



PURPOSE OF THE QUESTIONNAIRE

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|---------------|----------|
| Region | Bornholm |
|---------------|----------|

This questionnaire has been jointly developed by the CPMR Islands Commission (IC) and Greening the Islands. It forms part of the cooperation agreement that our organisation signed during the latest IC General Assembly in Corfu. This exercise aims to collect information on existing policy measures and/or funding schemes linked to:

- The development of renewable sources;
- boosting transition to electrical mobility;
- supporting stand-alone water supply in your island;
- improving sustainable waste management.

It is worth highlighting that the information collected through this questionnaire will be used to feed into the future joint IC/GtI position/technical report. In this respect, a debate on the first information and data collected will be organised during the international conference organised by Greening the Islands on 15 October and in the workshop organised by the CPMR Geographical Commissions on 16 October in Palermo.

Due to the high added value of this initiative, the key role played by your governments in providing information and data by answering to the greatest possible range of questions is highlighted.

In addition, if you complete the questionnaire on time, you will get a free 1-year subscription to the Greening the Islands Observatory, which includes free access to the Members-only area where you will find technical solutions and best practices for islands, meet all islands stakeholders of the network, etc.

GENERAL INFORMATION ON THE ISLAND

| |
|--|
| Population residing on the island (specify the reference year) |
| 39.695 (2017) |
| Population in the peak tourist month (specify the reference year) |
| We do not have it by month but 600.000 tourist by year |
| Surface area [km²] |
| 588,3 km ² |
| Distance between the island and the closest continental harbour [km] |
| Bornholm to Sweden 37 km and Bornholm to Copenhagen 140 km |
| Presence of energy and/or environmental planning tools on the island (if existing, specify the type; e.g. energy plans, waste management plans, water management plans, mobility plans) |





1. Strategic Energy Plan 2015-2025 2. Bornholm show the Way – No waste in 2032 3. Plan for Waste Water-2014-20121 4. Acton plan for water and watercourse 5 Municipality plan for Bornholm 6. <https://www.brk.dk/Indflydelse-Politik/Planer/Documents/Energistrategi.pdf>
2.

Presence of any protected natural areas (if existing, specify the type of protected area and restrictions, percentage of protected area, surface area and any other suitable information)

It is in Danish but see further via this link: <http://www.367ture.dk/artikler/naturbeskyttelse-paa-bornholm/>

Protected areas on Bornholm

| Type of Nature | All areas (ha) | Number of issues |
|------------------------------|-----------------------|-------------------------|
| Lakes and ponds | 381 | 3086 |
| Moors | 192 | 215 |
| Fresh scary | 494 | 330 |
| Commons | 805 | 433 |
| Heathland | 555 | 152 |
| Beach Meadows and beach sums | 151 | 444 |

Any environmental quality certifications and/or quality labels recognised by the local government (if existing, specify the type)

Green Key is a certification for hotels and recognised by Regional Municipality of Bornholm.

Significant projects in the “Sustainable Tourism” sector (if existing, briefly describe)

“Green Soloution House” is a hotel almost 100 % sustainable in building and process. Front runner in Green hotel

SECTION I: ENERGY

QUESTION 1: Is your island connected to the national system for the transmission of energy or to the gas national network?

No, but Bornholm receives energy via sea based cable from Sweden

But the state own company “Energinet.dk” has the overall responsibility in order to secure electricity in the cables and secure balance in the electrical network

QUESTION 2: Are there economic aids for the transportation of gas and/or oil to the island for the local production of electric energy?

