



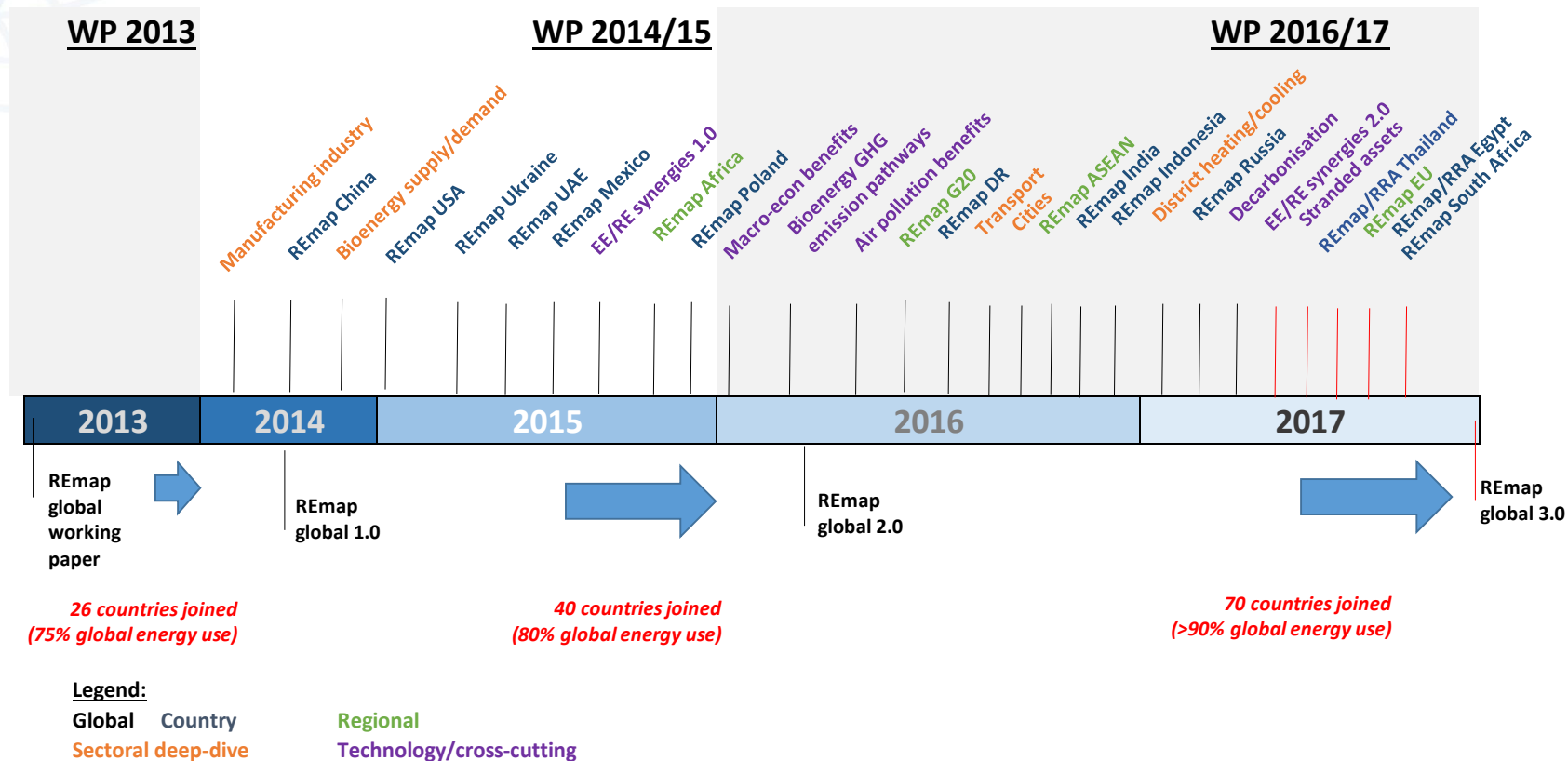
REmap

Delivery, impact and outlook

5th REmap Annual Workshop, Pre-Council Day, Abu Dhabi, 27 November 2017

Dolf Gielen, Director Innovation and Technology

Overview of REmap achievements

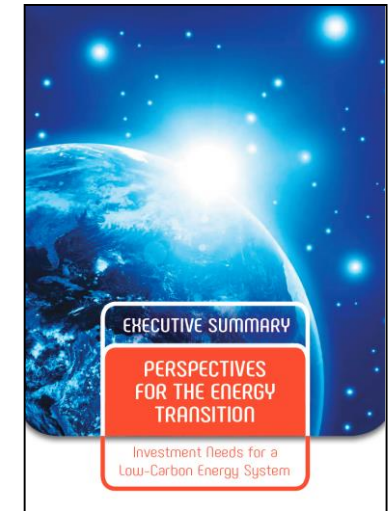
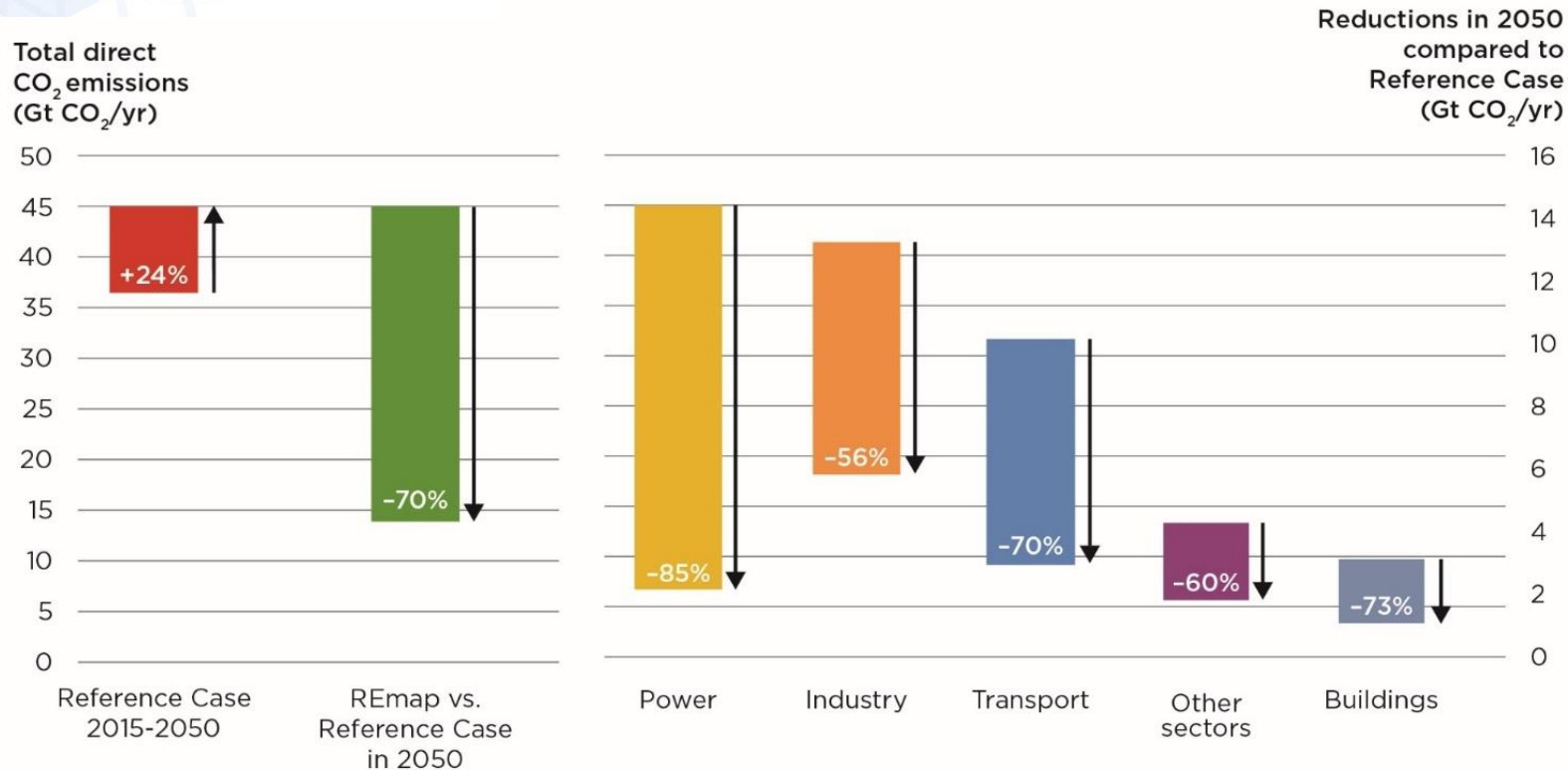


- **Work has grown significantly** to cover a very wide scope that was earlier not planned
- Nearly 40 publications over this period, **excluding** contributions to REthinking, tech briefs, GTF, etc.
- In each WP, **REmap has delivered more than what it promised**. In WP 16/17:
 - 85% of what has been promised complete & additional deliverables that were not planned

REmap features

- **Forward looking** programme of IRENA, initially to 2030 and now to 2050
- **Country, technology, sector** level information
- Covers a **wide range of energy topics**, such as demand scenarios, investments, stranded assets, externalities, energy efficiency, etc
- **Analysis base** for multiple IRENA work streams
- Engages **nearly half (70) of all IRENA member countries (153)**
- Covers more than 90% of global energy use

