

During the summer of 2011, a pilot project, partially supported by Ferðamálastofa fundings, **„complex recycling bins at tourist exposed areas“** was run at the campsite of Dalvík.

The project was initiated by socially responsible company [Rökstólar Samvinnumiðstöð ehf.](#), and carried out thanks to [Dalvíkurbyggð](#), and [Promens Dalvík hf.](#)

The goal of the project was to **test a possible solution for national recycling strategy to be implemented specifically at tourist exposed areas** by answering the following questions:

- 1, What kinds of waste are worth letting tourists sort out at tourist exposed areas (trial project aimed at campsites)?
- 2, How often shall the emptying take place in comparison to the number of guests and guestnights?
- 3, What is the average amount of waste per capita at tourist exposed areas and how much of it can be recycled?
- 4, What are the most economic bins prototypes to be used at tourist exposed areas, bearing in mind the emptying costs?
- 5, How can these bins be used for specially big events in small places (e.g. Fiskidagur mikli in Dalvík), if at all?



RESULTS

Local company Promens Dalvík produced 3 tailored-made bins (each with a volume of 1250 L), using a set up of a standard solution widely used in Europe, and dedicated the bins for free to Dalvíkurbyggð for the trial purposes.



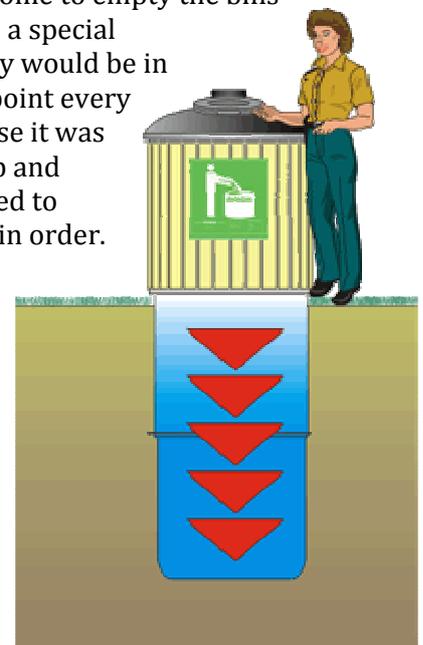
The bin is made in a way, so that cca two thirds can be below the ground level and one third of the bin stays above. (see the illustration picture below).

The trial itself was run at the campsite of Dalvík between **June 1st – August 26th 2011.**

The emptying took place in a standard way, everytime the truck from Gámaþjónusta would come to empty the bins in Dalvík. On top of this, there was a special arrangement with vinnuskóli. They would be in charge of checking the recycling point every week and emptying the bins, in case it was needed more often. Immense help and

involvement of Garðyrkjustjóri and the manager of Vinnuskóli enabled to keep the good track of statistics and keeping the recycling point well in order. We used ‚salt bags‘ to be hooked inside the bins to make emptying easy. The bags were provided at the beginning of the project for free by a local company Norðurströnd ehf.

All in all, running a trial helped us conclude the answers for the questions asked at the beginning of the project and draw conclusions for necessary improvements to be made for the upcoming seasons.



Answers to the original questions are:

1, plastic, paper and metal. It's also worth investigating the best arrangement to sort out bio-waste, especially at campsites.

2, Based on the statistics provided by Dalvíkurbyggð, there were **around 788 guestnights** (the municipality was not able to provide the exact numbers) during the trial period. We needed to empty the bins 3 times during the whole period – twice in July and once in August.

3, According to the statistics, we have available, there was around **1,33 kg** of total waste **per guestnight** and around **2,62 kg** of total waste **per guest** during the summer (excluding a week of 01.08 – 07.08. due to Great Fish Day). The majority of the waste from campsites can be recycled. It is crucial, however, to secure good and well visible signs and inform all the guests about this service, when they pay for the campsite.

4, The table¹ below shows the comparison between the two possible systems we investigated.

