



# BEFS

Bioenergy and Food Security

## Sustainable Bioenergy Development FAO's toolkit

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# FAO and Sustainable Bioenergy Development: Key elements of the approach



- Understand the **context** and **needs**
  - Agriculture, food security, energy, environment and natural resources
  - Why bioenergy? Which drivers? Concerns?
- Base policy on **evidence** from the country
  - Identify which bioenergy options of interest, can they be viable?
  - Identify what role smallholders can play
- Develop bioenergy by **integrating food** and **energy** systems
  - **How does FAO address these points?**

# FAO and sustainable bioenergy development



# Some key definitions: Biofuels

FEEDSTOCK

Crops and crop residues, forestry and residues and livestock residues

Solid  
Biofuels

Gaseous  
Biofuels

Liquid  
Biofuels

BIOENERGY: all  
BIOMASS: mater  
waste.



from biomass.  
als and animal

Firewood,  
charcoal,  
briquettes

Biogas,  
syngas  
(gasification)

Bioethanol,  
biodiesel and  
straight  
vegetable oil

Heating and Cooking

Electricity

Transport



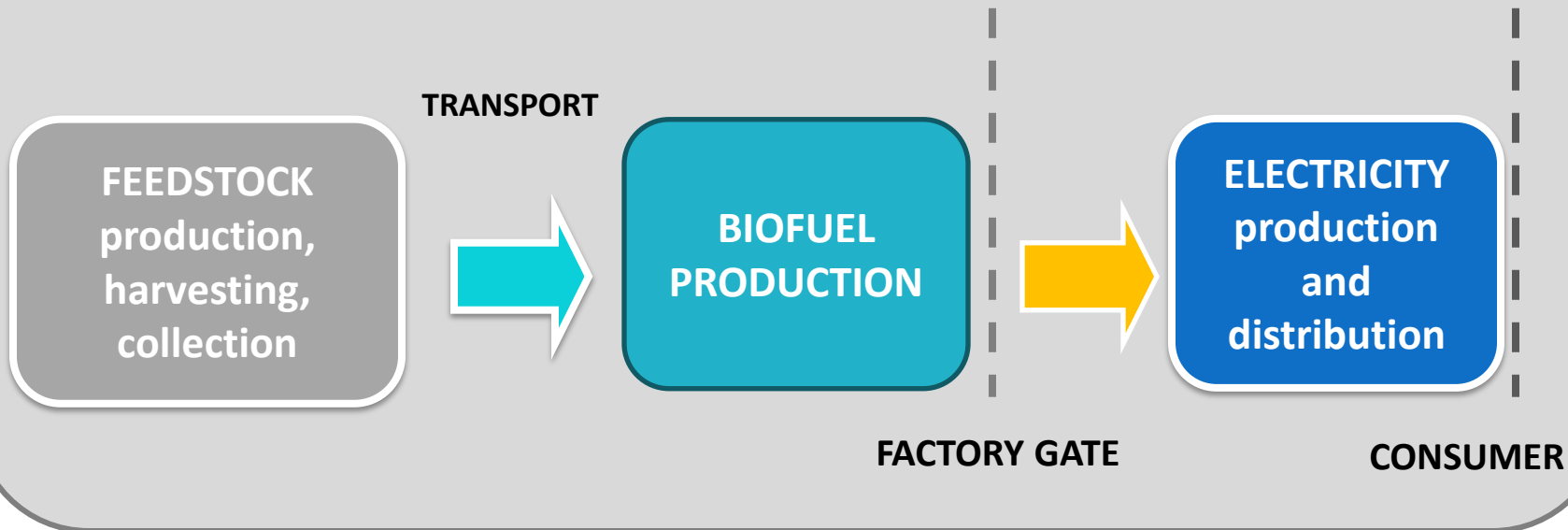
# Some key definitions: Food Security

- *Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.*
- This definition introduces four main dimensions of food security:
  - Physical **AVAILABILITY** of food
  - Economic and physical **ACCESS** to food
  - Food **UTILIZATION**
  - **STABILITY** of the other three dimensions over time



