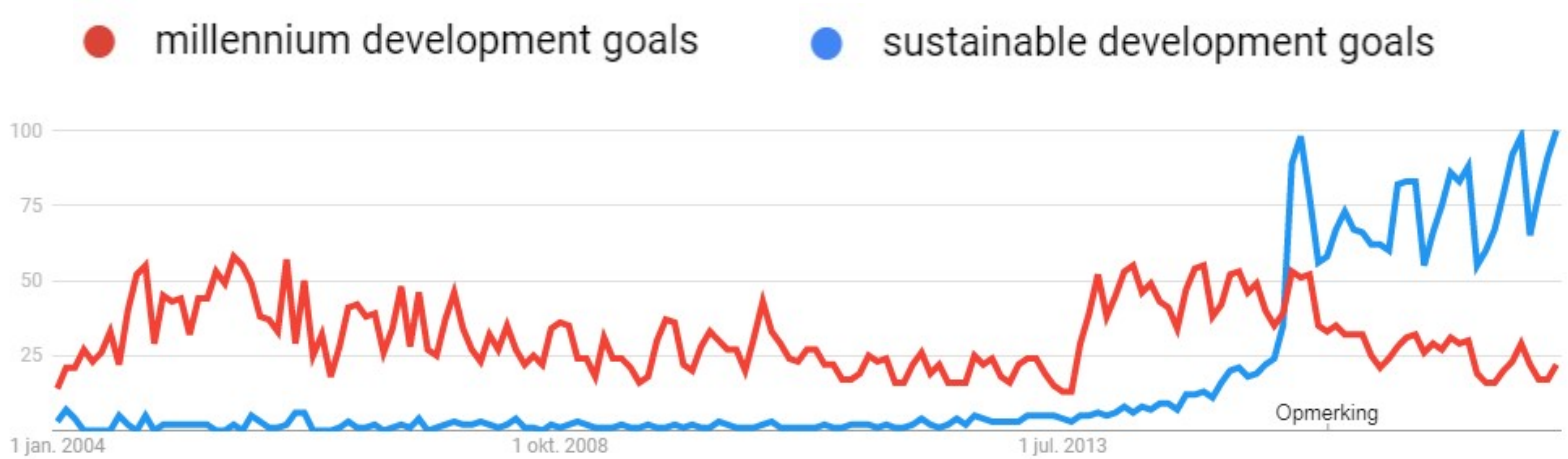
AN INNOVATION EXPERIENCE FOR A SUSTAINABLE WORLD

VITO is an independent Flemish research organisation in the area of cleantech and sustainable development. Our goal? To accelerate the transition to a sustainable world.

