OVERALL STRATEGY

Mandatory fields

1) OVERALL CO2 EMISSION REDUCTION TARGET BY 2020

Absolute reduction		Per capita reduction	
20%	or	20%	*Please select the corresponding box*
44%		48%	

2) LONG-TERM VISION OF YOUR LOCAL AUTHORITY (please include priority areas, main trends and challenges)

As a vision for the future, the energy policy is orientated to guarantee security of energy supply, ensure economical and environmental sustainability of the sector and quality of energy services, and to contribute to job creation and regional added value and to the competitiveness of the regional economy.
The specific main objectives of the strategy for sustainable energy are to:
- Improve energy supply guarantee.
- Reduce energy dependence from abroad.
- Reduce energy intensity in Gross Domestic Product.
- Reduce carbon dioxide emissions.

The targets to achieve in 2020 are to:
- Increase by 20% the number of days of autonomous storage of primary energy compared to 2005.
- Increase to 20% the use of regional energy resources in primary energy demand.
- Increase to 50% the use of regional energy resources in electricity production.
- Reduce by 20% the energy intensity in Gross Domestic Product (primary energy/Gross Domestic Product) compared to 2005.
- Reduce CO2 by 20% compared to 2005.

3) ORGANISATIONAL AND FINANCIAL ASPECTS

Coordination and organisational structures created/assigned	Steering Committee: - Vice-Presidency of the Regional Government; - Regional Directorate of Commerce, Industry and Energy; - Empresa de Electricidade da Madeira, S.A. (electricity company); - AREAM – Agência Regional da Energia e Ambiente da Região Autónoma da Madeira (regional energy agency). Advisory Committee: constituted by representatives of stakeholders.
Staff capacity allocated	Coordination: Vice-Presidency of the Regional Government; Regional Directorate of Commerce, Industry and Energy; Empresa de Electricidade da Madeira, S.A.; AREAM – Agência Regional da Energia e Ambiente da Região Autónoma da Madeira. Technicial staff: Empresa de Electricidade da Madeira, S.A.; AREAM – Agência Regional da Energia e Ambiente da Região Autónoma da Madeira; promoters; energy service companies; consultants; builders; etc.

Involvement of stakeholders and citizens	To catalyse the involvement of stakeholders, periodic meetings with the Advisory Committee will be held, comprising representatives from various sectors of society with a say or interest in the energy area, in order to inform on the actions and the progress of the plan's implementation, identify existing or possible constraints and analyse measures to optimize the results and correct possible deviations. To reach a wider public, the media will be used, to date with events, forums and publications, to disseminate information on the actions that constitutes the plan and on the benefits and incentives, raising awareness to the importance of these actions, in the context of regional development and the improvement of quality of life and of the environment.
Overall estimated budget	41,67 million euros until 2020 - 52,9% public companies; 26,7% citizens; 16,0% private companies and organizations; 2,2% Regional Government; 2,2% Municipality.
Foreseen financing sources for the investments within your action plan	The financing sources are: - Regional Budget. - Municipal Budget. - Own funds. - European Investment Bank. - Bank loan. - Energy Service Companies (ESCO). - Public-private partnerships. The support instruments are: - Operational Programmes (Intervir+ e Rumos). - Incentive Systems (Qualificar+, SI Turismo, etc.). - European programmes. - Energy Efficiciency Fund. - Tax benefits. - Special tariffs.
Planned measures for monitoring and follow up	For monitoring, data will be collected periodically regarding final energy demand, secondary energy production, use of renewable energy and state of implementation of sustainable energy actions. Based on the information gathered, AREAM will prepare an energy balance and an emissions inventory, to verify the progress of the indicators in relation to the objectives and targets set, in order to evaluate the results of the actions implemented. The Advisory Committee analyses the indicators concerning the objectives and targets and the progress of the actions, and meet every two years, to discuss the results and the solutions to optimize the implementation of the Sustainable Energy Action Plan.

Go to the next sheet dedicated to your Baseline Emission Inventory

BASELINE EMISSION INVENTORY

Mandatory fields

1) GENERAL DATA

Number of inhabitants: **5 482** (2009)

CO2 calculation method: **IPCC emission factors**

2) RESULTS OF ENERGY BALANCE

FINAL ENERGY DEMAND [MWh]

