Streamlining the Pact of Islands into the Covenant of Mayors for Climate & Energy

Guidelines on how to convert an iSEAP
into a SEAP

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Contents

Introduction

The purpose of these guidelines is to describe the steps in order to transform a Pact of Islands (PoI) islands Sustainable Energy Action Plan (iSEAP) template into a Covenant of Mayors (CoM) Sustainable Energy Action Plan (SEAP) template. This is essential in order to enable the JRC to proceed with the evaluation of the iSEAP and for PoI signatories to be considered equivalent to CoM signatories.

For this purpose a special CoM SEAP template is developed, which can be found on the CoM Online Library, including an incorporated converter which automatically transfers the information from the PoI iSEAP to the CoM SEAP template.

The following guidelines, after explaining the incompatibilities between the iSEAP and SEAP structure, explains step by step, the conversion process that each PoI signatory should follow.

iSEAP and SEAP templates

Energy Flows Analysis

One of the main differences between the PoI and the CoM has to do with the calculation and reporting of energy flows. In the CoM SEAP template the final energy consumption and the local energy (electricity and heat/cold) production are reported. While, under the PoI the final energy demand (energy produced by the consumer) together with the secondary energy production (energy delivered to the consumer through networks) are summed up and transformed into primary energy demand to depict the overall energy consumed per energy carrier. The iSEAP primary energy demand values are not transferred to the SEAP template.

Furthermore, in the field of "Secondary Energy Production and Energy Fluxes" of the PoI iSEAP template, the energy values presented under the categories "Secondary Energy Conversion", "Energy Fluxes" and "Distribution Losses and self-consumption" are not taken into account while transforming the iSEAP to a SEAP.

Matching Energy Demand

Another important difference between PoI and CoM has to do with the level of analysis of the Demand Sectors. In the PoI iSEAP template the mandatory demand sector fields are defined based on the economic activity of each sector. The mandatory fields are the ones related to the Residential, Primary, Secondary, Tertiary and Transports sector. Each sector is divided into subsectors for which the filling in of the respective energy flows is optional. In PoI an extensive list of 26 subsectors is defined following the NACE economic activity categorisation.

On the other hand, in the CoM SEAP template the mandatory fields are grouped under two main categories, the "Buildings, Equipment / Facilities and Industries" and the "Transport" one. Again, each main category is divided into subcategories resulting to 8 subcategories in total.

In order to ensure the accurate transferring of data from the iSEAP to the SEAP template, the different PoI energy demand and local energy production subsectors, and also the fields of action, are linked to specific CoM subsectors and fields of action. In several cases, more than one iSEAP subsectors is linked to one SEAP subsector; in those cases, the sum of the iSEAP subsectors make up the SEAP subsector.

However, for the "Transport" sector the fact that the iSEAP subsectors are defined based on the type of use while the SEAP ones on the type of ownership (municipal, public and private) poses the need, during transferring, to break down the energy amounts of each iSEAP subsector to more than one SEAP sector. For this reason, the converter while executing the conversion requests some real time data from the user. This will be further analysed in the Conversion Steps of the present guidelines.

The user should provide some additional information regarding the "*Passenger road transport (public transports, taxi, tourism, school buses, etc.)*" and *"Other fleet for public and private services"* fields of the ISEAP template. The data of these sectors correspond to the *"Municipal fleet", "Public transport"* and *"Private and commercial transport"* sectors in the CoM SEAP with a specific percentage provided by the user.

Specifically, the correspondence among the subsectors and the fields of action relating the two templates are presented in the following tables.

Energy Demand Subsectors	
PoI iSEAP template	CoM SEAP template
RESIDENTIAL	
Hot water Heating and cooling Lighting Cooking Refrigerator and freezers Laundry machines and dryers Dish washing TV sets Other electric appliances	Residential buildings
PRIMARY SECTOR	
Agriculture, forestry and fishing	Industries
Mining and quarrying	
SECONDARY SECTOR	
Manufacturing	Industries
Water supply, sewerage, waste management and remediation activities	Municipal buildings, equipment/facilities
Construction	Industries
TERTARY SECTOR	
Wholesale and retail trade; repair of motor vehicles and motorcycles	Tertiary (non-municipal) buildings, equipment/facilities

Accommodation and food service activities	
General public administration and social security	Municipal buildings, equipment/facilities
Defence, justice, police and fire departments	
Education	
Human health and social work activities	
Other services	Tertiary (non-municipal) buildings, equipment/facilities
Public lighting	Municipal public lighting
TRANSPORTS	
Passenger road transport (public transports, taxi, tourism, school buses, etc.)	Municipal fleet
	Public transport
	Private and commercial transport
Freight transport by road and removal services	Private and commercial transport
Other fleet for public and private services	Municipal fleet
	Public transport
	Private and commercial transport
Private transports	Private and commercial transport

Another difference between Pact of Islands and Covenant of Mayors is the type of energy carriers included in the "Final Energy Demand/Consumption" tables in the Emission Inventory sheets. Taking into account the usual available fossil fuels and renewable energy sources on the islands under PoI, a selection of energy carriers has been made which slightly differs from the ones used under CoM. In the following table the correspondence between the PoI and CoM energy carriers is presented which also takes into account that the list of energy carriers under CoM cannot be customised.

