



WORLD BIOGAS
ASSOCIATION

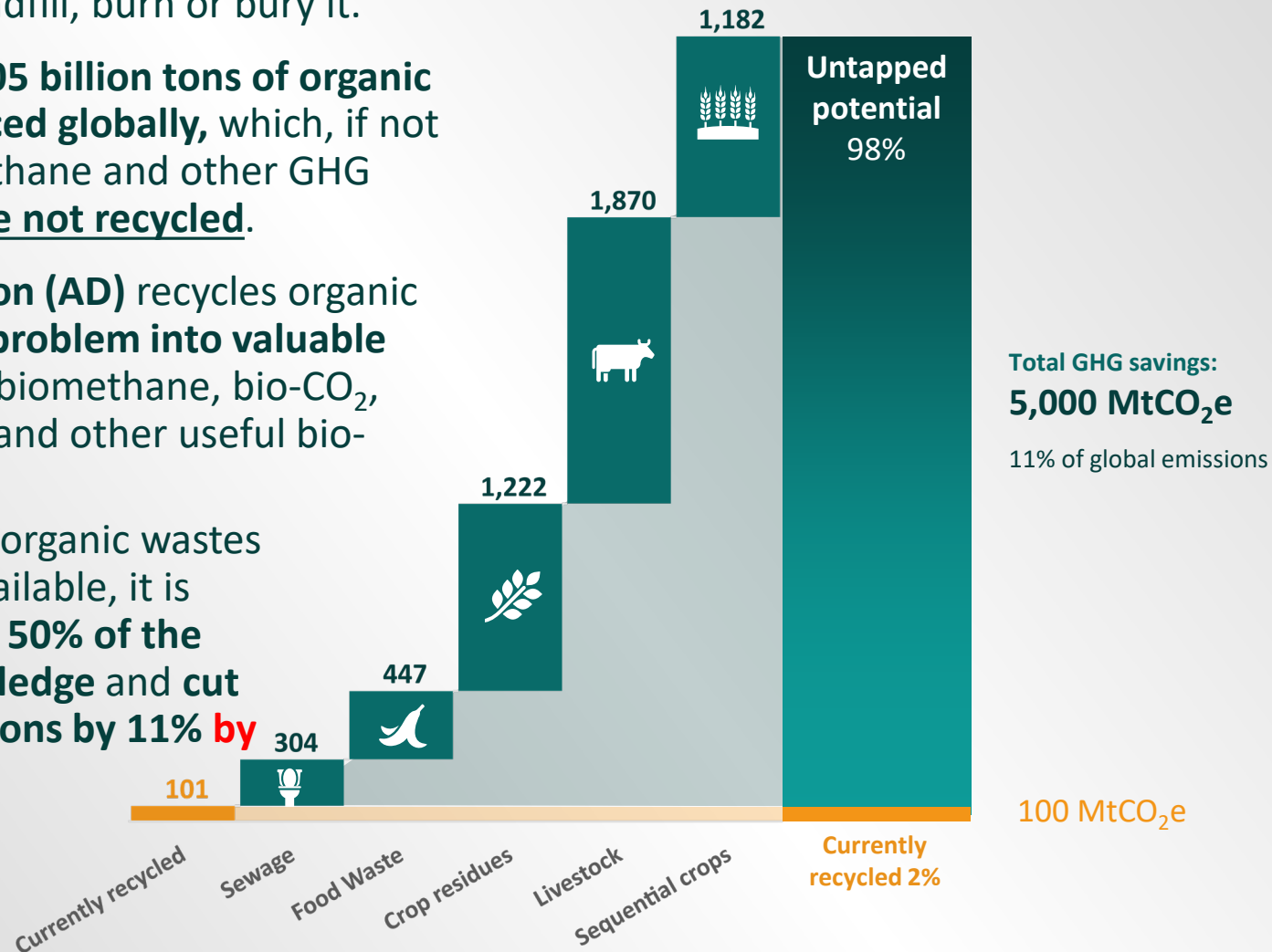
#MAKINGBIOGASHAPPEN

Charlotte Morton OBE, Chief Executive, World Biogas Association

20 March 2024

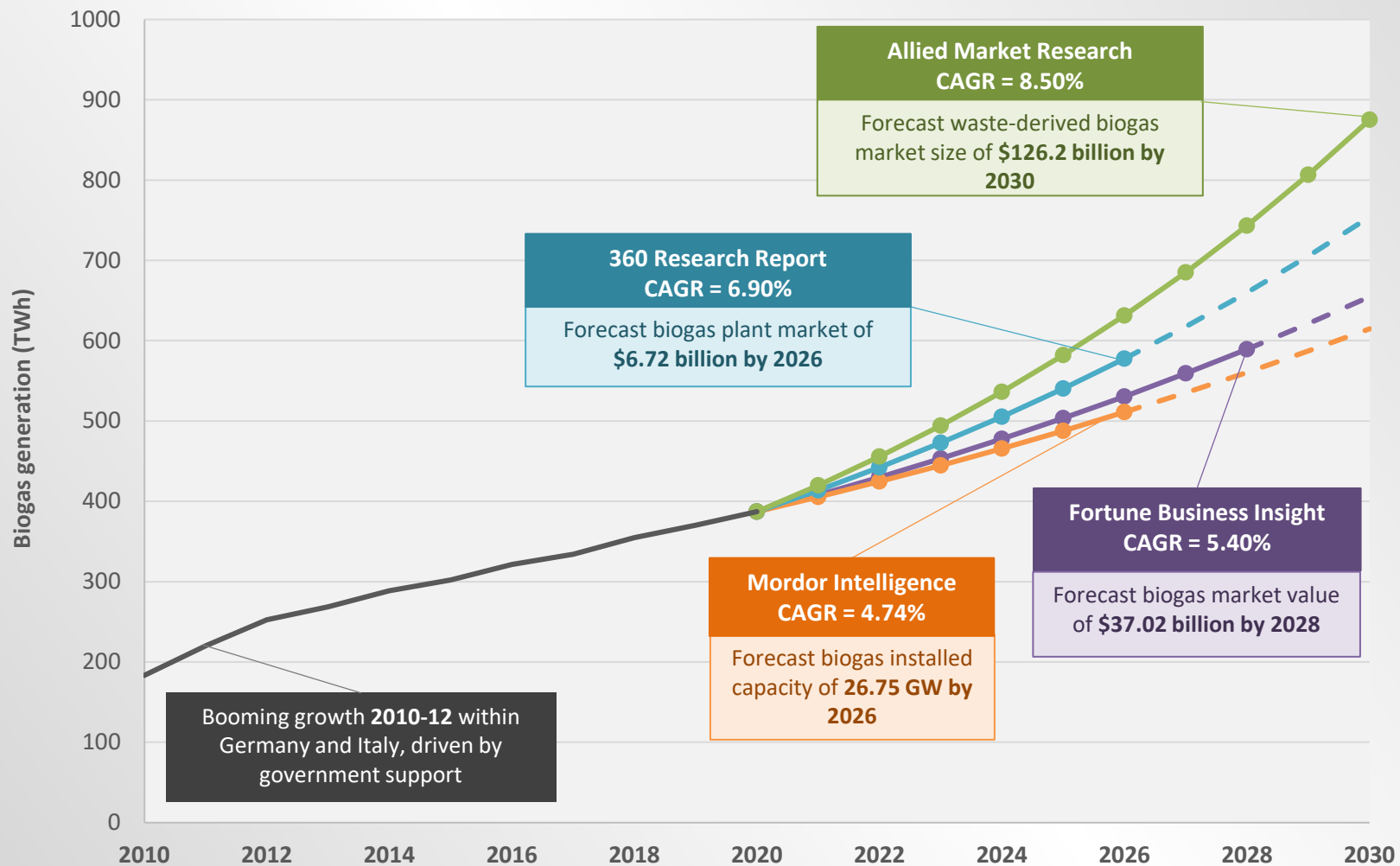
A NEW ERA FOR WASTE MANAGEMENT

- **Waste management systems haven't changed over millennia** – we still either landfill, burn or bury it.
- Every year, over **105 billion tons of organic wastes are produced globally**, which, if not recycled, emit methane and other GHG emissions. **98% are not recycled.**
- **Anaerobic Digestion (AD)** recycles organic wastes, **turning a problem into valuable products** - biogas/biomethane, bio-CO₂, natural fertilisers, and other useful bio-products.
- By recycling those organic wastes that are readily available, it is possible to **deliver 50% of the Global Methane Pledge and cut global GHG emissions by 11% by 2030.**





FORECAST MARKET GROWTH



Booming growth 2010-12 within Germany and Italy, driven by government support

Allied Market Research
CAGR = 8.50%
Forecast waste-derived biogas market size of **\$126.2 billion by 2030**