CO₂ emissions by sector in REmap relative to the Reference Case



IRENA/IEA, 2017

By **2050**, total energy-related **CO₂ emissions** will need to decrease to **below 10 Gt**

- CO₂ emissions from the power and buildings sectors will be almost eliminated
- **Industry and transport** would be the **main sources of emissions in 2050**

Engagements in 2017

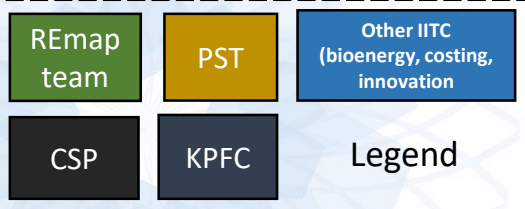
- Global, regional, country, sector level studies.
- First **IRENA comprehensive 2050 view on energy transition**, with IEA, looking at perspectives on energy transition and **pathway to meet Paris**.
 - › IRENA issue papers on **Innovation needs, Stranded Assets** and **RE/EE Synergies**.
 - › Complete package in 2017 focused on energy transition.
- During the past year, engagements with **ASEAN**, the **European Union** and **G20**.
- Country reports **in preparation: India, Indonesia, Russia**, with **Kazakhstan** and **South Africa**.
- **Joint REmap/RRA** for **Thailand** and **Egypt**.
- **Joint REmap/macroeconomic** impacts study for G20. In cooperation with **KPFC** and IEA.
- Expansion of analysis for **VRE in power sector: PLEXOS EU** (in cooperation with UC Cork), **FlexTool** (in cooperation with VTT).

REmap evaluation highlights

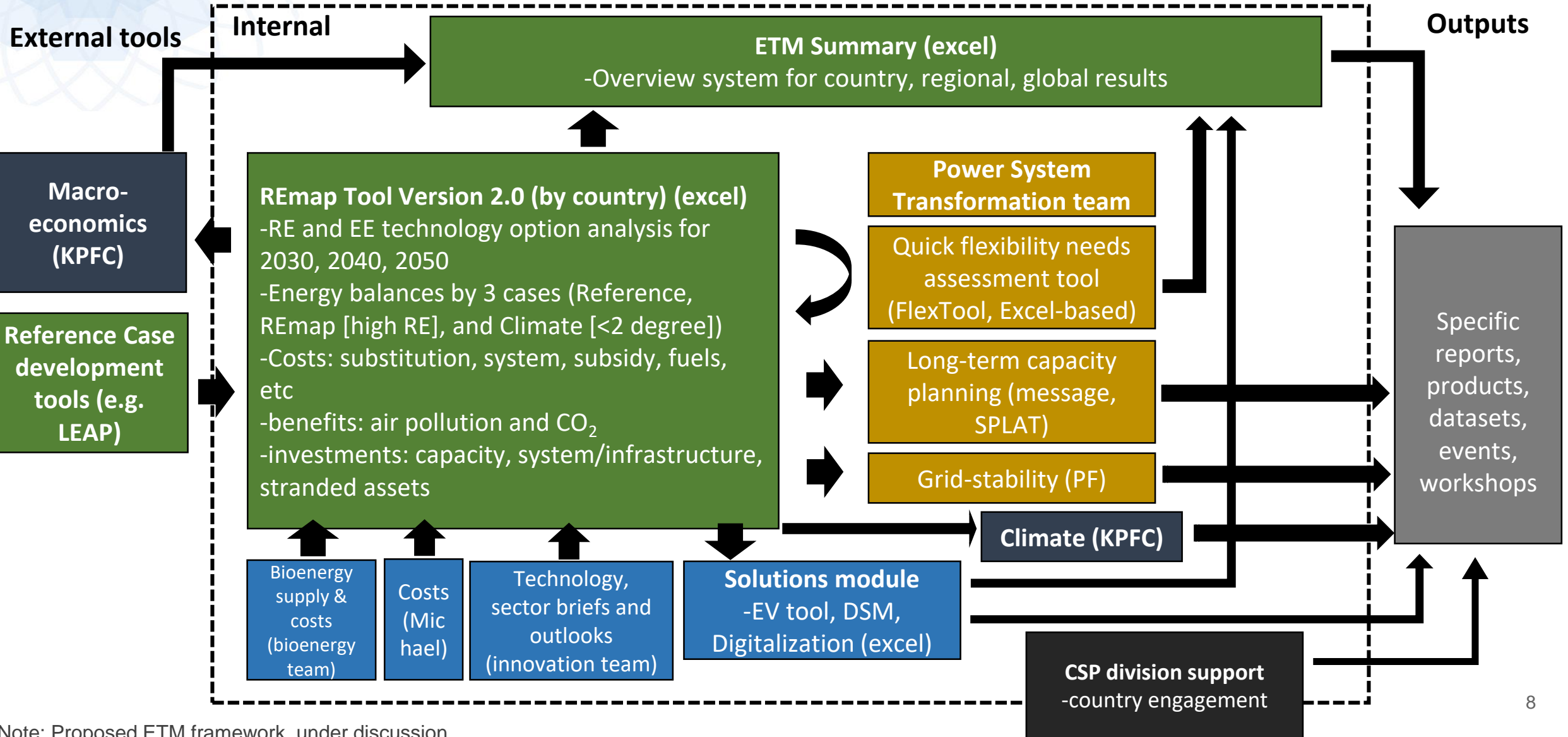
- » REmap is a **successful part of the IRENA programme**. But a **step change is needed**. This includes **better integration with other parts of the Agency work**.
- » REmap is seen as a **good source of disruptive scenarios** in contrast to more business-as-usual projections of other agencies such as IEA.
- » REmap is under severe **resource constraints**. The initiative is run at a fraction of the resources that are spent for similar activities in other Agencies. **More resources are needed to ensure continuity and quality**.
- » More rigorous **modelling** is needed. IRENA needs a **perspective how RE fits into the overall energy transition** picture including energy efficiency, natural gas, CO₂ capture and storage and nuclear.
- » **Governance** – REmap has benefitted from the continued strong support of a few nations but for credibility reasons it would be good to broaden the resource base.
- » **Country engagement** is critical. This includes provision of VC, secondments, provision of data, review of analysis, development of country level outlooks, outreach events.