Energy Demand Carriers	
PoI iSEAP template	CoM SEAP template
Electricity from public grid	Electricity
Heat from district heating	Heat/cold
Cold from district cooling	
Fueloil	Other fossil fuels
Diesel	Diesel
Gasoline	Gasoline
LPG	Liquid gas
Natural gas	Natural gas
Coal	Lignite
Hydro	Plant oil
Wind	Other biomass
Solar	Solar thermal
Geothermal	Geothermal
Ocean	-
Biomass	Biofuel

Matching Local Energy Production

In general, the values of electricity, heat and cold production under "Secondary Energy Production and Energy Fluxes" are transferred to the respective available subsectors of the "Local Electricity Production" and "Local Heat/Cold Production" tables. The correspondence between subsectors and energy carriers are presented in the table below. When it comes to "Local generated electricity" from renewable energy carriers, in order to overcome the barrier posed by the fact that the SEAP template provides a smaller number of subsectors compared to the iSEAP, the converter inserts the values of the additional iSEAP subsectors under the subsector "Combined Heat and Power". Furthermore, it should be noted that the iSEAP template does not separate the non-renewable electricity production between thermal plants and CHPs. For this reason the converter while executing the conversion requests some real time data from the user in order to split the produced non-renewable electricity between those plants. This will be further analysed at the Conversion Steps of the present guidelines.

Local Energy Production				
SUBSECTORS MATCHING			**ENERGY CARRIER MATCHING**	
PoI iSEAP template	CoM SECAP template			
Secondary Energy Production and Energy Fluxes	Local Electricity Production Local Heat/Cold Production		PoI carriers	CoM carriers
Electricity	Thermal power plant Combined Heat and Power		Natural gas	Natural gas
			LPG	Liquid gas
			Fueloil	Heating oil
			Diesel	Lignite
			Coal	Coal
			Gasoline	-
	Wind power		Wind	Locally generated electricity
	Hydroelectric power		Hydro	
	Photovoltaic		Solar	
	Combined Heat and Power		Geothermal	Steam
			Ocean	Other renewable
			Biomass	Other biomass
			Urban waste	Waste
			Output from Storage	Other
Heat	District heating plant Combined Heat and Power		Natural gas	Natural gas
			LPG	Liquid gas
			Fueloil	Heating oil
			Diesel	Lignite
			Coal	Coal
			Gasoline	-
			Geothermal	Other
			Ocean	Other renewable
			Biomass	Other biomass
			Urban waste	Waste

Cold	District cooling plant	Natural gas	Natural gas
		LPG	Liquid gas
		Fueloil	Heating oil
		Diesel	Lignite
		Coal	Coal
		Gasoline	-
		Geothermal	Other
		Ocean	Other renewable
		Biomass	Other biomass
		Urban waste	Waste

Matching Fields of Action

While transferring data from the iSEAP to the SEAP template regarding planned sustainable energy actions, each iSEAP field matches to a corresponding SEAP one. For those fields related to energy demand and local energy production the correspondence of subsectors already presented in the "Matching Energy Demand" and "Matching Local Energy Production" sections applies for the respective fields of actions too.

For the additional fields of action (i.e. Land Use Planning, Public Procurement of Products and Services, Citizens and Stakeholders) the following correspondence is applied during the conversion. In the case where fields of action appear in the iSEAP and not in the SEAP then the converter automatically inserts the missing sector in the SEAP template as a new line at the end of the respective table.

Fields of Action	
PoI iSEAP template	CoM SEAP template
LAND USE PLANNING	
Regional and local strategic planning	Strategic urban planning
Transports and mobility planning	Transport / mobility planning
Energy infrastructures planning	
Renewable energy land use planning	
PUBLIC PROCUREMENT OF PRODUCTS AND SERVICES	
Energy efficiency requirements/standards	Energy efficiency requirements/standards
Renewable energy requirements/standards	Renewable energy requirements/standards
Overall actions	
CITIZENS AND STAKEHOLDERS	WORKING WITH THE CITIZENS AND STAKEHOLDERS
Advisory services	Advisory services
Financial support and grants	Financial support and grants
Awareness raising and networking	Awareness raising and local networking
Training and education	Training and education
Monitoring	
Legislation	

Conversion Process

Conversion Requirements

The two main requirements are the following:

- The iSEAP template to be converted to SEAP template should be in English
- The iSEAP and SEAP template files should have not been modified in any way besides of the addition of extra lines regarding actions

Conversion Steps

The following steps should be followed to automatically produce a CoM SEAP template from a PoI iSEAP template.

1. Open the "iSEAP form" file

2. Check that the language in tab "Start here" is set to English

3. Save and Close the file

4. Open the macro-enabled file "iSEAP to SEAP converter"

5. Press the RUN button located at the top of the "Overall Strategy" spreadsheet

6. The following 5 prompt messages appear requesting input from the user. You should provide the requested percentage values by inserting only the absolute values based on the experience of the user and the availability of data
   a. Define the percentage of *Passenger road transport (public transports, taxi, tourism, school buses, etc.)* corresponding to *Public transport*
   b. Define the percentage of *Passenger road transport (public transports, taxi, tourism, school buses, etc.)* corresponding to *Municipal fleet*
   c. Define the percentage of *Other fleet for public and private services* corresponding to *Public transport*
   d. Define the percentage of *Other fleet for public and private services* corresponding to *Municipal fleet*
   e. Define the percentage of non-renewable electricity locally produced at the local thermal plant. Note! If there are no CHPs on the island, then this percentage should be 100.

7. Browse your computer and select the respective "iSEAP form" file

8. After a few seconds the respective CoM SEAP template of the initial PoI iSEAP template is produced