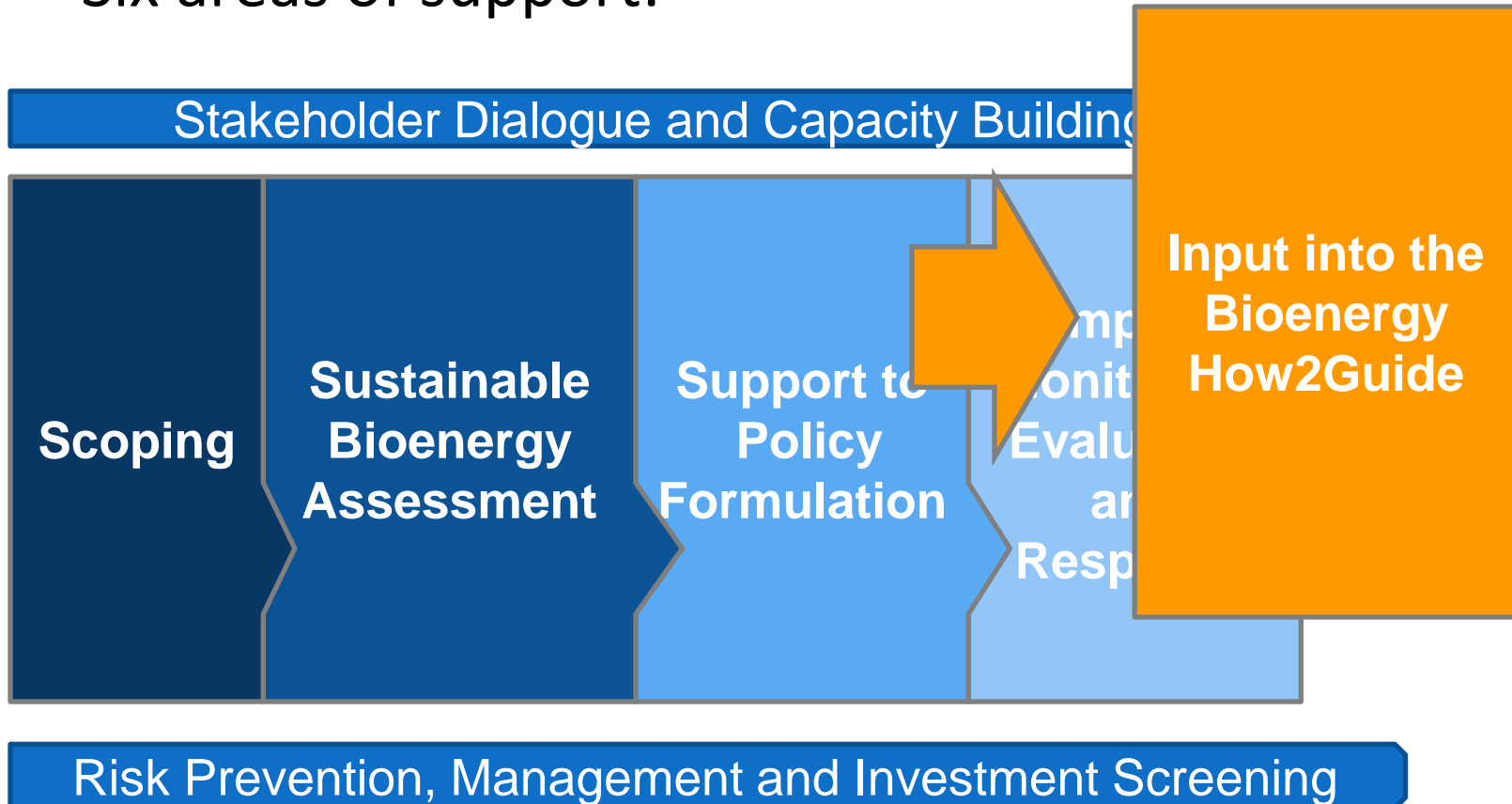
# Boundaries of the analysis

## The whole bioenergy supply chain



# Country level support and Evidence: FAO's Sustainable Bioenergy Toolkit

- Six areas of support:





# Country level support and Evidence: BEFS Approach (contd.)



## Stakeholder Dialogue and Capacity Building



### Scoping

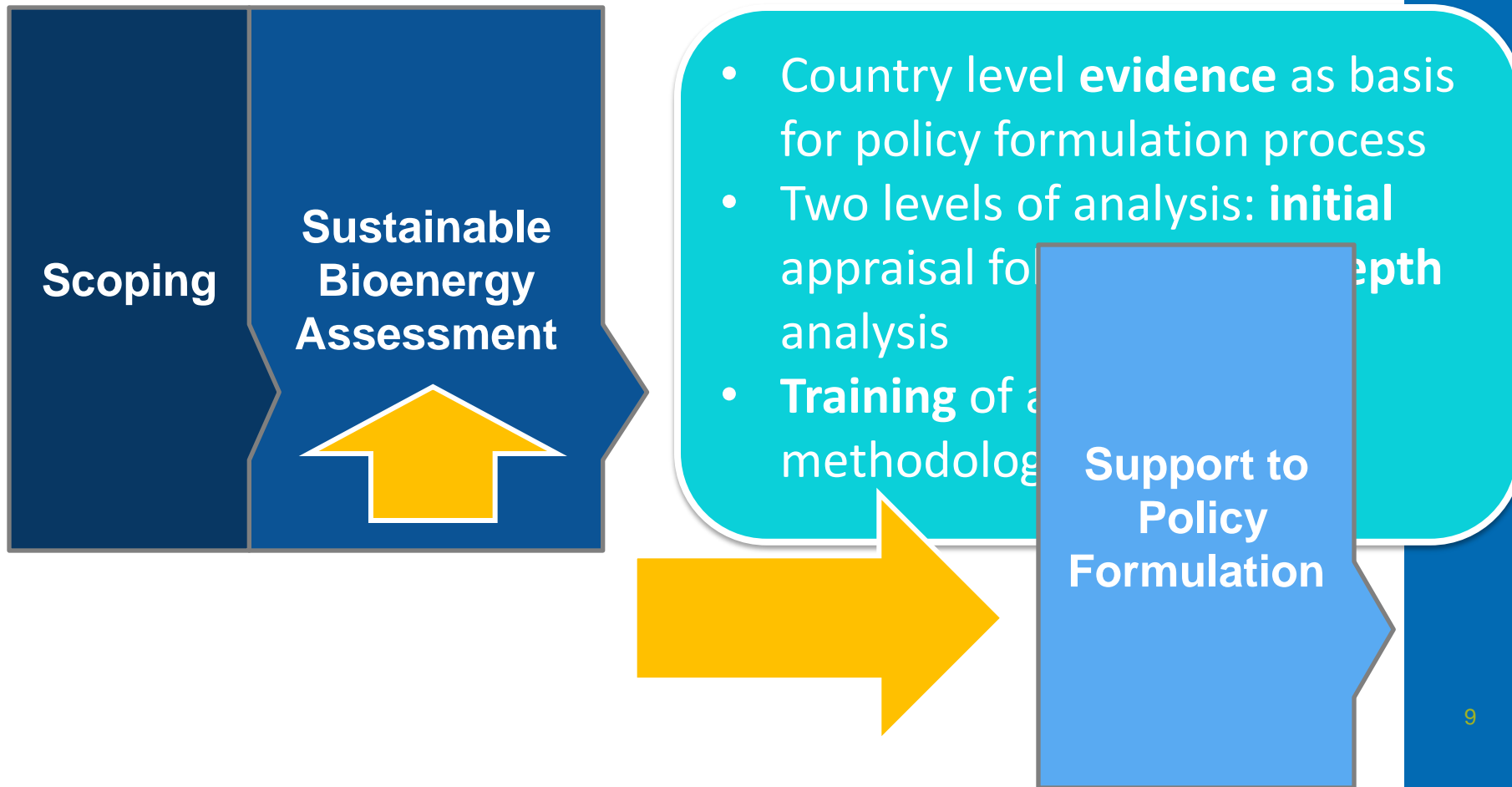
- Country review including stakeholder review, agriculture, energy, food security, environment context etc
- Establish or work with existing cross ministerial working group
- Identification and discussion of country needs, focus areas, concerns
- Train working group on bioenergy and food security linkages and on the BEFS Approach
- Definition and agreement of next steps