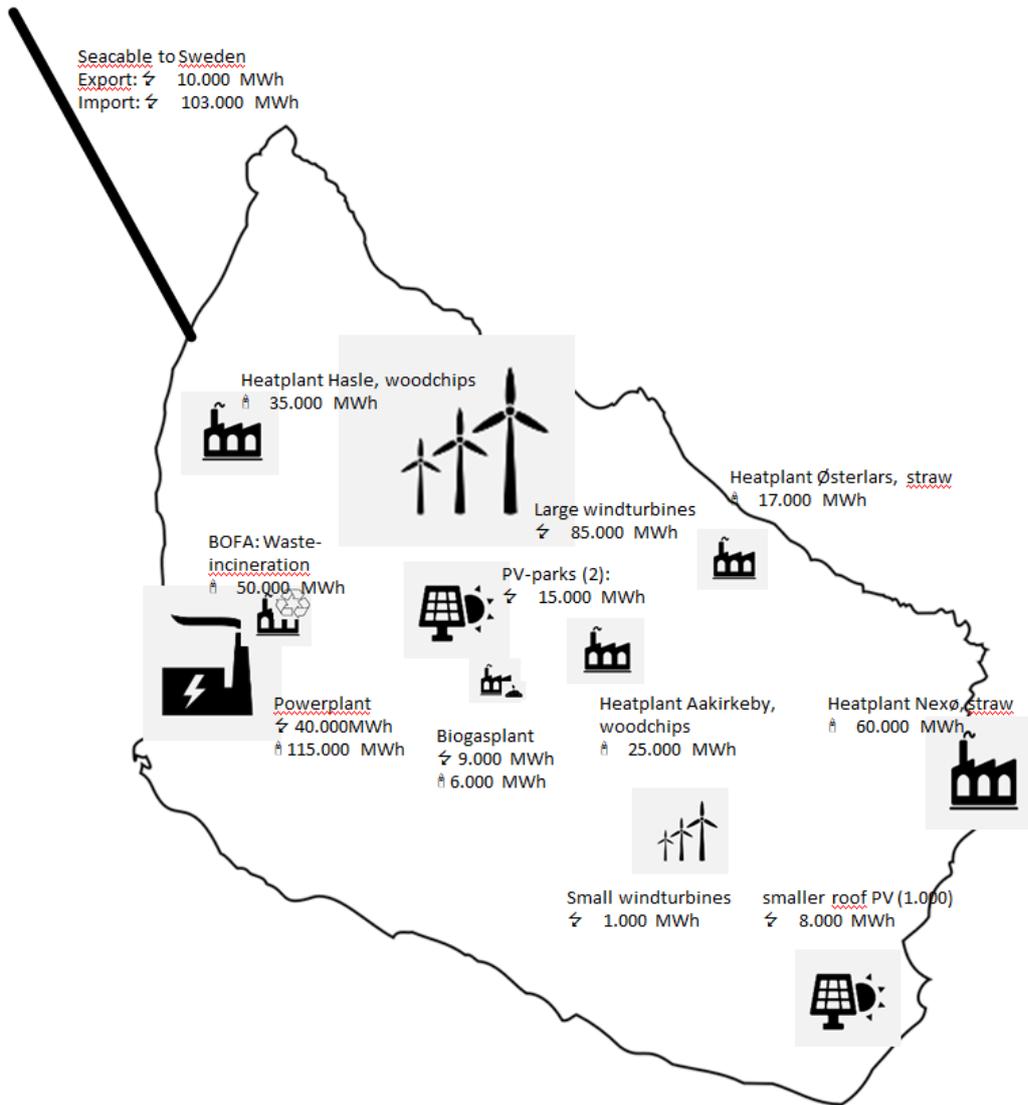
No

QUESTION 3: Number, type and capacity of centralised and distributed energy generation plants on the island (thermal power stations, co-generation plants, district heating, PV, wind, etc.). Provide number,





type and power for each type (for PV just provide an idea of the total cumulated capacity and the % of contribution).



The map shows centralized and decentralized energy plants on Bornholm with type and energy production, heat and/or power.

QUESTION 4: Are there incentives to district heating systems in the islands?





Yes, there are district heating systems in the larger municipalities on Bornholm. And new customers have a favourable possibility to connect.



The map shows the areas on Bornholm with district heating, transmission lines and heating plants

QUESTION 5: According to your knowledge, will the integrated National Energy and Climate Plans (NECPs) of your country directly and/or indirectly contribute to create the necessary conditions to improve the production of electricity from renewable resources in your island? If so, could you explain how?





QUESTION 6: Did your regional/local government set a specific strategy to enhance the production of electricity from renewable sources?

Yes, The Municipality of Bornholm enacted the Bornholm Energy Strategy in 2008 that paved the way for more renewable electricity from renewable sources. The 2008-strategy was revised with the Strategic Energy Plan from 2015.

