



## **MICRO ALGAE POTENTIAL FOR BIOFUELS & LOCAL ECONOMY: How CSR Activity Can Contribute**



Ir. ERWIN SUSANTO SADIRSAN, MBA.  
Dr. VERANIA ANDRIA  
Indonesian Renewable Energy Society (METI/IRES)

RESEARCH WORKSHOP ON SUSTAINABLE BIOFUEL DEVELOPMENT IN  
INDONESIA: PROGRESS SO FAR AND FUTURE APPLIED RESEARCH  
OPPORTUNITIES

JAKARTA, 4-5 FEBRUARY 2009-SULTAN HOTEL

1

## **CONTENT**

1. BACKGROUND
2. RESEARCH GOAL
3. RESEARCH METHODOLOGY
4. TIME SCHEDULE

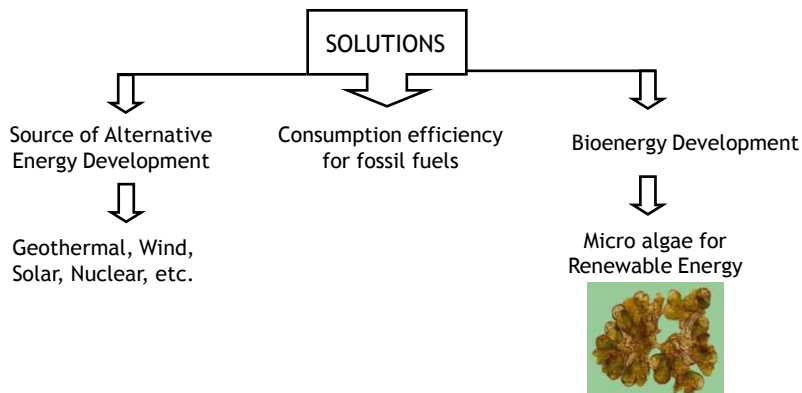
# BACKGROUND

- Fossil Fuels Condition
- Government Regulation and Policy for New-Renewable Energy
- Corporate Social Responsibility (CSR)
- Potential of Micro algae for biofuel production while promoting local economy

3

## Fossil Fuels Condition

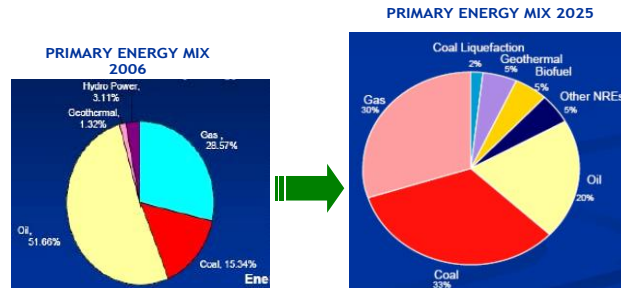
- Highly Dependency on fossil fuels
- Energy Insecurity in many regions in Indonesia



4

## GOVERNMENT REGULATION AND POLICY FOR NEW-RENEWABLE ENERGY

### INDONESIA ENERGY MIX 2006 -2025



**Chance for biofuel development :**  
energy security, job creation and poverty alleviation

5

## RESEARCH PREMISE

...in order to achieve an economical, social and environmental sustainable technology, it is necessary that the targeted communities are informed and involved since the feasible phase during process of technology development.

6

# RESEARCH GOAL

**Location:** Spermonde Islands, South Sulawesi Province

- To conduct interdisciplinary social-ecological research to develop strategy for technology implementation.
- To develop and implement tailor-made micro algae-based technology that suits local's acceptance, capacity & expectation.
- To promote program of Self Sustain Energy Village through promotion of cooperation between Business People and Community.