WPB 18/19 - Outlook for REmap

- » **New global report to 2050**, including updated China, EU, India and US; recent commodity price projections; etc.
- » **Strengthen networking**
- » Country work integrated with RRA into “**PRET**” (Pathways for Renewable Energy Transition)
- » Envisioning new **regional work** (e.g. for Europe)
- » Need to **strengthen modeling capacity** (REmap tool overhaul and potentially online information system)
 - » Preparation and discussions about the larger **Energy Transition Model**



IRENA Energy Transition Model (ETM)



Note: Proposed ETM framework, under discussion.

Thank you!



www.irena.org/remap



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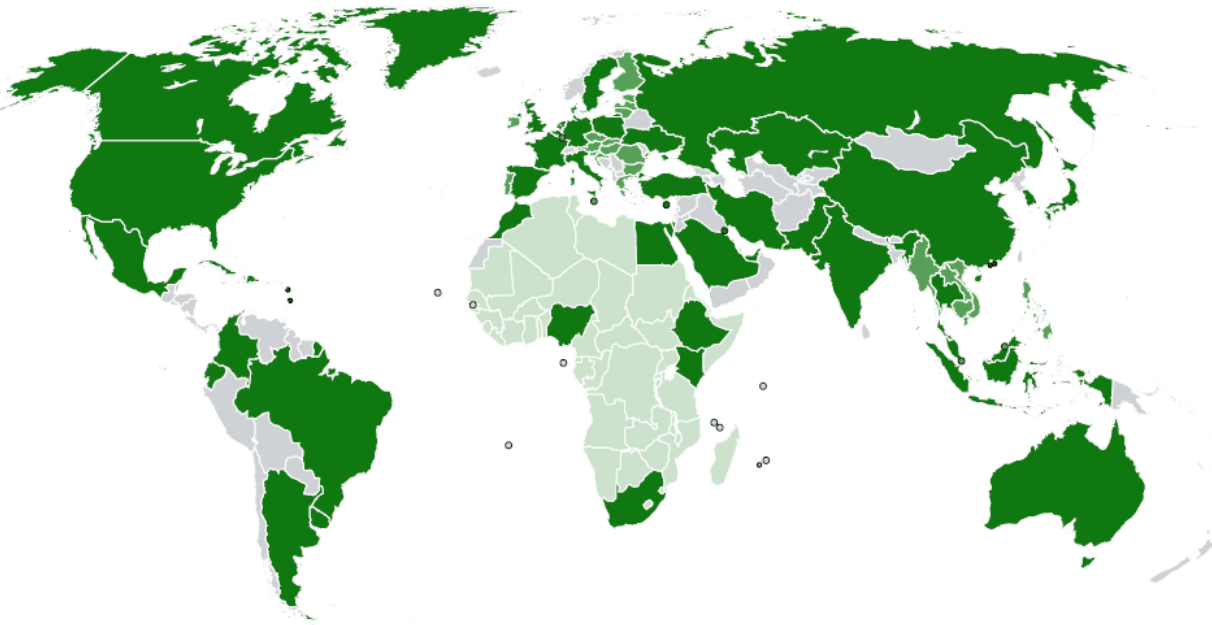


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REmap – IRENA's Renewable Energy Roadmap



Engagement with 70 countries, 90% of energy use

