

BIOMASS

RESEARCH AREAS	TIMEFRAME								S&T DELIVERABLES	
	2013	2014	2015	2016	2017	2018	2019	2020	2013 - 2015	2016 – 2020
Waste-to-energy for power from municipal solid waste	▶								<ul style="list-style-type: none"> - Demonstration plant on waste-to-energy from MSW - Resource assessment, database integration, policy study 	<ul style="list-style-type: none"> - Cost-competitive hydrogen production - Biofuel from alternative feedstock
Cost effective processes to produce bio-ethanol and biodiesel from agri-based resources - By-product utilization	▶									
Biofuel Fuel analysis/characterization, stability and storage assessment as well as performance testing, durability, fuel systems and engine components impact assessment - Higher blend, Combined feedstock	▶									
Production of hydrogen gas using environmentally sound technologies like the application of bioreactors and other processes				▶						
Biomass for export market assessment (local vs. export use)		▶								
Biomass resource assessment – integration of database	▶									

SOLAR

RESEARCH AREAS	TIMEFRAME								S&T DELIVERABLES	
	2013	2014	2015	2016	2017	2018	2019	2020	2013 - 2015	2016 – 2020
Modular stand-alone and mobile desalination system for brackish and sea water	▶								Locally-developed solar desalination system for potable water	- Locally-developed solar cells - Establishment of PV Laboratory
Localization of efficient solar thermal system i.e. concentrator, collectors, for drying and potable water production	▶									
Localization of solar cells (nanotech)	▶									
Establishment of PV Laboratory (for certification)		▶								
Support to PV standards development		▶								

MICRO-HYDRO

RESEARCH AREAS	TIMEFRAME								S&T DELIVERABLES	
	2013	2014	2015	2016	2017	2018	2019	2020	2013 - 2015	2016 – 2020
Local turbine inventory & assessment	▶								- Locally-developed micro-hydro turbine - Assessment of MH resource and market potential	Upgraded micro-hydro test facility
Localization of high-efficiency turbines		▶								
Upgrading of micro-hydro power performance test facility				▶						
Assessment of industry capability to manufacture (including logistics)		▶								
Assessment of MH resource and market potential		▶								

OCEAN

RESEARCH AREAS	TIMEFRAME								S&T DELIVERABLES	
	2013	2014	2015	2016	2017	2018	2019	2020	2013 - 2015	2016 – 2020
Ocean energy detailed resource assessment in remote/isolated communities (other market) and strategic areas (wave, tidal, OTEC)	▶								- Web-based GIS for ocean energy resource - Mechanical harvesting device design modeling tools	Viability of ocean energy for power demonstrated
Ocean energy harvesting device design & development: Performance and modeling tools	▶									
Assessment of ocean energy harvesting device				▶						
Demonstration project on ocean energy for power				▶						


WIND

RESEARCH AREAS	TIMEFRAME								S&T DELIVERABLES	
	2013	2014	2015	2016	2017	2018	2019	2020	2013 - 2015	2016 – 2020
Localization and piloting of Small-Scale Wind Turbine Generator	▶								- Localized and piloted 2 kW wind turbine generator	Wind energy testing lab established
Establishment of wind energy laboratory				▶						
Resource assessment in specific sites (remote island communities)	▶									

ENERCON

RESEARCH AREAS	TIMEFRAME								S&T DELIVERABLES	
	2013	2014	2015	2016	2017	2018	2019	2020	2013 - 2015	2016 – 2020
Integrated energy management system for household, industry and commercial buildings - Smart and green DOST compound - Smart grid technology program <ul style="list-style-type: none"> • Smart home platform • Advanced metering infrastructure • Acceptability studies for pre-paid metering and smart home systems • Rollout - Design and implementation of Power Distribution Units for data centers									- Smart DOST building - Smart grid technology-- wireless and centralized integrated monitoring system	Locally-developed building energy management tool
Local Development of Building Management Systems <ul style="list-style-type: none"> - Sensors, integration monitoring software, automation and control systems 										
Compendium of available energy efficiency devices and technologies <ul style="list-style-type: none"> - Sensors, integration monitoring software, automation and control systems 										

LOW-ENTHALPY GEOTHERMAL

RESEARCH AREAS	TIMEFRAME								S&T DELIVERABLES	
	2013	2014	2015	2016	2017	2018	2019	2020	2013 - 2015	2016 – 2020
Resource and market assessment of low-enthalpy geothermal										<ul style="list-style-type: none"> - Resource and market assessment of low-enthalpy geothermal - Heat pump technology development for low-enthalpy application
Heat pump technology development for low-enthalpy application				