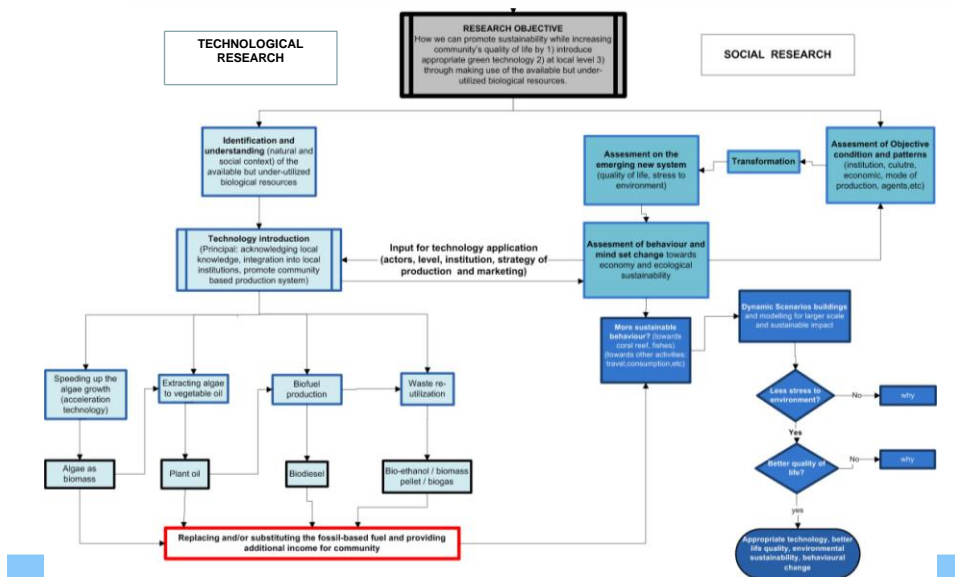


OR

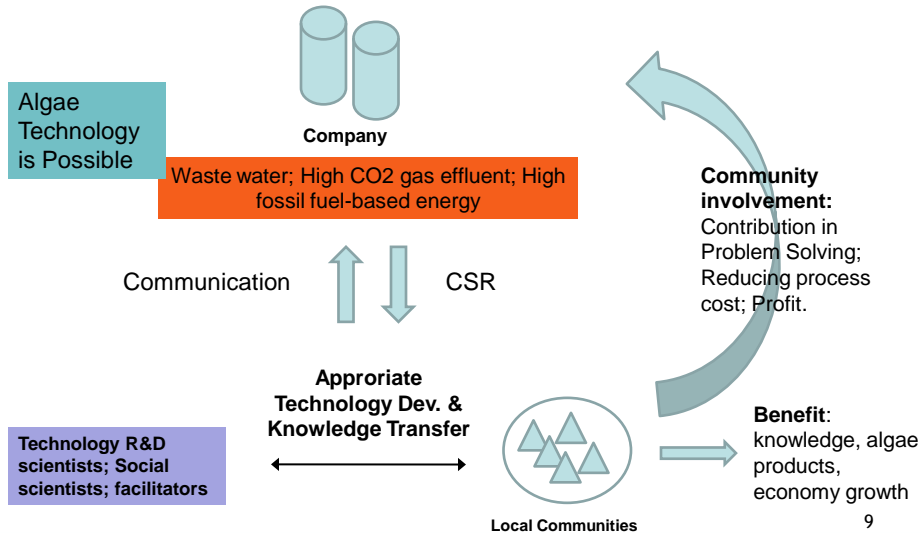


7

# RESEARCH METHOD



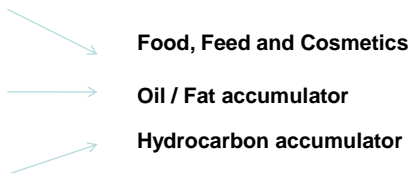
# How CSR Can Contribute?



# RESEARCH CAPITALS

## Algae-technology Expertise : Cultured & Screened Different Species

<i>Chlorella</i> sp	<i>Scenedesmus</i> sp
<i>Dunaliella</i> sp	<i>Nannochloropsis oculata</i>
<i>Spirulina</i> sp	<i>Tetraselmis chunii</i>
<i>Nitzschia</i> sp	<i>Chaetoceros</i> sp
<i>Chaetoceros chalcitris</i>	<i>Porphyridium cruentum</i>
<i>Isochrysis</i> sp	<i>Phaeodactylum tricornutum</i>



Bioprocess P2 Bioteknologi - LIPI  
Surfactant and Bio-energy Research Center (SBRC)-IPB

## Social-Ecological Expertise

- **University of Hasanuddin** ; expertise on the area
- **Leibniz Center for Tropical Marine Ecology**, Bremen-Germany: social-ecological methods expert
- **Local Actors**: pioneers in technology adoption

10

# TIME SCHEDULE

YEAR 1	1	2	3	4	5	6	7	8	9	10	11	12
Social-ecological research	█	█	█	█	█	█						
Algae species screening, culture				█	█	█	█					
Biomass production, field trial							█	█	█	█	█	█

YEAR 2	1	2	3	4	5	6	7	8	9	10	11	12
Community Discussions, scenarios	█	█				█	█					█
Training for trainers			█	█	█			█	█	█		
R&D Algae Biomass utilization, trial			█	█	█	█	█	█	█	█	█	█

YEAR 3	1	2	3	4	5	6	7	8	9	10	11	12
Community facilitation: market	█	█	█									
Training for trainers				█	█	█			█	█	█	
Scaling up: biodiesel, biogas, etc.	█	█	█	█	█	█	█	█	█	█		11

## Summary

1. It is a pilot project of Self Sustain Energy Village which is based on interdisciplinary research and involve government, academicians, business people and community.
2. **Tangible output:** accessible energy, development of local economies, company's benefit.
3. **Intangible output:** we contribute to poverty alleviation through transfer of knowledge to communities, development of tailor-made technologies .

# Thank You !

© 2009 meti.ires@yahoo.com

13