Dirk Van Speybroeck
Strategic Adviser
https://vito.be

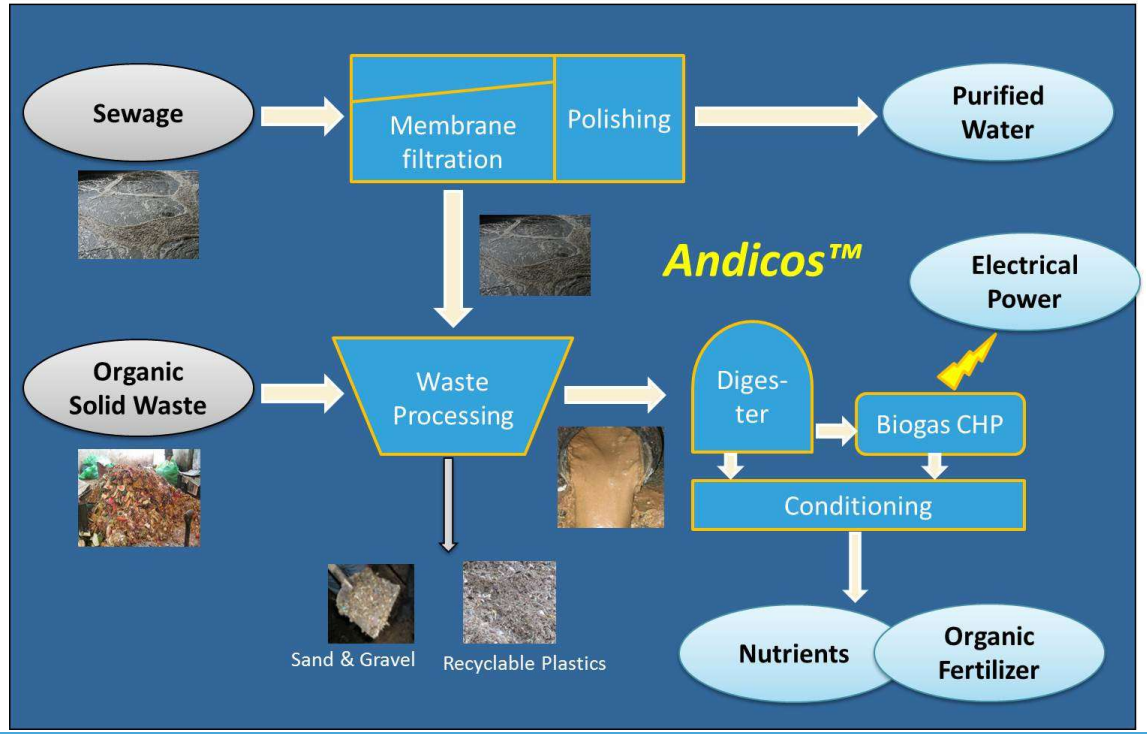
THE CONTEXT



- **2000 the Millennium Declaration** on Environment and Development with its 8 MDGs
- **2015 Paris Agreement** on the reduction of Climate Change
- **2015 the 2030 Agenda** for Sustainable Development
  - 17 SDG
  - 169 targets
  - 232 indicators

EXAMPLE 1: INTEGRATED WATER/WASTE SOLUTIONS

- ANDICOS® system (ANaerobic DIgestion by Combining Organic waste and Sewage)
- Domestic wastewater is combined with organic domestic waste
- From energy consumption to energy production



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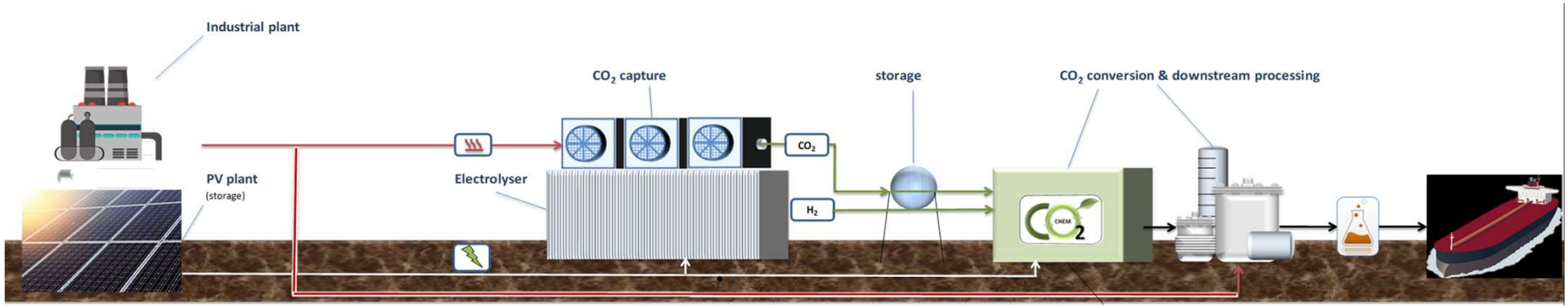
EXAMPLE 2: ENERGY & CLIMATE PLANNING

