

Project idea 4: Second generation biofuel

Introduction

Since Thailand is one of the largest agriculture producers, the country has large amount of agricultural residue that is potentially be converted into energy. The residue is normally disposed by either land filled or burn and could lead to other problems e.g. NIMBY or air pollution. The second generation biofuels (e.g. agricultural residual or cellulosic ethanol) could potentially address those residues and attain fuel. In addition, cellulosic ethanol could reduce emissions of greenhouse gas significantly. Moreover, the biofuels would cut oil import and, at the same time, enhance energy security. The ultimate goals of second and third generation biofuels projects are 1) To reduce oil imports 2) To promote the use of biofuels 3) To develop biofuels technology suitable for local context

Objectives:

1. Enact the national policy that promotes the production and the use of second and third generation biofuels. The policy should cover all issues and levels such as feedstock collection, fundamental research, technology development, market analysis, and PR.
2. Develop incentive mechanism that induces private sector investments
3. Develop second and third generation biofuels standards/regulations in Thailand aligning with the international standards/regulations

Expected Output and Outcome

1. The national policy and roadmap on second and third generation biofuels
2. Knowledge and technology transfer
3. Feasibility study on the second and third generation biofuels
4. Self developed technology, appropriate for the country situation
5. Regulation requirement covering from the supply to demand side of biofuels
6. Financial incentives in investment of second and third generation biofuels
7. Long-term capacity building plans e.g. training programs, increasing numbers of experts, and PR

Timeline:

Activities	2012	2013	2014	2015	2016 onwards
Development national plan/roadmap					
Do basic research covering all areas					
- Fiscal support in pilot scale & Demonstration plant					
- Develop waste management system					
- Pilot scale					
Fiscal support for demonstration plant					
Promotes large scale production to investors					

Budget/Resource Requirements:

Tentative budget 346 million Baht (~ \$ 11.5 million USD)

Expense details	Cost (baht)	Total (baht)
Policy formulation		16,000,000
The national plan development	3,000,000	
Develop KM programs in 2 nd biofuels	3,000,000	
Seminars/conferences	3,000,000	
International travel costs and expenses (30 people)	4,000,000	
Domestic travel costs and expenses (50 people)	2,000,000	
PR, document, and administration	3,000,000	
Research works:		130,000,000
Fundamental research funding	10,000,000	
Apply research funding (lab & pilot scale)	50,000,000	
Demonstration plant	70,000,000	
Fiscal support for commercial:		200,000,000
Financial intensive (1-2 plants)	200,000,000	
	Total	346,000,000