DEMAND SECTOR	ENERGY FOR FINAL USE																			
	Centralized energy services				Fossil fuels							Renewable energy sources (excluding electricity and heat sold to public networks)								TOTAL
Sector description	Electricity from public grid	Heat from district heating	Cold from district cooling	Subtotal	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Subtotal	
RESIDENTIAL	**7 439**			**7 439**				**4 275**			**4 275**			**102**			**111**	**213**	**11 927**
Hot water	320			**320**				2 862			**2 862**			102				**102**	**3 285**
Heating and cooling	644			**644**				128			**128**						88	**88**	**860**
Lighting	1 789			**1 789**															**1 789**
Cooking	579			**579**				1 284			**1 284**						23	**23**	**1 886**
Refrigerator and freezers	1 303			**1 303**															**1 303**
Laundry machines and dryers	358			**358**															**358**
Dish washing	213			**213**															**213**
Tv sets	854			**854**															**854**
Other electric appliances	1 379			**1 379**															**1 379**
PRIMARY SECTOR	**137**			**137**		**103**					**103**								**240**
Agriculture, forestry and fishing	80			**80**		103					**103**								**183**
Mining and quarrying	57			**57**															**57**
SECONDARY SECTOR	**8 097**			**8 097**															**8 097**
Manufacturing	986			**986**															**986**
Water supply, sewerage, waste management and remediation activities	6 886			**6 886**															**6 886**
Construction	225			**225**															**225**
TERTIARY SECTOR	**19 279**			**19 279**		**2 173**		**652**			**2 825**			**14**				**14**	**22 118**
Wholesale and retail trade; repair of motor vehicles and motorcycles	3 560			**3 560**															**3 560**
Accommodation and food service activities	7 359			**7 359**		1 532		522			**2 054**								**9 413**
General public administration and social security	2 197			**2 197**															**2 197**
Defence, justice, police and fire departments	223			**223**															**223**
Education	197			**197**		641		5			**646**			14				**14**	**856**
Human health and social work activities	423			**423**															**423**
Other services	2 848			**2 848**				125			**125**								**2 973**
Public lighting	2 472			**2 472**															**2 472**
TRANSPORTS						**20 123**	**11 688**				**31 811**								**31 811**
Passenger road transport (public transports, taxi, tourism, school buses, etc.)						616					**616**								**616**
Freight transport by road and removal services						183					**183**								**183**
Other fleet for public and private services						1 248					**1 248**								**1 248**
Private transports						18 077	11 688				**29 765**								**29 765**
TOTAL FOR INTERNAL MARKET	**34 953**			**34 953**		**22 399**	**11 688**	**4 927**			**39 014**			**116**			**111**	**227**	**74 194**
Reexportation (ships, airplanes, industrial free zones, national and international militar installations, etc.)																			
Activities with intensive use of energy for exportation (to exclude in the island energy balance)																			
Other (to exclude in the island energy balance)																			
TOTAL	**34 953**			**34 953**		**22 399**	**11 688**	**4 927**			**39 014**			**116**			**111**	**227**	**74 194**

SECONDARY ENERGY PRODUCTION AND ENERGY FLUXES [MWh]

PRODUCTION SECTOR	ENERGY SOURCE																	SECONDARY ENERGY CONVERSION			ENERGY FLUXES						TOTAL	Distribution losses and self-consumption
	Fossil fuels							Renewable energy sources (from systems connected to public networks)									Subtotal				Storage		External connection					
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal		Electricity conversion to cold	Heat conversion to cold	Subtotal	Input to storage	Output from storage	Import to island	Export from island	Reexportation and external consumption	Subtotal		
Electricity	32 169	2 057					**34 226**		1 821	7						**1 827**	**36 053**										**36 053**	1 100
Heat																												
Cold																												
TOTAL	**32 169**	**2 057**					**34 226**		**1 821**	**7**						**1 827**	**36 053**										**36 053**	**1 100**

PRIMARY ENERGY CONVERTED TO SECONDARY ENERGY (primary energy consumption) [MWh]

PRODUCTION SECTOR	PRIMARY ENERGY SOURCE																	Conversion losses from primary to secondary energy
	Fossil fuels							Renewable energy sources									TOTAL	
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal		
Electricity	93 127	5 955					**99 082**		1 821	7						**1 827**	**100 909**	**64 856**
Heat																		
Cold																		
TOTAL	**93 127**	**5 955**					**99 082**		**1 821**	**7**						**1 827**	**100 909**	**64 856**

PRIMARY ENERGY DEMAND [MWh]

Energy product	PRIMARY ENERGY SOURCE																						
	Fossil fuels							Renewable energy sources									Electricity				Heat	Cold	
	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	Imported electricity (cable)	Exported electricity (cable)	Reexportation and external consumption	Subtotal	Reexportation and external consumption	Reexportation and external consumption	TOTAL
TOTAL	93 127	28 354	11 688	4 927			**138 096**		1 821	122			111			**2 054**							**140 150**

ENERGY CONVERSION EFFICIENCY [%]

PRODUCTION SECTOR	PRIMARY ENERGY SOURCE																
	Fossil fuels							Renewable energy sources									TOTAL
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	
Electricity	35%	35%	-	-	-	-	**35%**	-	100%	100%	-	-	-	-	-	**100%**	**36%**
Heat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cold	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

