)

An aerial photograph showing a large circular pond with turquoise water on the left, a paved path, and a field of green crops on the right. The image is partially obscured by a teal background and a diagonal orange stripe.

Thank you

Any questions