360 Research Report
CAGR = 6.90%
Forecast biogas plant market of **\$6.72 billion by 2026**

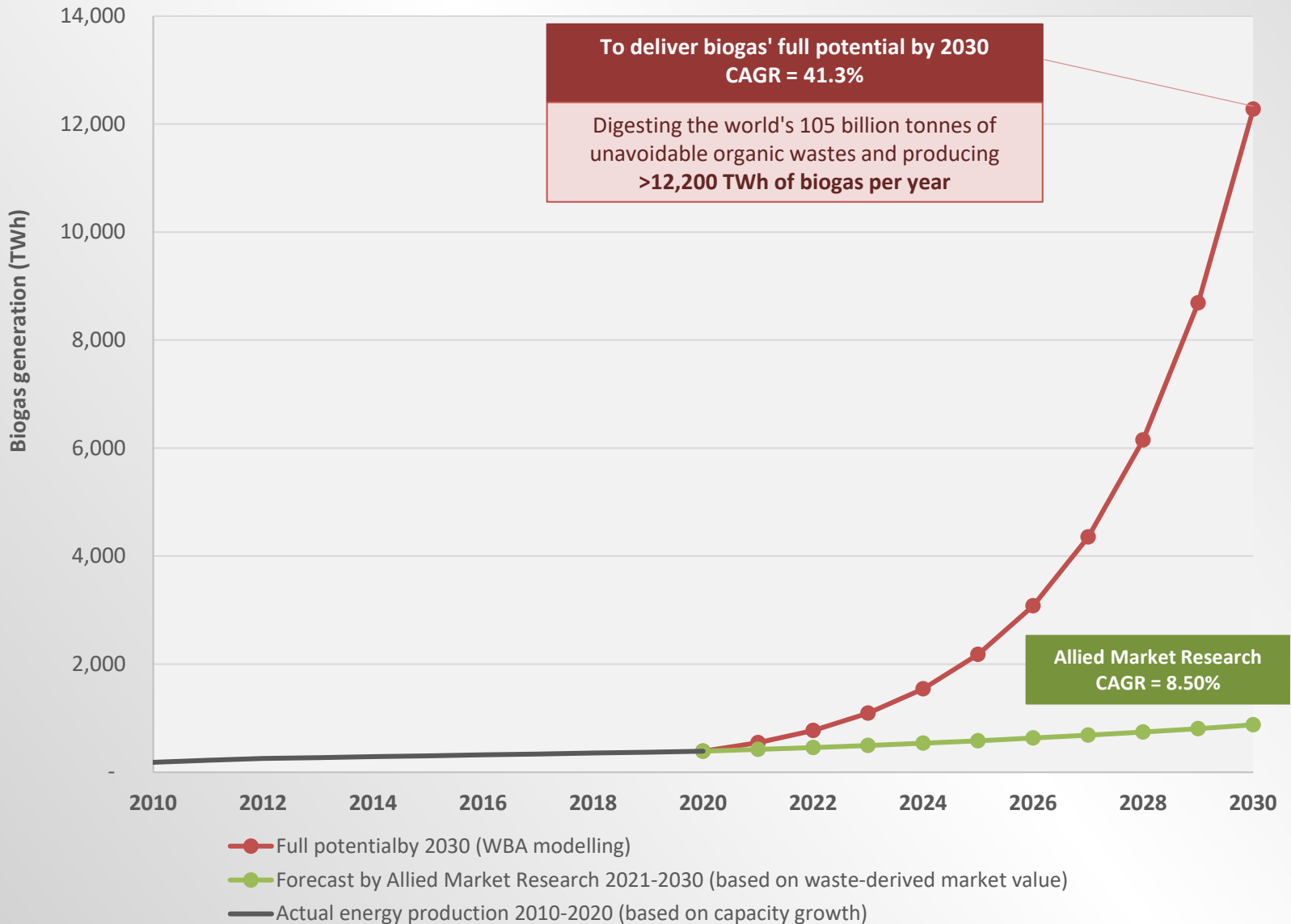
Mordor Intelligence
CAGR = 4.74%
Forecast biogas installed capacity of **26.75 GW by 2026**

Fortune Business Insight
CAGR = 5.40%
Forecast biogas market value of **\$37.02 billion by 2028**

- Forecast by Fortune Business Insight 2020-28 (based on total market value)
- Forecast by Mordor Intelligence 2020-26 (based on installed capacity)
- Forecast by 360 Research Report 2021-2026 (based on total plant value)
- Forecast by Allied Market Research 2021-2030 (based on waste-derived market value)
- Actual energy production 2010-2020 (based on capacity growth)



MARKET GROWTH REQUIRED TO DELIVER THE GLOBAL METHANE PLEDGE



THE CHALLENGE

**HOW TO BUILD HUNDREDS OF THOUSANDS OF
BIOGAS PLANTS + RELATED INFRASTRUCTURE**

IN <6 YEARS?