3) RESULTS OF EMISSION INVENTORY

CO2 EMISSIONS FROM FINAL USE [t CO2]

DEMAND SECTOR	ENERGY FOR FINAL USE																		
	Centralized energy services				Fossil fuels							Renewable energy sources (excluding electricity and heat sold to public networks)							
Sector description	Electricity from public grid	Heat from district heating	Cold from district cooling	Subtotal	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Subtotal	TOTAL
RESIDENTIAL	**5 869**			**5 869**				**1 026**			**1 026**								**6 895**
Hot water	253			**253**				687			**687**								**940**
Heating and cooling	508			**508**				31			**31**								**539**
Lighting	1 411			**1 411**															**1 411**
Cooking	456			**456**				308			**308**								**765**
Refrigerator and freezers	1 028			**1 028**															**1 028**
Laundry machines and dryers	283			**283**															**283**
Dish washing	168			**168**															**168**
Tv sets	674			**674**															**674**
Other electric appliances	1 088			**1 088**															**1 088**
PRIMARY SECTOR	**108**			**108**		**28**					**28**								**136**
Agriculture, forestry and fishing	63			**63**		28					**28**								**91**
Mining and quarrying	45			**45**															**45**
SECONDARY SECTOR	**6 387**			**6 387**															**6 387**
Manufacturing	778			**778**															**778**
Water supply, sewerage, waste management and remediation activities	5 432			**5 432**															**5 432**
Construction	177			**177**															**177**
TERTIARY SECTOR	**15 208**			**15 208**		**580**		**157**			**737**								**15 945**
Wholesale and retail trade; repair of motor vehicles and motorcycles	2 809			**2 809**															**2 809**
Accommodation and food service activities	5 805			**5 805**		409		125			**534**								**6 339**
General public administration and social security	1 733			**1 733**															**1 733**
Defence, justice, police and fire departments	176			**176**															**176**
Education	155			**155**		171		1			**172**								**327**
Human health and social work activities	334			**334**															**334**
Other services	2 246			**2 246**				30			**30**								**2 276**
Public lighting	1 950			**1 950**															**1 950**
TRANSPORTS						**5 373**	**2 910**				**8 283**								**8 283**
Passenger road transport (public transports, taxi, tourism, school buses, etc.)						164					**164**								**164**
Freight transport by road and removal services						49					**49**								**49**
Other fleet for public and private services						333					**333**								**333**
Private transports						4 826	2 910				**7 737**								**7 737**
TOTAL FOR INTERNAL MARKET	**27 572**			**27 572**		**5 981**	**2 910**	**1 182**			**10 073**								**37 646**

CO2 EMISSIONS FROM PRODUCTION [t CO2]

PRODUCTION SECTOR	PRIMARY ENERGY SOURCE																
	Fossil fuels							Renewable energy sources									TOTAL
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	
Electricity	25982	1590					**27 572**										**27 572**
Heat																	
Cold																	
TOTAL	**25 982**	**1 590**					**27 572**										**27 572**

[t CO2/MWh]

Energy product	CO2 EMISSION FACTORS
Electricity	0,765
Heat	
Cold	

CO2 EMISSIONS [t CO2]

Energy product	PRIMARY ENERGY SOURCE																						
	Fossil fuels							Renewable energy sources									Electricity				Heat	Cold	
	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	Imported electricity (cable)	Exported electricity (cable)	Reexportation and external consumption	Subtotal	Reexportation and external consumption	Reexportation and external consumption	TOTAL
TOTAL	25 982	7 571	2 910	1 182			**37 646**																**37 646**

[t CO2]

CO2 emissions from ETS installations included in the calculations for final use of energy	CO2 emissions from ETS installations included in the calculations for secondary energy production

Go to the next sheet dedicated to your Emission Inventory in 2020

PLAN EMISSION INVENTORY IN 2020 (implementing sustainable energy actions)

Mandatory fields

1) GENERAL DATA

Number of inhabitants: **5 996** (2020)

CO2 calculation method: **IPCC emission factors**

2) RESULTS OF ENERGY BALANCE

FINAL ENERGY DEMAND [MWh]

