

## Curriculum for two-week training course on Renewable Energy for MEMR staff

### Part I : 8-12 February 2010

Day	Module	Sessions/ Presentations
<b>Day 1</b>		
<b>8 February 2010</b>		
8h45-10h00		<b>Opening Ceremony</b>
Coffee break		
<b>1: Basic concept of Renewable Energy Development</b>		
10h30-11h00	Mr. Ir.Nico van der Linden	Background of project & training
11h00-11h30	Mr.Ir. Patrick van Schijndel	Introduction to renewable energy
11h30-12h30	Mr. Xander van Tilburg MSc.	Why renewable energy? <i>Drivers (Global), Drivers (National), Some success stories Challenges; o.a. technology costs and enabling policy environment</i>
LUNCH: 12h30-13h30		
13h30-14h00	Mr.Ir. Patrick van Schijndel	Why renewable energy targets?
14h00-15h00	To be defined	How to develop renewable energy targets ? <i>Current and future situation, Develop a roadmap, Practical experience</i>
Coffee Break		
<b>2:Renewable Energy Policy</b>		
15h30-17h00	MEMR	Renewable Energy in Indonesia
<b>Day 2</b>		
<b>9 February 2010</b>		
<b>2:Renewable Energy Policy (continued)</b>		
9h00-10h00	Mr.Ir. Patrick van Schijndel	Renewable Energy policy in Europe, Asia, North America
Coffee Break		
10h30-12h30	Mr. Xander van Tilburg MSc.	Renewable Energy support mechanisms <i>Why are there support schemes in the first place? Overview of different types of support schemes, Some case studies Renewable obligation, Feed-in Case study: costing a 20 MW wind project</i>
LUNCH: 12h30-13h30		
<b>3: Biomass: Module 1: Introduction</b>		
13h30-15h00	Mr. Ir.Harrie Knoef	Biomass and Bioenergy, <i>Introduction, Resources</i>
Coffee Break		
15h30-17h00	Mr. Ir.Harrie Knoef	<i>Biomass to energy chain Characteristics Pretreatment</i>
<b>Day 3</b>		
<b>10 February 2010</b>		
<b>4:Renewable Energy Policy; continuation support mechanisms</b>		

<b>Day</b>	<b>Module</b>	<b>Sessions/ Presentations</b>
9h00-10h30	Mr. Xander van Tilburg MSc.	Experiences with RE support mechanisms in Europe <i>Germany – EEG feed in support</i> <i>UK – ROC renewable obligation</i> <i>The Netherlands – feed in</i>
Coffee Break		
11h00-12h00	Mr. Xander van Tilburg MSc.	Suitability for Indonesian situation <i>Analysis of the current situation</i>
Lunch: 12h00-13h00		
<b>5 Biomass: Module 2: Primary conversion technology to biofuels</b>		
13h00-15h00	Mr. Ir.Harrie Knoef	Bioenergy technologies <i>Solids (carbonisation, agglomeration, briquettes, pellets)</i> <i>Liquids (fermentation, esterification, pyrolysis)</i>
Coffee Break		
15h30-17h00	Mr. Ir.Harrie Knoef	<i>Gaseous (gasification, anaerobic digestion)</i>
<b>Day 4</b>		<b>11 February 2010</b>
<b>6. Renewable Energy Policy; Energy Projects</b>		
9h00-10h30	Mr.Ir. Patrick van Schijndel	<i>How to develop a RE project?</i> <i>Selection, needs assessment, feasibility study, construction</i>
Coffee Break		
11h00-12h30	Mr.Ir. Patrick van Schijndel	Continuation feasibility studies etc. <i>How entrepreneurs can get involved in the RE business</i> <i>Financing options</i>
Lunch: 12h30-13h30		
<b>7. Biomass: Module 3: Secondary conversion of biofuels</b>		
13h30-17h00	Mr. Ir.Harrie Knoef	<i>Heat, Power, Transportation Fuels, Bio refineries</i>
<b>Day 5</b>		<b>12 February 2010</b>
<b>8. Biomass: Module 4: General issues</b>		
9h00-10h30	Mr. Ir.Harrie Knoef	<i>Competing use of biomass</i> <i>Sustainability and policy issues</i>
Coffee Break		
11h00-12h00	Mr. Ir.Harrie Knoef	CDM
Lunch & Prayers: 12h00-14h00		
14h00-15h00	Mr. Ir.Harrie Knoef	<i>Biomass energy strategies and policies (objectives, challenges, barriers)</i>
Coffee Break		
Evaluation of the training course		
15h30-16h30		Feedback from participants on course content and suggestions for possible follow up training
Closure & Concluding remarks		