QUESTION 7: Could you tell us what are the targets/objectives of your strategy for the future? Please answer the question by using one or more of the following indicators: % of renewables of annual energy production; % reduction in CO2 emissions; % reduction in energy consumption (compared to the reference year).

| Source | Today | TARGET 2030 | TARGET 2050 |
|---|---------------|----------------|--------------|
| Electric Energy from RES | 56 % on total | 100 % on total | **% on total |
| Thermal Energy from RES | 73 % on total | 100 % on total | **% on total |
| Reduction in CO2 emissions (if available) | *36 % | 100 % | % |
| Reduction in energy consumption | NA % | NA % | **% |

* We assess the achieved reduction in GHG emissions to app. 104.300 tons, with the conversion of the power plant to wood chips and the expansion of the district heating grid with wood chips and straw as fuel as the most important changes. Land transportation is expected to reduce emissions as technologies become available and affordable. For heavy transport such as trucks and lorries, efforts are being made to reduce the CO2 load through traffic optimization and route optimization.

**The aim is to reduce energy consumption and expand energy production from renewables/CO2-neutral sources like woodchips so that energy production on Bornholm corresponds to energy consumption on a yearly basis in 2025. The next goal will be to cover all of the energy consumption with renewables at the time of the consumption. This requires development of technologies for seasonal energy storage that we don't have today.

QUESTION 8: Did your strategy cover and/or contribute to the achievement of the objectives of the Sustainable Energy Action Plan (SEAP) existing in your islands? If Yes, could you explain how? Could you attach any available official document providing information on existing links?

The expansion of the district heating grid in Bornholm is directly connected to the energy strategy from 2008. In working with the energy strategy from 2006 a forum of stakeholders was formed, Energy Forum, and this work inspired the further expansion of the district heating with the [Bornholm Heat Plan](#) from 2013.

The Municipality has decided to become Climate municipality with the obligation of a yearly CO2 reduction on 3 pct. The municipality makes a yearly status of the progress.

QUESTION 9: Did your government start to work on the 2021-2027 ERDF Operational Programme? If so, is production of electricity through renewable sources a policy objective of your ERDF OP? Could you provide us with qualitative and quantitative information on how your government is planning to use ERDF budget to enhance production of electricity through renewable sources?

QUESTION 10: Are there any incentives in your island supporting the production of electricity from renewable sources?

NO



If so, could you provide us with qualitative and quantitative information about them? For instance, please: explain what their legal basis is, explain who are the eligible actors/bodies, provide us with information about the positive impacts of some of them.

LIST THE TYPE OF INCENTIVE EXISTING IN YOUR ISLAND [tariff, tax credits and deductibles, capital contribution to the investment, public insurance of the investments, contribution to the cost of interests, issuing of certificates representative of production from renewable sources]:

EXPLAIN WHAT THEIR LEGAL BASIS/REFERENCES ARE:

PROVIDE US WITH INFORMATION ABOUT THE POSITIVE IMPACTS OF SOME OF THEM (e.g. costs of electricity are saved or reimbursed, etc.)

QUESTION 11: Please, give some info about energy efficiency strategy and/or energy efficiency projects already carried out or planned (i.e. led, building efficiency, others)

The municipality is changing the street lighting to LED with an estimated reduction in energy consumption from 2.1 mil KWh to 0.6 mil KWh.

The total CO2 emissions from public buildings in 2018 were 605 tons. Over a period of ten year, from 2008 to 2018, there has been a 91 % reduction in CO2 emissions. That comes to about 9 % reduction in CO2 yearly. This due to both the reduction in heating and lighting in the public buildings but far the most is due to the earlier described change to RES in the energy production at BEOF, and the buildings change of heating system from oil burners to district heating.

