



Biogas- solutions for global challenges

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Who is the WBA?

- A global association for the promotion of the biogas industry
- Founded in 2016 by 4 major national associations and 16 major biogas companies
- Main goal:

To drive at (international) government level and at municipality level the policies on:

- ✓ Climate change commitments
- ✓ SDG's
- ✓ Energy need
- ✓ Labour improvement

And... help with investments in biogas technologies



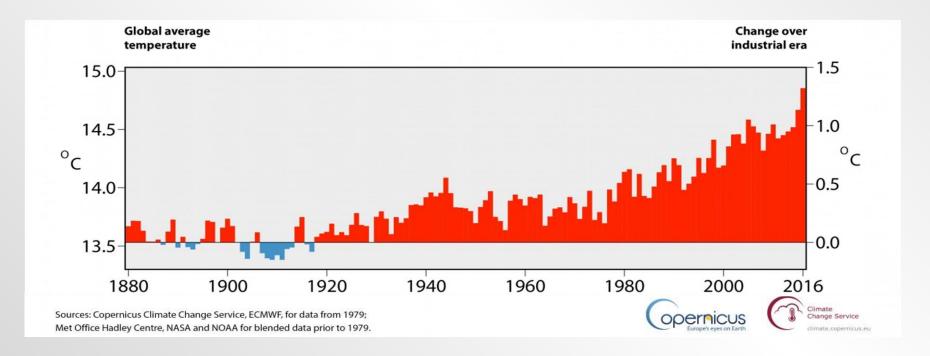
What we are facing?



Heading towards +2°C very quickly

Annual Global Surface air temperatures

From 1880 to 2016





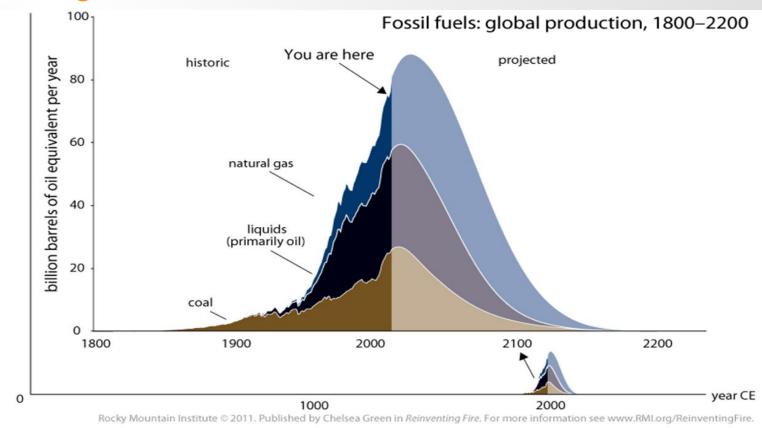
Why does this happen?

And more importantly; What can we do about it?



The use of fossil fuels is the predominant way to produce energy

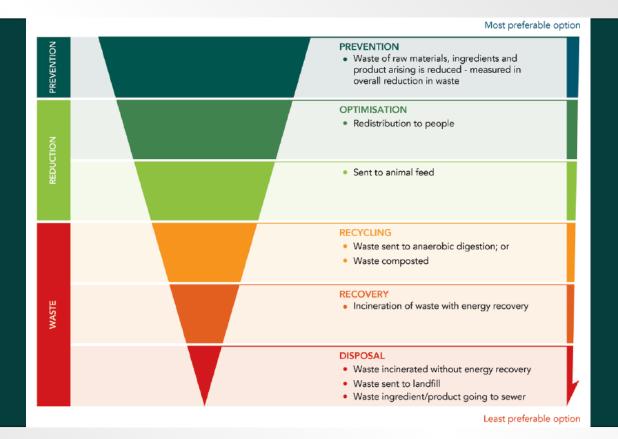
This needs to change quickly, and we have to implement other strategies to reduce GHG emissions.





Managing food waste <u>sustainably</u> can reduce GHG emissions by up to 518 Mtons

Food and Materials Hierarchy





How can we make a change?

WBA partnered with influencers globally to be part of the change

Partners WBA

- The Global Methane Initiative of the US EPA
- The United Nations Environment Programme Climate and Clean Air Coalition to reduce short lived climate pollutants (e.g. methane)
- Is under accreditation process for Observer Status at the United Nations Climate Change secretariat
- C40 Climate Leadership Initiative on waste and water
- And is continual dialogue with the World Bank, the European Commission, national governments, and biogas national associations worldwide



What do we do?