GLOBAL BIOGAS REGULATORY FRAMEWORK

Funding agreed with Global Methane Hub in December 2023, with additional funding from TotalEnergies and GHD. Work kicked off in January 2024

- **Phase I - a global framework:** This phase will entail the development of a global framework with **all the policies and regulations that are needed to**

1. Support

2. Implement

3. Standardise

4. Monitor

a high-performing biogas industry at the national level.

- Including best practice examples from around the world made available for policymakers and regulators
- Develop revolutionary way to get permit in weeks – *GHD leading on this*
- **Phase II – roll-out:** This second phase will focus on the framework adaptation & roll-out on a country by country basis, and will be developed in the context of a country-specific **BIOGAS ROADMAP**.

INTERNATIONAL AD CERTIFICATION SCHEME

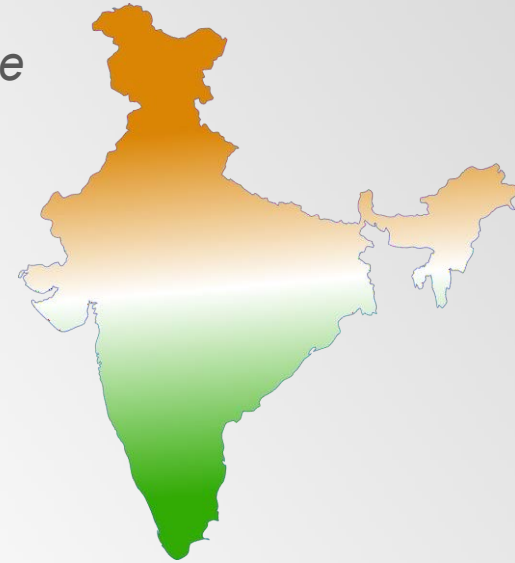
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- ADCS International is an independently audited, biogas-specific scheme designed **to improve the health, safety, environmental and operational performance of biogas plants, evidence LCA and link to carbon markets**
- **Phase I – developing a standardised international certification scheme:** this phase will focus on establishing core Best Practice Global Operating Standards based on the existing UK AD Certification scheme, and a standardised LCA.
- **Phase II – implementation at the national/local level:** This phase will focus on **aligning the International AD Certification Scheme** with **Country-Specific Standards** and existing Legislation.



#MakingBiogasHappen for India

- **India has vast biogas potential & ambition**
- **>9% of energy = energy security + energy independence**
- **54% population with access to safely managed household sanitation facilities**
- **1 million new jobs**
- **Green tech supply chains** created by India Industry
- **Tackle burning rice straw - improved air quality for millions**
- **Reduced pollution of rivers and oceans:**
 - climate change mitigation/food security
 - improved health for millions who bathe/wash clothes in rivers
- **However, policy is proving hard to put into practice.**



***US\$29bn
saved in LNG
import bills
between
2025 and
2030***

PHASE II : COUNTRY BIOGAS ROADMAP

The WBA is seeking the Indian Government's buy-in to develop a national biogas roadmap for India which would serve as the **BLUEPRINT** for other countries:

- WBA will work with all key stakeholders in the Indian biogas sector to clarify the **current barriers and harness the huge opportunities for growth in India.**
- It will take the Global Biogas Regulatory Framework, International AD Certification Scheme, and the rest of #MakingBiogasHappen programme and adapt as necessary for India to **dramatically shorten the timeframes for #MakingBiogasHappen in India.**
- The key will be partnerships, harmonisation of policies, regulations and standards, and close collaboration among policymakers, industry, funders, civil society, associations, and international partners working in the biogas space to deliver the India Biogas Roadmap that has buy-in from all necessary stakeholders.



#MakingBiogasHappen: A Legacy for the Global Biofuels Alliance

- The **Indian Biogas Roadmap** would serve as a precedent for other G20 countries, offering a lasting legacy for the Global Biofuels Alliance.
- The key will be to foster public private partnerships and consortium approach to enable **INDUSTRY** to lead the biogas agenda at every stage.