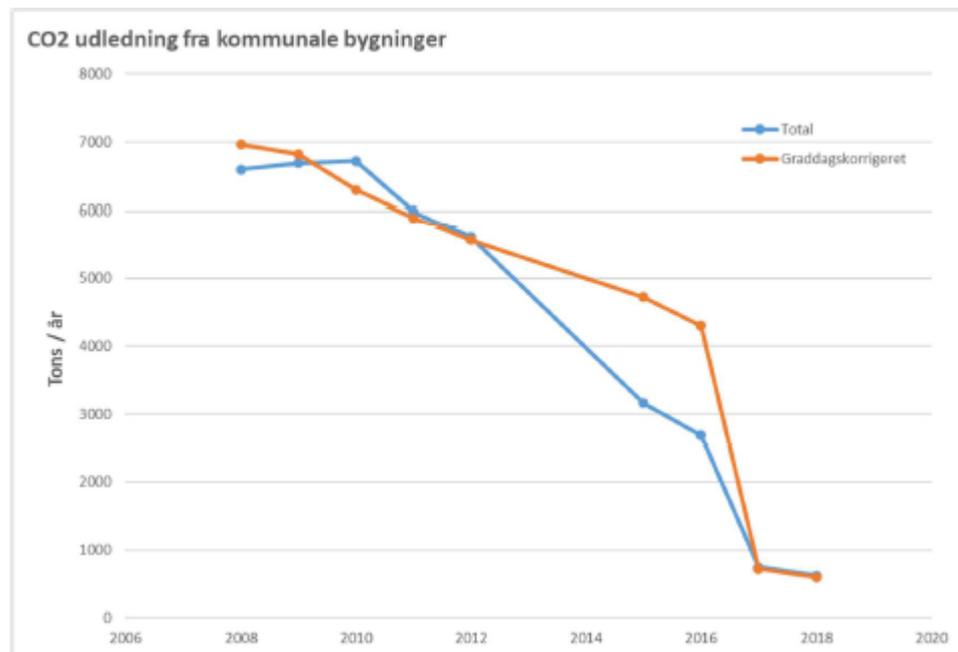


Figure: Reduction in CO₂-emissions from municipal buildings from 2008 – 2018.

Source: Municipal climate report 2018.

QUESTION 12: Any other info referring to energy and energy efficiency, if any (i.e. projects on smart grid, storage, others ...)

We have a application in for REsponsible island under Horizon



SECTION II: ELECTRICAL MOBILITY

| | | | |
|--|--------------|--------------------|--------------------|
| QUESTION 13: Is there a public transportation service in your island? | | | |
| Yes we have bus transport covering the whole island | | | |
| QUESTION 14: Are the public vehicles fuelled by fossil sources or by electricity? | | | |
| Fuelled by fossil | | | |
| QUESTION 15: According to your knowledge, will the integrated National Energy and Climate Plans (NECPs) of your country directly and/or indirectly contribute to the development of electrical mobility solutions in your island? If so, could you explain how? | | | |
| | | | |
| QUESTION 16: Did your regional/local government set a specific strategy to enhance electrical mobility solutions? | | | |
| More in general terms there will be a focus on electrical mobility | | | |
| QUESTION 17: Could you tell us what are the targets/objectives of your strategy for next years for electrical mobility? Please answer to the question also using one of more of the following indicators: | | | |
| Source | Today | TARGET 2030 | TARGET 2050 |
| Electric vehicles | % on total | % on total | % on total |
| Charging points | number | number | number |
| | | | |
| QUESTION 18: Is electrical mobility a policy objective of your ERDF OP? Could you provide us with qualitative and quantitative information on how your government is planning to use ERDF envelop to enhance electrical mobility in your island? | | | |
| | | | |
| QUESTION 19: Are there incentives to the purchase of electric car? Are these incentives granted to the purchaser or to the seller of electric cars? Are these incentives among those for electric efficiency? | | | |
| | | | |
| QUESTION 20: Is there a specific tariff for the e- chargers? In the affirmative case are all the costs allocated as Euros per kWh or are there fixed amounts in the bill of electricity of e -chargers? | | | |
| | | | |
| QUESTION 21: Is the tariff for the transportation by ship of e-cars to your island reduced in respect of other cars? | | | |
| | | | |
| QUESTION 22: Is there a commitment for the Municipality, the local police or other public bodies to use e-cars? | | | |
| | | | |



QUESTION 23: are there electric boats in your island? Do you know any policy in place for the development of electric boats?

QUESTION 23: are there specific policies to implement the electric mobility using e-bikes and e-scooters end/or bike roots?





SECTION III: WATER EXPLOITATION/SUPPLY

QUESTION 24: Is your island self-sufficient in terms of access to and/or supply of water for domestic use? What is the regional and/or local body in charge of water distribution?