Uniquely placed to help countries to develop the policies that will support the growth of the Biogas industry

- Voice of the global biogas industry
- Sharing knowledge, experience and best practices
- Promote investment in research and innovation
- Data collection and analysis
- Events and meetings
- Publication and reports

Examples reports





Examples of data collection









All AD/Biogas/Landfill Gas Projects Reported by Feedstock Type (September 2017 to August 2018)

	Projects	Value (US\$m)	Average Value (US\$m)	Capacity (tonnes)	Average Capacity (tonnes)	TPD	Power (MW)	Average Power (MW)
Animal	36	520	14	3,832,114	106,448	333	111	3
Food	18	194	11	652,463	36,248	113	29	2
MSW	4	146	36	370,396	92,599	289	9	2
Organic (general/unspecified)	27	486	18	1,665,002	61,667	193	91	3
Plant biomass (waste)	19	189	10	741,155	39,008	122	57	3
Plant biomass (non-waste)	4	39	10	189,745	47,436	148	10	2
Sewage/wastewater	31	1,386	45	1,111,112	35,842	112	110	4
Wood	-	1		-27	-			-
Landfill Gas	13	260	20	n/a	n/a	n/a	114	9
Total	152	3,219	21	8,561,967	56,329	176	531	3

Source: AcuComm database, 31st August 2018. See www.acucomm.net for more details

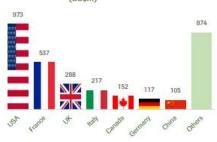
at US\$1,648 million or 50% of the total.

This brings the total for the twelve month period (ended August 2018) to 152 projects, worth US\$3,219 million or US\$21 million each on average.

Total feedstock capacity for these projects is 8,562 million tonnes, equal to 56,329 tonnes on average and 176 tonnes per day per project.

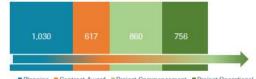
Total power generation is 531 MW, equal to 3 MW per project.

Leading Countries for AD/Biogas Investment (US\$m)



Source: AcuComm database, 31st August 2018. Deportunities exist across the world. In the last twelve months, the LISA has accounted for LIS\$973 million or 30% of the total. The European market accounts for US\$1,704 million or 37%: Leading European markets are Denmark, France, Germany, France, the Netherlands and the LIK.

Recent Project Values by Operational Stage (USSm)



■ Planning ■ Contract Award ■ Project Commencement ■ Project Operational



The heatmap to the right displays the locations of all the AD/Biogas projects currently hold in the AcuComm database since 2012, where a location is known. The darker the colour the greater the overall level of investment.

Investments worth US\$758 million (29%) are operational, while US\$860 million (26%) are under construction. The largest proportion are in various stages of planning/contract award,

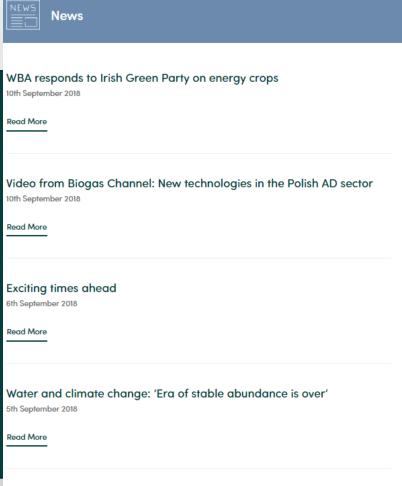




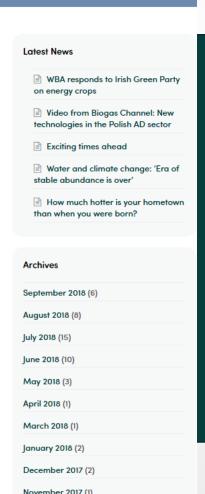
Examples of news and events







How much hotter is your hometown than when you were born?





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Third Party Events

Ecomondo – Key Energy 6-9 November, 2018

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 CESS Singapore
 WasteEng

 8-12 July 2018
 2-5 July 2018

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World Gas Conference 25-28 June 2018

Nuremberg Biogas Conference 12-14 December

13-16 June 2018

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NAXOS 6th International Conference

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The United Nations Framework

14-18 May 2018

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4th September 2018



Thank You!

www.worldbiogasassociation.org



Harmen Dekker

- Advisory Board Member WBA
- Manager Business Development DMT



The largest membrane upgrader World Wide