



RECLAIMED ASPHALT PAVEMENT (RAP) IN NORWAY

The use of Reclaimed Asphalt Pavement (RAP) in Norway is monitored by a non profit association called KFA, Kontrollordningen for Asfaltgjenvinning, which means “The Info Center for Recycling of Asphalt”. KFA was established in 2001.

The background for establishing KFA was to increase the amount of recycling of asphalt pavement materials, to promote the use of recycled asphalt materials and to document the degree of recycling. In this way KFA primary objective was to provide documentation of the actual usage of recycled materials in order to avoid any possible environmental tax on the production or the use of asphalt materials by the environmental authorities.

KFA is a voluntary association between the Norwegian Public Road Administration, municipalities and communities as road owners and the asphalt producers. The KFA is financed by collecting a green fee on bitumen sold for the use in the road sector. The green fee is currently about 1 US dollar per ton bitumen. ATI (Asfaltteknisk Institutt) is given the responsibility for running and for over viewing the KFA agreement.

The local environmental authorities of Norway approve the sites for temporary storage of RAP.

Maximum allowable storage time of asphalt materials as slabs is three years. For granulated RAP storage time is unlimited. This may include on site milled materials directly from the road pavement itself and crushed slabs of asphalt materials collected on sites off the roads.

The collection and administration of this green fee is carried out by the suppliers of bitumen within the road sector in Norway.

KFA is constantly updating a register of actual stored RAP materials at each storage site. KFA is also recording the actual various types of RAP materials such as

- waste materials from asphalt production,
- on site recycling of RAP materials,
- wastes related to various maintenance of pavements
- wastes as result of excavations and repair works of the road pavement (including excavation related to repair of various underground utilities).

KFA is currently (2007) aware of about 110 established storage sites throughout Norway for collecting asphalt waste materials.

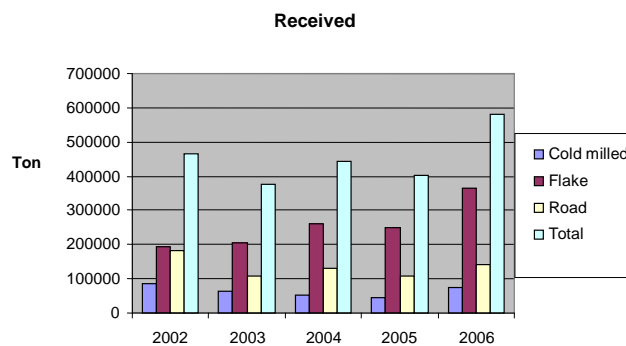


Example of a storage-site for RAP (asphalt waste materials).

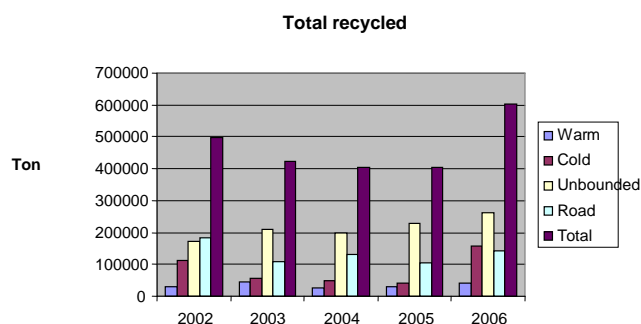
In addition KFA collects data of the actual use of recycled materials. This includes recycling and actual usage of materials stored at the storage sites as well as the amount of on-site recycling of materials without temporary storing.

At the end of each year contact is made to each storage site, the Public Road Administration, road owners of community roads that are known to have established a storage site, as well as asphalt producers and waste/recycling and environment firms. A form is sent out asking for the amount of collected waste materials as well as the amount of recycled materials. Effort is put into receiving a report back from each site, company and road authority. This way KFA is able to put together and publish an annual national report of the amount use of recycled asphalt waste materials.

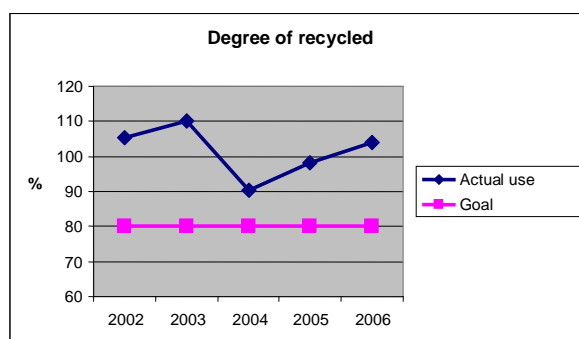
In 2006 a total of 600 000 ton asphalt pavement materials (RAP) was reclaimed and recycled.



At the same time a total of 580 000 ton of RAP was reported collected in 2006. This is the highest amount, both the collected and the recycled, recorded since KFA was established in 2001. Thus the degree of recycling was reported to be 104 %.



The recycling has varied from 90 % and up to 104 % in the period 2001-2006.



At the same time the storage of RAP materials collected and stored, but yet not put into recycling, was 960 000 tons. So the potential for future increase of recycling is present.

In addition KFA is putting great effort into putting together and promoting guidelines and recommendations related to:

- Establishing new storage site (primarily environmental aspects and as well as handling volume and equipments)
- Registration of materials that is delivered to a storage; with focus on keeping the RAP materials free of other waste products as well as weighing and reporting the amount of received materials
- Various use of RAP (in-place, at asphalt plants, etc) including techniques
- Visiting asphalt producers and road authorities in order to promote the usage of RAP.
- Checking incoming samples for PAH 16 (tar).

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