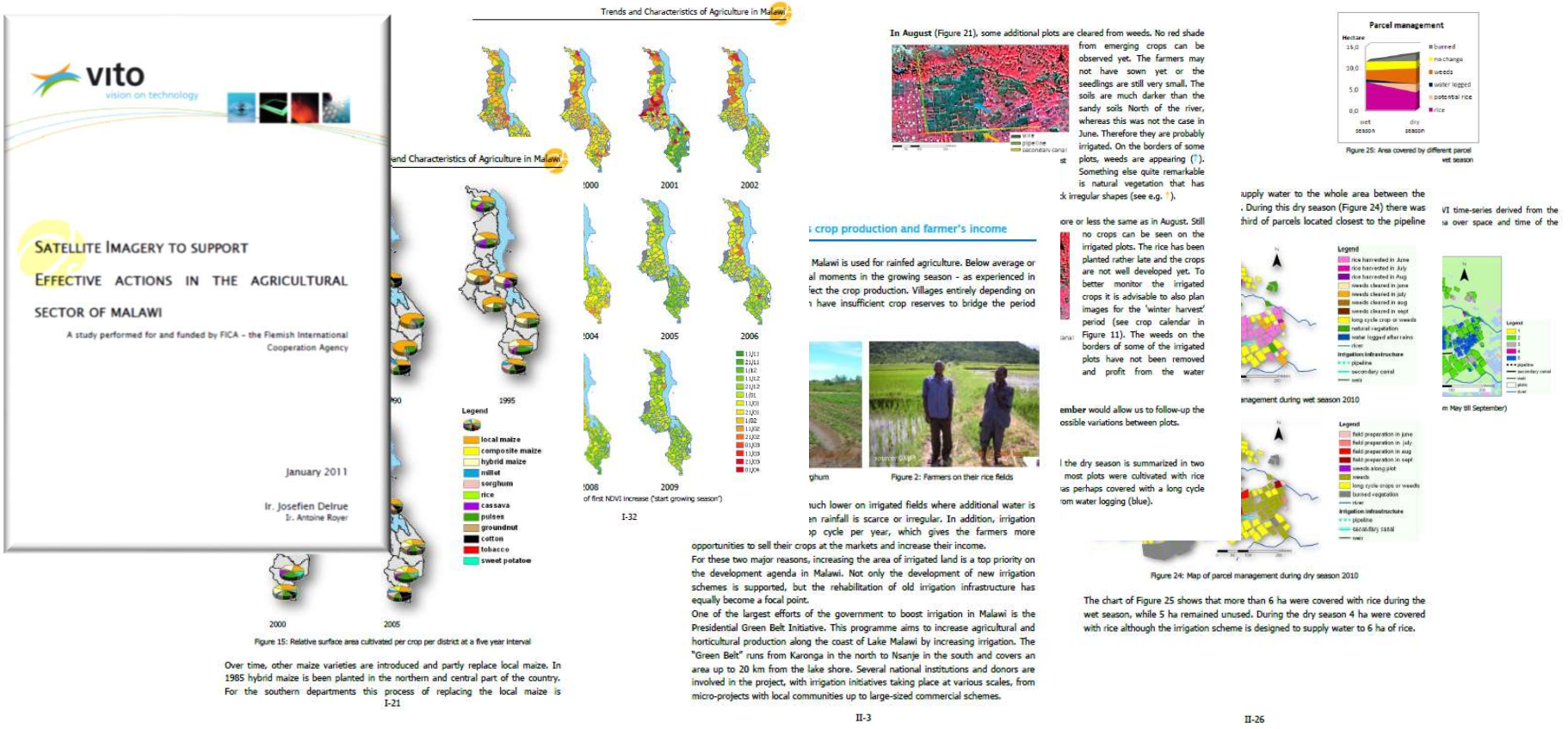
- Paris Climate Agreement (2015):
  - All signatories need to prepare energy & climate plans
  - Innovative technology: Carbon capture, storage and/or use to reduce carbon emissions
- Technology enabler, clean tech promotor, e.g. World Bank consultancies:
  - *Carbon Capture and Storage Strategy and Capacity Building for Fossil Fuel Fired Power Plants in the Maghreb Countries*
  - *Techno-economic assessment of Carbon Capture and Storage (CCS) deployment in power stations in the Southern Africa and Balkan regions*



