

# Pathways to 2°C by 2050: Key Messages from the Global Calculator

Kazuo Matsushita,  
Senior Fellow, IGES / Professor Emeritus, Kyoto University

## COP21 & Paris Agreement



# The Paris Agreement:

## Huge ambition

- Global goal of keeping warming **between 2° and 1.5° C** (Art. 2)
- **Global peaking** “as soon as possible” (Art. 4.1)
- Achieve **balance of emissions and sinks by second half of century** (Art. 4.1)
  - Excludes **solar radiation management**
- **Global stocktake** on progress towards these goals every 5 years from **2023** (Art. 14.1 and 2)

## What does Paris Agreement signify?

- 2(or 1.5)-degree climate targets
- Net zero GHG emissions by the latter half of the 21<sup>st</sup> century

⇒ How do we attain the goals in an effective and equitable way?

⇒ Is it possible to meet our 2-degree climate targets and ensure everyone has good living standards by 2050?

# Long-term low GHG emission development strategies

- **Paris Agreement**: requires each country to prepare mid-term (e.g.2030) as well as long-term low emission development scenario.
- **G7 Ise-Shima Leaders' Declaration**, 26-27 May 2016: “We commit to formulate and communicate ambitions mid-century long-term low greenhouse gas (GHG) emission development strategies well ahead of the 2020 deadline.”

## Why we need Global Calculator?

- **Science based, transparent, multi-stakeholder deliberations** are important in preparing long-term low greenhouse gas (GHG) emission development strategies.
  - **Objective tools which enables quantitative analysis** are useful for such deliberation.
- ⇒ **Global Calculator**

# The Global Calculator

[illegible]

## How it works?

# The Global Calculator

It includes the full range of possible scenarios for the future, as determined by international experts

It instantly works out the implications of your choices so you can see the impact on people's lifestyles, the energy system and the climate

## The three principles behind the tool

## The Global Calculator

**1.Openness** – an Excel-based tool which is fully published and available free online

**2.Collaboration** – built by a global team with input from hundreds of experts: IEA, WRI, PIK, UKDECC, CLIMACT,...

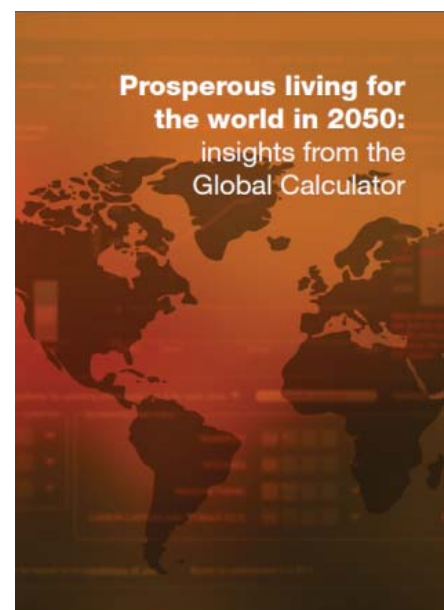
**3.Simplicity** – modelling the world as simply as possible, while still including all energy, emissions and a full range of future scenarios

## A positive vision of the future

## The Global Calculator

This report uses evidence from the Global Calculator to show that:

- The world could eat well, travel more and live in more comfortable homes **and** prevent dangerous climate change
- But to do so, we need to transform the technologies and fuels we use
- We also need to make smarter use of our limited land resources and expand forests by around 5-15% by 2050



- What are the usefulness and implications of the Global Calculator? In particular for Japan (all the materials of the Global Calculator are translated into Japanese)?

For business? For civil society?

- Let us listen to what Pascal has to say and participate in the launch and demonstration!

Thank you.