DEMAND SECTOR	ENERGY FOR FINAL USE																			
	Centralized energy services				Fossil fuels							Renewable energy sources (excluding electricity and heat sold to public networks)								TOTAL
Sector description	Electricity from public grid	Heat from district heating	Cold from district cooling	Subtotal	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Subtotal	
RESIDENTIAL	**6 908**			**6 908**				**3 725**			**3 725**			**436**			**44**	**480**	**11 114**
Hot water	285			**285**				2 421			**2 421**			436				**436**	**3 142**
Heating and cooling	581			**581**				116			**116**						35	**35**	**732**
Lighting	1 534			**1 534**															**1 534**
Cooking	627			**627**				1 188			**1 188**						9	**9**	**1 824**
Refrigerator and freezers	1 232			**1 232**															**1 232**
Laundry machines and dryers	338			**338**															**338**
Dish washing	201			**201**															**201**
Tv sets	807			**807**															**807**
Other electric appliances	1 303			**1 303**															**1 303**
PRIMARY SECTOR	**140**			**140**		**107**					**107**								**247**
Agriculture, forestry and fishing	83			**83**		107					**107**								**189**
Mining and quarrying	57			**57**															**57**
SECONDARY SECTOR	**7 684**			**7 684**										**45**				**45**	**7 730**
Manufacturing	858			**858**										45				**45**	**903**
Water supply, sewerage, waste management and remediation activities	6 600			**6 600**															**6 600**
Construction	226			**226**															**226**
TERTIARY SECTOR	**15 917**			**15 917**		**817**		**194**			**1 010**			**1 280**				**1 280**	**18 208**
Wholesale and retail trade; repair of motor vehicles and motorcycles	2 978			**2 978**															**2 978**
Accommodation and food service activities	6 131			**6 131**		444		78			**522**			1 094				**1 094**	**7 748**
General public administration and social security	1 744			**1 744**															**1 744**
Defence, justice, police and fire departments	177			**177**															**177**
Education	109			**109**		372		4			**376**			186				**186**	**671**
Human health and social work activities	336			**336**															**336**
Other services	2 392			**2 392**				112			**112**								**2 503**
Public lighting	2 050			**2 050**															**2 050**
TRANSPORTS	**249**			**249**		**19 056**	**10 773**				**29 829**								**30 078**
Passenger road transport (public transports, taxi, tourism, school buses, etc.)	35			**35**		789					**789**								**823**
Freight transport by road and removal services						195					**195**								**195**
Other fleet for public and private services	22			**22**		1 239					**1 239**								**1 261**
Private transports	192			**192**		16 833	10 773				**27 606**								**27 799**
TOTAL FOR INTERNAL MARKET	**30 899**			**30 899**		**19 979**	**10 773**	**3 919**			**34 671**			**1 761**			**44**	**1 806**	**67 376**
Reexportation (ships, airplanes, industrial free zones, national and international militar installations, etc.)																			
Activities with intensive use of energy for exportation (to exclude in the island energy balance)																			
Other (to exclude in the island energy balance)																			
TOTAL	**30 899**			**30 899**		**19 979**	**10 773**	**3 919**			**34 671**			**1 761**			**44**	**1 806**	**67 376**

SECONDARY ENERGY PRODUCTION AND ENERGY FLUXES [MWh]

PRODUCTION SECTOR	ENERGY SOURCE																	SECONDARY ENERGY CONVERSION			ENERGY FLUXES						TOTAL	Distribution losses and self-consumption
	Fossil fuels							Renewable energy sources (from systems connected to public networks)									Subtotal				Storage		External connection					
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal		Electricity conversion to cold	Heat conversion to cold	Subtotal	Input to storage	Output from storage	Import to island	Export from island	Reexportation and external consumption	Subtotal		
Electricity	13 259	2 057					**15 316**		4 449	3 967			8 140			**16 555**	**31 871**										**31 871**	972
Heat																												
Cold																												
TOTAL	**13 259**	**2 057**					**15 316**		**4 449**	**3 967**			**8 140**			**16 555**	**31 871**										**31 871**	**972**

PRIMARY ENERGY CONVERTED TO SECONDARY ENERGY (primary energy consumption) [MWh]

PRODUCTION SECTOR	PRIMARY ENERGY SOURCE																	Conversion losses from primary to secondary energy
	Fossil fuels							Renewable energy sources									TOTAL	
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal		
Electricity	38 321	5 945					**44 266**		4 449	3 967			20 350			**28 765**	**73 031**	**41 160**
Heat																		
Cold																		
TOTAL	**38 321**	**5 945**					**44 266**		**4 449**	**3 967**			**20 350**			**28 765**	**73 031**	**41 160**

PRIMARY ENERGY DEMAND

[MWh]

Energy product	PRIMARY ENERGY SOURCE																						
	Fossil fuels							Renewable energy sources									Electricity				Heat	Cold	TOTAL
	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	Imported electricity (cable)	Exported electricity (cable)	Reexportation and external consumption	Subtotal	Reexportation and external consumption	Reexportation and external consumption	
TOTAL	38 321	25 924	10 773	3 919			**78 937**		4 449	5 728			20 394			**30 571**							**109 508**

ENERGY CONVERSION EFFICIENCY

[%]