Yes Bornholm is self-sufficient and www.BEOF.DK is responsible

QUESTION 25: Could you provide more details on how your island has access to water for domestic use? For instance:

- Do you already have a desalinization plants on the island or other local sources? If yes, please provide details in terms of technology and yearly production and % of total water requirement of the island
- If not, has your island already purchased or is there a programme to purchase desalinization plants? If so, can desalinization plants be installed on a free market basis?
- If not, who are the higher costs due to the transportation by ship of the water allocated to?

We have various drilling points on Bornholm

QUESTION 26: According to your legislation, is water a public or private resource?

Public resource

QUESTION 27: Is the operator of the water system paid by the customers of the islands or by the government?

By customers

QUESTION 28: Is the water tariff cost-reflective?

Yes

QUESTION 29: Are there incentives for the maximisation of the use of local water and water recycle?

NO

QUESTION 30: Please provide some information on how water is distributed around the island (i.e. underground network, others ...)? If by underground network, please provide an indication of the amount of losses during the transportation (%)

QUESTION 31: Are there water treatment plants in the island? if yes, please provide some technical information (i.e. capacity, type of technology, % of deuration on total needs)

QUESTION 32: Any other information regarding water and water treatment if any

All water supply is tested for pesticide from predominately the farmers and agriculture sector





SECTION IV: WASTE MANAGEMENT

QUESTION 33: Is there a strategy on waste management in your island? Could you list the main targets/objectives of the strategy?

The Regional Municipality of Bornholm adopted the vision *Bornholm Showing the Way – Without Waste 2032* in December of 2018 in which the main target is for all waste to be recycled, reused or reduced by the year 2032, by which time the island’s waste incineration plant is set to be decommissioned.

The vision does not operate as a specific action plan but includes an overall short, medium and long-term timeframe for addressing the different waste fractions, starting with the easiest manageable waste and the fractions that need to be sorted and collected at household level in accordance with the EU Waste Framework Directive and pertinent EU recycling targets.

| TRACK | FOCUS AREAS |
|-------------------------------|--|
| 1. PREVENTION | Local: Support and co-development of local measures promoting direct reuse beyond Bofa. |
| 2. COLLECTION | Local: Develop and implement collection schemes, bins, and waste types along with identification of outlets. |
| 3. TREATMENT AND OUTLETS | Local: Pretreatment of collected waste in relation to possible outlets for reuse and recycling. Preferably in close collaboration with local players, businesses, and entrepreneurs. National/international: Work on attracting entrepreneurs and businesses to the island in the form of cluster collaboration on waste and resources. |
| 4. LEARNING AND KNOWLEDGE | Local: Continuation and development of Bofa's school service in order that Bornholm's children, young people, adults, and elderly learn even more and commit to circular economy and sustainable development. National/international: Work on attracting knowledge and research institutions to the island in the form of cluster collaboration on waste and resources. |
| 5. COMMUNICATION AND DIALOGUE | Local: On the project's progress, current new sorting options and objectives. Motivation and knowledge to the citizens of Bornholm. National: On the objectives of the project, its progress, challenges, and results. |
| 6. ORGANISATION | Internal: Bofa's total staff must have the competencies for realising the vision, and a concrete project group is needed to drive the process. External: Partnerships and collaborators (local as well as national) to attract knowledge, businesses, and innovation to the waste and resource cluster. |
| 7. ECONOMY | Local: Annual political authorization of fee rates. National: Fundraising for financing of current activities, subprojects, and development. |

| EXAMPLES OF MEASURES FOR SPECIFIC FRACTIONS | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Small burnable items | | | | | | | | | | | | | | |
| Waste from municipal companies and institutions | | | | | | | | | | | | | | |
| *Denmark without waste** | | | | | | | | | | | | | | |
| Local outlet for wood | | | | | | | | | | | | | | |
| Construction waste | | | | | | | | | | | | | | |
| Waste from commercial and industrial activities | | | | | | | | | | | | | | |
| Other plastics | | | | | | | | | | | | | | |
| Waste from bulky waste | | | | | | | | | | | | | | |
| The bothersome household waste** | | | | | | | | | | | | | | |
| Insulation materials | | | | | | | | | | | | | | |
| What we don't know about as yet | | | | | | | | | | | | | | |
| Hazardous waste | | | | | | | | | | | | | | |
| Waste for landfill | | | | | | | | | | | | | | |

Note: * National Resource Strategy, the seven fractions and 50 % recycling
** Cotton swabs, packed lunches, nappies etc.