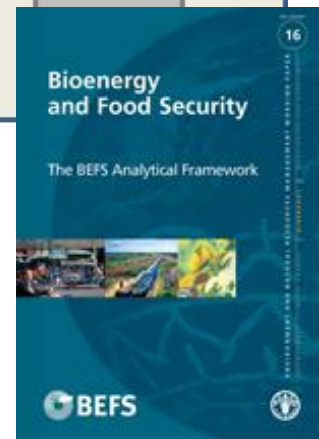
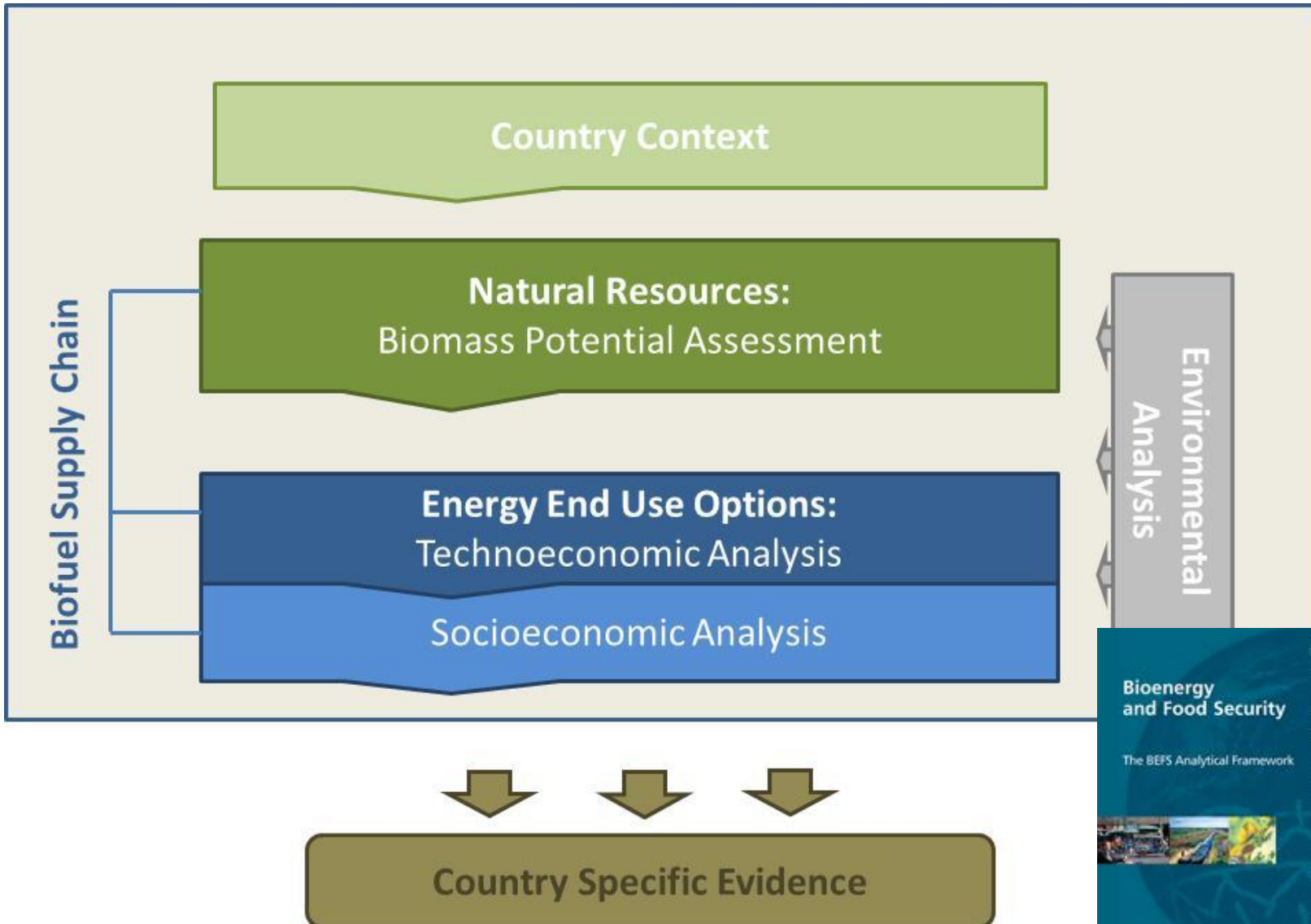


# Country level support and Evidence: BEFS Approach (contd.)

## Stakeholder Dialogue and Capacity Building



# BEFS Sustainable Bioenergy Assessment





# How does the appraisal account for food security and sustainability?

- **Food Security**
  - Identify key food staples in the country
  - Strive for feedstock production that is additional to current uses
  - Consider options for income generation, employment and potential tradeoffs (feedstock level, processing level)
- **Sustainable use of natural resources**
  - intensification of agricultural production as preferred option
  - forestland and protected areas excluded
  - current/planned uses of residues excluded
  - importance of residues for soil fertility and structure considered
- **Economic and social sustainability**
  - competitiveness
  - financial viability
  - outgrowers' inclusion

# The BEFS Rapid Appraisal

## Country Status

Review of key indicators and trends: Agriculture, Energy, Environment, etc.