PRODUCTION SECTOR	PRIMARY ENERGY SOURCE																
	Fossil fuels							Renewable energy sources									TOTAL
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	
Electricity	35%	35%	-	-	-	-	**35%**	-	100%	100%	-	-	40%	-	-	**58%**	**44%**
Heat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cold	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

3) RESULTS OF EMISSION INVENTORY

CO2 EMISSIONS FROM FINAL USE

[t CO2]

DEMAND SECTOR	ENERGY FOR FINAL USE																		
	Centralized energy services				Fossil fuels							Renewable energy sources (excluding electricity and heat sold to public networks)							
Sector description	Electricity from public grid	Heat from district heating	Cold from district cooling	Subtotal	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Subtotal	TOTAL
RESIDENTIAL	**2 745**			**2 745**				**894**			**894**								**3 639**
Hot water	113			**113**				581			**581**								**694**
Heating and cooling	231			**231**				28			**28**								**259**
Lighting	610			**610**															**610**
Cooking	249			**249**				285			**285**								**534**
Refrigerator and freezers	489			**489**															**489**
Laundry machines and dryers	134			**134**															**134**
Dish washing	80			**80**															**80**
Tv sets	321			**321**															**321**
Other electric appliances	518			**518**															**518**
PRIMARY SECTOR	**56**			**56**		**28**					**28**								**84**
Agriculture, forestry and fishing	33			**33**		28					**28**								**61**
Mining and quarrying	23			**23**															**23**
SECONDARY SECTOR	**3 054**			**3 054**															**3 054**
Manufacturing	341			**341**															**341**
Water supply, sewerage, waste management and remediation activities	2 623			**2 623**															**2 623**
Construction	90			**90**															**90**
TERTIARY SECTOR	**6 325**			**6 325**		**218**		**47**			**265**								**6 590**
Wholesale and retail trade; repair of motor vehicles and motorcycles	1 183			**1 183**															**1 183**
Accommodation and food service activities	2 436			**2 436**		119		19			**137**								**2 574**
General public administration and social security	693			**693**															**693**
Defence, justice, police and fire departments	70			**70**															**70**
Education	43			**43**		99		1			**100**								**144**
Human health and social work activities	134			**134**															**134**
Other services	950			**950**				27			**27**								**977**
Public lighting	815			**815**															**815**
TRANSPORTS	**99**			**99**		**5 088**	**2 683**				**7 770**								**7 869**
Passenger road transport (public transports, taxi, tourism, school buses, etc.)	14			**14**		211					**211**								**224**
Freight transport by road and removal services						52					**52**								**52**
Other fleet for public and private services	9			**9**		331					**331**								**340**
Private transports	76			**76**		4 494	2 683				**7 177**								**7 253**
TOTAL FOR INTERNAL MARKET	**12 279**			**12 279**		**5 334**	**2 683**	**941**			**8 957**								**21 236**

CO2 EMISSIONS FROM PRODUCTION

[t CO2]

PRODUCTION SECTOR	PRIMARY ENERGY SOURCE																
	Fossil fuels							Renewable energy sources									TOTAL
Energy product	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	
Electricity	10692	1587					**12 279**										**12 279**
Heat																	
Cold																	
TOTAL	**10 692**	**1 587**					**12 279**										**12 279**

[t CO2/MWh]

Energy product	CO2 EMISSION FACTORS
Electricity	0,385
Heat	
Cold	

CO2 EMISSIONS

[t CO2]

Energy product	PRIMARY ENERGY SOURCE																						
	Fossil fuels							Renewable energy sources									Electricity				Heat	Cold	TOTAL
	Fueloil	Diesel	Gasoline	LPG	Natural gas	Coal	Subtotal	Hydro	Wind	Solar	Geothermal	Ocean	Biomass	Urban waste	Energy recovery	Subtotal	Imported electricity (cable)	Exported electricity (cable)	Reexportation and external consumption	Subtotal	Reexportation and external consumption	Reexportation and external consumption	
TOTAL	10 692	6 922	2 683	941			**21 236**																**21 236**

[t CO2]

CO2 emissions from ETS installations included in the calculations for final use of energy	CO2 emissions from ETS installations included in the calculations for secondary energy production

Go to the next sheet dedicated to your Island Sustainable Energy Action Plan

Island Sustainable Energy Action Plan (ISEAP)

www.islepact.eu

Island **Porto Santo**

Mandatory fields

1) TITLE OF ISLAND SUSTAINABLE ENERGY ACTION PLAN

Island Sustainable Energy Action Plan of Porto Santo

Authority approving the plan: **Vice-Presidency of Regional Government of Madeira**

Date of formal approval:

2) KEY ELEMENTS OF ISLAND SUSTAINABLE ENERGY ACTION PLAN

SECTORS AND FIELDS OF ACTION	ACTIONS (one line per action - insert lines if necessary; exclude ETS actions)	RESPONSIBLE FOR IMPLEMENTATION	IMPLEMENTATION SCHEDULE		ESTIMATED INVESTMENT COSTS [euro]	EXPECTED ENERGY SAVINGS [MWh/year]	EXPECTED RENEWABLE ENERGY INCREASE [MWh/year]	EXPECTED CO2 REDUCTION [ton/year]	ENERGY SAVINGS TARGET IN 2020 [MWh/year]	RENEWABLE ENERGY INCREASE TARGET IN 2020 [MWh/year]	CO2 REDUCTION TARGET IN 2020 [ton/year]
			Starting year	Ending year							
RESIDENTIAL											
Hot water	1.1. Installation of solar collectors for water heating (domestic hot water, swimming pools and washing machines).	• Citizens • Companies	2012	2020	400 000	117	330	127			
	1.2. Purchase of high performance equipment and adoption of more efficient behaviour.	• Citizens	2012	2020	50 000	149		45			
Heating and cooling	1.3. Application of passive measures (thermal insulation in new and existing buildings, sunlight protection, natural ventilation) and adoption of more efficient behaviour.	• Citizen • Companies	2012	2020	3 000 000	106		78			
Lighting	1.4. Installation of energy efficient lamps, lighting fixtures and control devices, and adoption of more efficient behaviour.	• Citizen	2012	2020	200 000	238		198			
	1.5. Campaigns to provide energy efficient lamps and control devices (light and movement sensors).	• EEM • AREAM • Citizen	2012	2015	100 000	81		68			
Cooking	1.6. Acquisition of high performance kitchen equipment and adoption of more efficient behaviour.	• Citizen	2012	2020	125 000	123		15			
Refrigerator and freezers	1.7. Acquisition of high performance refrigerators and freezers, and adoption of more efficient behaviour.	• Citizen	2012	2020	80 000	124		104	**1 205**	**330**	**859**
Laundry machines and dryers	1.8. Acquisition of high performance washing and drying machines, use of solar heated water and adoption of more efficient behaviour.	• Citizen	2012	2020	10 000	34		29			
Dish washing	1.9. Acquisition of high performance dish washing machines, use of solar heated water and adoption of more efficient behaviour.	• Citizen	2012	2020	10 000	20		17			
Tv sets	1.10. Acquisition of televisions with less energy consumption and less use of stand-by mode.	• Citizen	2012	2020		81		68			
Other electric appliances	1.11. Acquisition of electrical appliances (computers, printers, router, sound, etc.) with less energy consumption and less use of stand-by mode.	• Citizen	2012	2020		132		110			
Overall actions											
PRIMARY SECTOR											
Agriculture, forestry and fishing											
Mining and quarrying											
Overall actions											
SECONDARY SECTOR											
Manufacturing	2.1. Use of renewable energy, waste heat recovery and other available local resources, installation of more efficient heat production and storage equipment, improvement in insulation of thermal piping and optimizing conditions of use and adoption of more efficient behaviour.	• Companies	2012	2020	108 000	89	46	112			