In addition to the 2032 vision, Danish municipalities operate with waste plans, of which the latest for Bornholm is the waste plan covering the period 2014-2018. This has expired and a new one will be prepared, but at the moment there is a large degree of uncertainty about a national waste/resource strategy which technically expired in 2018 as well, since Denmark has recently had a shift in the parliamentary coalition constituting the Danish government. These conditions of uncertainty and a lack of a new national waste/resource strategy has made it difficult for Danish municipalities to prepare new waste plans, but the new Danish national waste/resource strategy is set to be unveiled in January 2020.

In the 2014-2018 waste plan for Bornholm, the objectives are as follows:

The Regional Municipality of Bornholm wishes to contribute to the effective utilization of resources in waste. Therefore, the municipality as set out the following overall objectives for the waste plan:

- *Optimization of resource utilization in waste, e.g. through increased recycling rates from households including organic waste and plastic, and through resource efficiency demands on waste treatment installations using best available technologies. With respect to waste from businesses, optimization will be secured through oversight, campaigns and information.*
- *Reduction of climate impact by taking climate change into consideration when waste collection schemes are prepared and existing waste collection schemes are maintained and optimized. Through increased recycling rates, its CO₂-emissions are expected to be reduced. Aside from this, climate impact from waste collection vehicles will be considered.*
- *Reduction of environmental impact from waste – thereby protecting environment and human health – through information about correct handling of hazardous waste, and focusing on sorting problematic waste fractions from construction waste including PCB.*
- *Increase of waste management quality e.g. by placing demands on waste treatment and by focusing on operating and maintaining the municipal waste collection schemes.*

Aside from these overall objectives, Bornholm has the following specific and measurable objectives:

- **Recycling: 71.5%**
- **Incineration: 21.2%**
- **Landfilling: 6.4%**
- **Special treatment: 1.0%**

QUESTION 34: Who is in charge of the waste management: a private body or the government?

BOFA is in charge of waste management on Bornholm. Bornholm is a municipal entity under the Regional Municipality of Bornholm and has the authority to e.g. prepare waste plans and implement waste collection schemes. Waste collection from households is carried out by a private body through a public procurement process. Waste from businesses is in principle privatized, but businesses have the option of using BOFAs container sites (recycling centers) through a use fee, and businesses have the option of landfilling at BOFA if weighed (invoicing to the businesses based on weight and waste fractions occurs on this basis).





QUESTION 35: In what % is waste disposed locally? How is the local disposal carried out: landfills, incineration, reuse? Is there an implementation strategy for the future?

| Source | Today | TARGET 2030* | TARGET 2050 |
|-----------------|---------------|----------------|---------------|
| Local Disposal | 9 % on total | 0 % on total | 0 % on total |
| Local treatment | 28 % on total | 0 % on total | 0 % on total |
| Recycling | 62 % on total | 100 % on total | 100% on total |

* 2032 targets inserted here

QUESTION 36: Is there a present or future commitment not to transport the waste inland or not to use landfills to dispose wastes? Is there a penalty or a tariff-mechanism to penalise the managers of the waste that use landfills or transports waste inland and do not plan investments to manage waste locally in the island?

There is no commitment to not transport the waste inland, although in practice the transport costs pose a very real and natural barrier for shipping waste off-island. There is a 2032 vision to make sure all waste is either recycled, reused or reduced which in principle also means that landfilling by this point is set to be phased out as well as waste incineration.

QUESTION 37: Are there incentives for investments for plants for the reuse and recycle of waste or the energy-use of waste?

If so, what kind of incentives: cash contribution to investments, tax credits, premium for the energy produced by waste, premium for any ton of waste disposed locally, commitment to dispose at least a % of the waste locally, other?

There are none of the mentioned types of incentives on Bornholm, and energy produced from waste incineration is provided with an extra tax (disincentive) just like landfilling.

There is a biogas facility on the island than in the future may be able to handle the organic fraction of municipal solid waste from households, and which currently received a tax credit for produced electricity but this is set to be phased out.

QUESTION 38: What has been the most efficient instrument to promote the local disposal of waste?

Logistical costs associated with shipping any waste off-island is a very strong economic incentive for local disposal of waste.