## Natural Resources

**Agriculture Residues**

**Woodfuel and Wood Residues**

**Crops**

Biomass Potential Assessment

## Energy End Use Options

**Heating and Cooking**  
Charcoal briquettes, biogas

**Rural Electrification**  
Solar, mini-grid, PV, grid extension

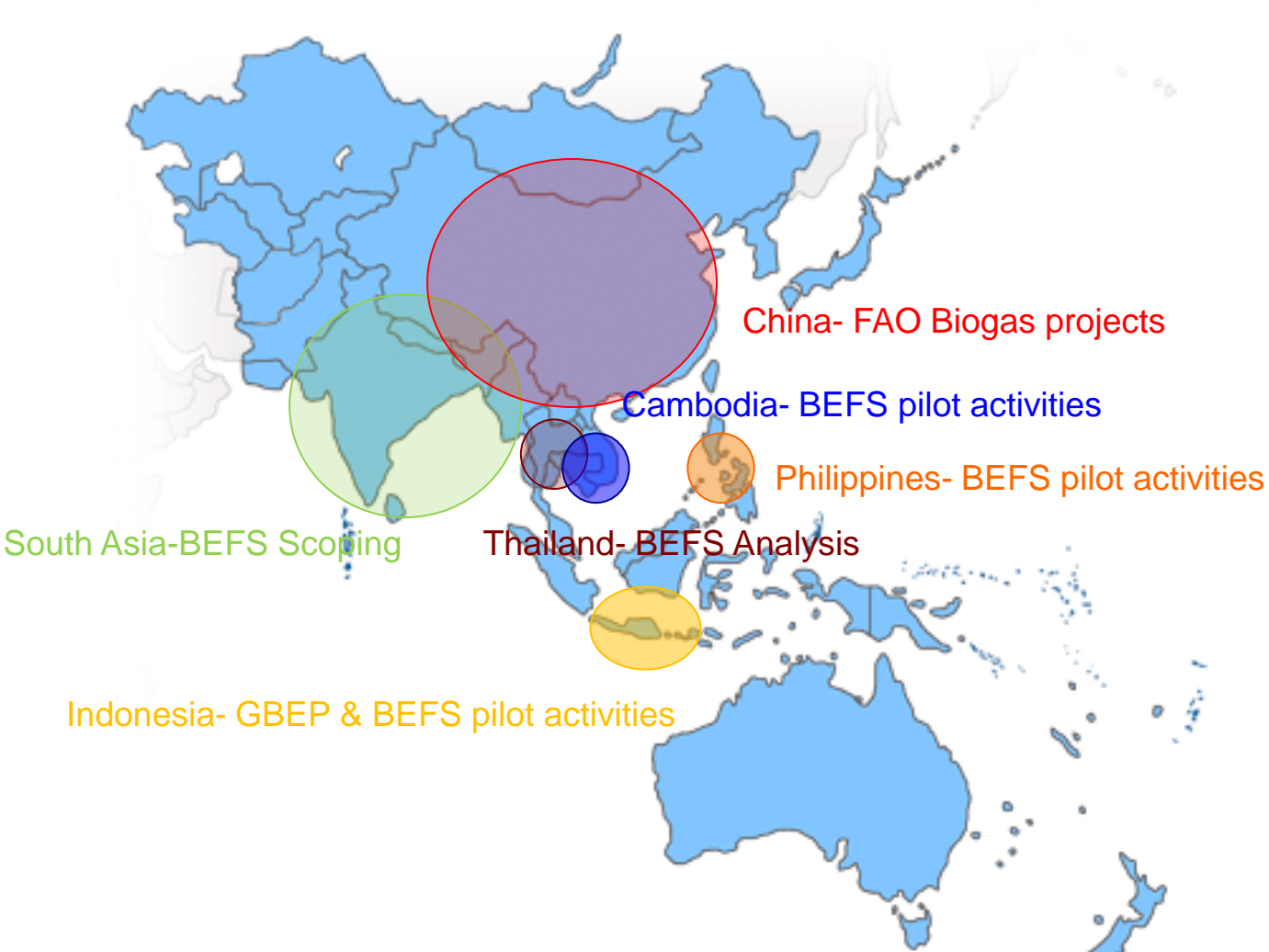
**Transport**  
Bioethanol, biodiesel

- The detailed analysis builds on from this initial assessment, including spatial characteristics



# FAO Bioenergy in Asia and the Pacific

## Possibilities



# FAO Bioenergy in Asia and the Pacific Activities



# BEFS in ASEAN +3 Project

**Overall Goal:** sustainable, food secure, climate-friendly bioenergy contributes to economic development in AMS.

**What:** formulating regional and national BEFS mainstreaming strategies in ASEAN

**How:**

- Capacity needs assessments
- BEFS capacity building & tool training
- Roadmap guidance



# BEFSCI

Bioenergy and Food Security  
Criteria and Indicators

# Thank you