Water supply, sewerage, waste management and remediation activities	2.2. Installation of more efficient equipment for pumping stations and waste water treatment.	• IGA	2012	2020	2 000 000	332		276	**421**	**46**	**388**
Construction											
Overall actions											
TERTIARY SECTOR											
Wholesale and retail trade; repair of motor vehicles and motorcycles	3.1. Installation of efficient lamps and lighting fixtures and control devices	• Companies	2012	2020	20 000	47		39			
	3.2. Monitoring of consumptions and adoption of more efficient behaviour when using heating and cooling systems, lighting and other equipment.	• Companies	2012	2020		151		126			
Accommodation and food service activities	3.3. Adoption of passive measures in the envelope of buildings and swimming pools (thermal insulation of new and existing buildings, shading, natural ventilation, thermal covers in heated swimming pools).	• Companies	2012	2020	800 000	366		273			
	3.4. Installation of solar collectors for hot water (hot water, swimming pools and washing machines).	• Companies	2012	2020	1 200 000	94	1 095	308			
	3.5. Installation of control (motors, lighting) and energy management systems, and acquisition of efficient heating and cooling systems, hot water, lighting and refrigeration.	• Companies	2012	2020	400 000	366		273			
	3.6. Monitoring of consumptions and adoption of more efficient behaviours when using heating and cooling systems, hot water, lighting, refrigeration and kitchens.	• Companies	2012	2020		366		273			
General public administration and social security	3.7. Energy efficiency programme in public services – monitoring of consumptions, energy audits, adoption of energy efficiency measures, and use of renewable energies and adoption of more efficient behaviour.	• Regional Government • EEM • AREAM	2013	2020	212 800	266		222			
Defence, justice, police and fire departments	3.8. Energy efficiency programme in public services – monitoring of consumptions, energy audits, adoption of energy efficiency measures, and use of renewable energies and adoption of more efficient behaviour.	• Regional Government • EEM • AREAM	2013	2020	21 600	27		23	**2 413**	**1 269**	**2 169**
Education	3.9. Energy efficiency programme in public services – monitoring of consumptions, energy audits, adoption of energy efficiency measures, and use of renewable energies and adoption of more efficient behaviour.	• Regional Government • EEM • AREAM	2013	2020	289 600	112	174	114			
Human health and social work activities	3.10. Energy efficiency programme in public services – monitoring of consumptions, energy audits, adoption of energy efficiency measures, and use of renewable energies and adoption of more efficient behaviour.	• Regional Government • EEM • AREAM	2013	2020	40 800	51		43			
Other services	3.11. Installation of efficient lamps and lighting fixtures, and control devices.	• Companies	2012	2020	12 000	28		24			
	3.12. Monitoring of consumptions and adoption of more efficient behaviour when using heating and cooling systems, lighting and other equipment.	• Companies	2012	2020		121		101			
Public lighting	3.13. Energy efficiency programme in public services – substitution of existing lamps and lighting fixtures of low efficiency, installation of control and management systems.	• EEM • AREAM • Municipality • IPM	2012	2020	83 800	419		349			
Overall actions											
TRANSPORTS											
Passenger road transport (public transports, taxi, tourism, school buses, etc.)	4.1. Energy efficiency programme in public services – increase supply of public transport service in Summer, ensuring a shuttle service connecting main residential and hotel areas, the beach, entertainment areas, the port and city centre, with introduction of electric vehicles and adoption of more efficient driving habits.	• Regional Government • Municipality • Companies	2013	2020	500 000	138		18			
Freight transport by road and removal services											
Other fleet for public and private services	4.2. Energy efficiency programme in public services – introduction of electric vehicles in public service fleets and adoption of more efficient driving habits.	• Regional Government • Municipality	2013	2020	200 000	35		4	**4 156**		**942**
	4.3. Acquisition of electric vehicles for private passenger transport fleets and adoption of more efficient driving habits.	• Companies	2013	2020	200 000	35		4			
Private transports	4.4. Acquisition of electric vehicles and adoption of more efficient driving habits.	• Citizen	2013	2020	5 000 000	677		66			
	4.5. Use of public transport.	• Citizen	2012	2020		3 222		838			
	4.6. Use of bicycles.	• Citizen	2012	2020		49		13			
Overall actions											
SECONDARY ENERGY PRODUCTION AND ENERGY FLUXES											
Electricity (non-renewable)											
Heat (non-renewable)											