Molok deep collection system		Icelandic Prototype	
Advantages:	Disadvantages:	Advantages:	Disadvantages:
<ul style="list-style-type: none"> • Ready to use • Simple design • Many references and research done 	<ul style="list-style-type: none"> • Expensive • Shipping costs are high • Need for a special collection truck • Currency depending 	<ul style="list-style-type: none"> • All Icelandic made • Low costs in shipping • Low costs in material • Not currency depending • Tailor made design 	<ul style="list-style-type: none"> • Limited research • Still finding the most efficient and not too costly emptying solution

5, Based on the previous experience during the BIG FISH DAY, representatives of Dalvíkurbyggð suggested locking the recycling bins and not using them during the event. The main concern was that most of the guests would not be willing to recycle and thus the recycling point could be misused. As the result of this we lack the experience that is necessary to answer the question number 5 asked at the beginning of the project.

Dagsetning	Tunna 1 (kg)	Tunna 2 (kg)	Tunna 3 (kg)	Athugasemdir
08.06.2011	-	-	-	No emptying took place as it was too little. Only some of the waste was correctly recycled.
07.07.2011	26 kg	-	-	Gámaþjónusta forgot to empty the bins July 6th, so vinnuskóli emptied the full bags and sorted it out manually at Dalvík Gámasvæðið. Bin 3 had the best sorting as there were mostly cans and aluminium inside.
29.07.2011	33 kg	38 kg	11 kg	Bins 1 and 2 had totally unsorted waste. The bin 3 had a pretty well sorted content.
The bins were locked in the period of <u>August 1st and 7th</u> due to a big event ,Fiskidagurinn Mikli'.				
25.08.2011	31 kg	35 kg	12 kg	All the bins had mixed and unsorted waste.

Total unsorted waste that was emptied from a big bin during the summer was 860 kg
(excluding the emptying during the Great Fish Day week)

The bins were locked September 26th 2011, the same day as the summer season in the pool finishes, and the total amount of waste, sorted and unsorted, that was emptied during the trial period was 1046 kg.

The staff of a local pool, responsible for the campsite, was supposed to inform guests about recycling possibility and hand out brochures which included relevant information. The original idea was to separate plastic, paper and metal into 3 tailored-made bins numbered accordingly.

During the season, however, representatives of Dalvíkurbyggð decided to include a bin for biowaste and a tub for bottles and can collection, which was not in the original trial project plan. This meant that the 2 new bins had a different look than 3 project bins specifically made by Promens. In order to minimize confusion, brochures were to be made. Even-though, text and pictures were ready, brochures were not available during the trial and thus guests were much less informed than originally planned.

On top of this, the information signpost standing by the recycling point turned out to be too small for the chosen setting and easy to overlook by guests. There was a big container for general waste available, however, it was not moved to a more visible location as originally planned by Dalvíkurbyggð representative.

As the result of the above mentioned conditions, it was much easier for guests to confuse the bins. This also contributed to less amount of sorted waste than we had anticipated at the beginning as clear from the table above.

RECOMMENDATIONS FOR IMPROVEMENTS

- 1, Before each summer season, it is important to decide what waste do we want to try sorting and what bins bins should be provided and what is the best set up for them. Ideally all of them are in green colour and are well visible.
- 2, Based on a final bins arrangement, information signpost should be made in adequate size and placed in accordance to bins set up so that all is well visible.
- 3, Brochures for guests should be ready in both, English and Icelandic language, including not only general tourist info but also short summary of recycling possibilities. They should be distributed to all guests, ideally when they pay.
- 4, Staff that is responsible for campsite guests payments collection should inform each guest about the recycling point and should be ready to answer questions as well as note down any suggestions guests might make in regard to improvements.
- 5, Emptying needs to be well planned, so that the back up emptying can take place in case usual emptying for the municipality is not sufficient.
- 6, It is important to keep precise statistics of number of guests and guestnights as well as weight of emptied waste so that clear conclusions can be made after each season.

CONCLUSION

It is definitely worth implementing recycling points at campsites. In order for it to work, though, not only recycling point itself but also good signs, as well as informed guests are needed. It is

recommened to try similar projects at other tourist exposed areas.

We hope that this project will help implement complex recycling bins at the most tourist exposed areas all over Iceland.

As shown, it is well possible to use local resources and have the bins produced locally in Iceland.

The project could take place also thanks to very helpful contribution of the following:

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References: 1 Ralf Trylla, Umhverfisfulltrúi Ísafjarðar