EXAMPLE 3: FOOD SECURITY & EARLY WARNING

» *Global agricultural monitoring via remote sensing & GEOspatial technology*

» *Case study Malawi (with FICA support): area, production estimates, stress, ….*



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vision on technology

SATELLITE IMAGERY TO SUPPORT EFFECTIVE ACTIONS IN THE AGRICULTURAL SECTOR OF MALAWI

A study performed for and funded by FICA – the Flemish International Cooperation Agency

January 2011

Ir. Josefien Delrue
Ir. Antoine Royer

Trends and Characteristics of Agriculture in Malawi

Legend
local maize
composite maize
hybrid maize
millet
sorghum
rice
cassava
pulses
groundnut
cotton
tobacco
sweet potatoe

Figure 15: Relative surface area cultivated per crop per district at a five year interval

Over time, other maize varieties are introduced and partly replace local maize. In 1985 hybrid maize is been planted in the northern and central part of the country. For the southern departments this process of replacing the local maize is

I-21

Figure 25: Area covered by different parcel

crop production and farmer's income

Figure 2: Farmers on their rice fields

Figure 24: Map of parcel management during dry season 2010

The chart of Figure 25 shows that more than 6 ha were covered with rice during the wet season, while 5 ha remained unused. During the dry season 4 ha were covered with rice although the irrigation scheme is designed to supply water to 6 ha of rice.

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G·STIC 2018

BRUSSELS 28 - 30 NOVEMBER

Connecting technological innovation to decision making for sustainability

Register for G-STIC 2018 at www.gstic.org

G-STIC: GLOBAL SUSTAINABLE TECHNOLOGY AND INNOVATION CONFERENCE SERIES

https://2018.gstic.org/

- Conference series on integrated technological solutions for the SDGs
- Organised by 6 independent and not-for-profit technological research institutes
- Technologies that are socially acceptable, economically feasible and affordable, and environmentally sound
- Making the link between market-ready, innovative technological solutions and the international policy community
- More than a conference: a movement for new tech for the SDGs; building on global expert networks, expert institutions, wide consultations and knowledge bases
- Agroecology, Circular economy, Energy positive communities, Geospatial data, Waste water as a resource, Health, Education

G-STIC 2017

Four key findings

1. **Many technologies needed to achieve many SDG-related targets are readily available.** Following demonstration to show effectiveness under real-life conditions, we need to develop strategies for deployment at scale to a level necessary to achieve the SDGs. For this, suitable policy and institutional environments, models, targeted incentives and partnerships are needed, which themselves are underpinned and strengthened by deep and sustained business, political and citizen engagement.

2. Widely distributed and bottom-up technological solutions that are appropriate for communities' needs and circumstances are to drive the realisation of **the energy and food SDGs, two key SDGs for achieving the 2030 Agenda.**

3. **Circular economy is an essential element** of the new narrative, with Industry 4.0 a key enabler to achieve it and resource recovery and use from waste streams, such as waste water and CO2, the new normal.

4. **ICTs are an indispensable tool** to enable the achievement of the SDGs.

STAGE-SETTING THE 3 QUESTIONS

From the VITO experience as a technology enabler

- **Pre-conditions**
  - Circular economy is the new normal
  - ICTs are an indispensable tool (Industry 4.0)
  - Focus on energy and food SDGs

- **Barriers**
  - Single problem > solution approach
  - Weak policy and institutional environments
  - No private sector involved

- **Scaling-up**
  - Target integrated solutions, solving more than 1 problem at a time
  - Socially acceptable and economically feasible
  - Pilot projects as technology demonstrators
  - Setting up networks between industry, academia and governments
  - Active people involvement is crucial to reach high impact

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