Cold (non-renewable)											
Hydro											
Wind	5.1. Installation of wind farms.	• Companies	2017	2020	1 000 000		2 628	2 119			
Solar	5.2. Installation of solar photovoltaic kits in micro and mini production regimes.	• Companies • Citizen	2011	2020	4 399 217		1 405	1 133			
Geothermal											
Ocean											
Biomass	5.3. Installation of a biofuel production plant using micro-algae for conversion to electricity.	• EEM	2011	2012	15 000 000		8 140	6 564		**12 173**	**9 816**
Urban waste											
Storage	5.4. Installation of a storage and power stabilization system to mitigate the disruptions in energy production from wind and solar photovoltaic in the stability of the electricity grid.	• EEM	2012	2015	5 000 000						
External connection											
Distribution losses and self-consumption											
Overall actions											
LAND USE PLANNING											
Regional and local strategic planning	6.1. Integration of criteria and norms in land use planning and municipal regulations that encourage the minimization of energy needs in transports and buildings.	• Regional Government • Municipality	2012	2020							
	6.2. Implementation of a municipal sustainable energy action plan in the scope of the Covenant of Mayors.	• Municipality	2012	2015	30 000						
Transports and mobility planning	6.3 Preparation of a mobility plan that covers traffic conditioning and parking in urban centre and favours public transport, electric vehicles, bicycles and pedestrian circulation.	• Municipality	2012	2015	50 000						
	6.4. Installation of charging infrastructures for electric vehicles.	• EEM • Municipality • Companies	2012	2020	75 000						
	6.5. Expansion of the cycle lane to connect main residential and hotel areas, the beach, city centre, so that the bicycle may constitute an attractive and safe means of transport.	• Municipality	2012	2020	500 000						
Energy infrastructures planning	6.6. Transfer of electricity consumption from peak to off-peak hours, through the accumulation of cold in hotels (ice banks), vehicle battery charging and changing hours of operation of consuming equipments, to maximize the share of intermittent renewable energy in the electricity grid.	• Companies • Citizen	2013	2020	300 000						
Renewable energy land use planning	6.7. Assessment of the potential of renewable energy resources, development of forecasting models of intermittent renewable sources and study of dynamic behaviour of the electricity grid.	• Regional Government • AREAM • EEM	2012	2015	50 000						
	6.8. Land use planning of wind farms, photovoltaic and other renewable energy installations, based on the assessment of the potential of the resources, the dynamic behaviour of the electricity grid and the constraints in a territorial scope.	• Regional Government • Municipality • AREAM • EEM	2014	2015	50 000						
Overall actions											
PUBLIC PROCUREMENT OF PRODUCTS AND SERVICES											
Energy efficiency requirements/standards	7.1. Definition of standards and criteria for energy efficiency in the specifications of tender documents for procurement of works, goods and services.	• Regional Government • Municipality • Companies	2012	2020							
Renewable energy requirements/standards	7.2. Definition of standards and criteria for use of renewable energy in the specifications of tender documents for procurement of works, goods and services.	• Regional Government • Municipality • Companies	2012	2020							
Overall actions											
CITIZENS AND STAKEHOLDERS											
Advisory services	8.1. Creation of an information helpline and a forum with questions and answers, based on an e-learning platform, for domestic energy users, in order to clarify doubts and provide advice on energy efficiency, use of renewable energy and reduction of CO2 emissions.	• Regional Government • AREAM	2012	2020	18 300						
Financial support and grants	8.2. Financial support for public promoters and non-profit organizations to implement the actions of the Sustainable Energy Action Plan.	• DR	2012	2020							
	8.3. Financial incentive for business promoters to implement voluntary energy efficiency measures, use of renewable energy for own consumption and reduction of CO2 emissions.	• IDE-RAM	2012	2020							
	8.4. Financial incentive for residential promoters to implement voluntary energy efficiency measures, use of renewable energy for own consumption and reduction of CO2 emissions.	• Regional Government	2013	2020							

	8.5. Reduction of public parking fees for electric vehicles.	• Municipality	2012	2015							
	8.6. Promotion and support in the preparation and negotiation of energy service contracts and specific financial systems for energy efficiency and renewable energy, with energy services companies and credit institutions.	• Regional Government • AREAM	2012	2015	1 500						
Awareness raising and networking	8.7. Awareness-raising campaigns for adoption of passive measures in buildings, purchase of efficient equipment, installation of control devices, use of renewable energy for own consumption, sustainable mobility, monitoring of consumptions and adoption of more efficient practices directed mainly at the residential and services sectors, involving associations and the media.	• Regional Government • AREAM	2012	2020	12 500						
	8.8. Development of cooperation projects in the energy domain with other regions, in particular with outermost island regions presenting similar problems.	• Regional Government • AREAM	2012	2020	75 000						
	8.9. Elaboration of awareness-raising guides and brochures on urban regeneration, mobility, energy efficiency and use of renewable energy aimed at energy consumers, promoters/developers and professionals.	• AREAM	2013	2015	3 750						
	8.10. Promotion of cooperation activities in the energy field between public regional and local administration, research institutes, business associations, companies, credit institutions, NGOs and the media.	• Regional Government • AREAM	2012	2020	1 000						
Training and education	8.11. Development of educational material, awareness-raising and information sessions, and other educational activities on sustainable energy, involving students and teachers.	• Regional Government • AREAM	2012	2020	3 750						
	8.12. Introduction of eco-driving habits in training of driving school students and in complementary training of fleet drivers.	• Regional Government • Companies	2012	2020	1 000						
	8.13. Training of technicians for installation and maintenance of heating, cooling and ventilation (HVAC) systems, hot water production and other energy systems.	• Companies • Business associations	2012	2020	5 000						
Monitoring	8.14. Installation of systems for monitoring and managing energy consumption in the residential sector and in services buildings.	• EEM • Companies • Citizen	2012	2020	20 000						
Legislation	8.15. Increase of supervision/inspection on applicable energy efficiency regulation (SGCIE).	• Regional Government	2012	2020	450						
	8.16. Increase of supervision/inspection on applicable energy efficiency regulation (SCE).	• Regional Government • Municipality • AREAM	2012	2020	6 750						
	8.17. Preparation of a master plan for street lighting, to define efficiency and control requirements in new projects.	• EEM • Municipality • IPM • AREAM	2012	2012	2 500						
Overall actions											
OTHER SECTORS (please specify)											
...											
...											
...											
...											
...											
TOTAL					41 669 317	8 195	13 818	14 174	**8 195**	**13 818**	**14 174**

3) WEBSITE

Direct link to the webpage dedicated to ISEAP (if any)