Present details of the original and/or most recent Action Plan, including any relevant disadvantages or constraints resulting from historical and/or geographical factors which may have influenced this indicator area negatively.

Include details on:
1. Amount of waste per capita; Household, Municipal;
2. Proportion of total/biodegradable waste sent to a landfill;
3. Percentage of recycled municipal waste.

In 2009 a new waste management plan for the City of Copenhagen entered into force. The plan covers a four-year period (2009-2012) and consists of five areas of effort, all of them with several focus areas and initiatives. The main objective of the plan is to reduce impacts on the environment, including climate, through sustainable management of waste. A further objective is to ensure that citizens of the city are satisfied with waste management services. The five areas of effort are:

- More Waste Prevention and Reuse,
- Increase in Separation of Waste,
- Treatment System for the Future,
- Innovative Waste solution in Urban Spaces,
- Tender for Collection and Treatment of Waste.

For the Copenhagen Waste Management Plan 2012, see: http://www.kk.dk/Borger/Miljoe/Affald/Reglertaksterogplaner/~/media/30EC1D727EBE4A909908CCA9EBBF3D97.ashx

Amount of waste

In 2009 a total of 827,129 tonnes of waste was produced within City of Copenhagen. This includes waste from construction and demolition, from industries and from households. In the City of Copenhagen we do not collect data for municipal waste per se, but the municipal waste, is separated into household waste and commercial/industrial waste. In 2010 we collected a total of 202,00 tonnes of waste from households which equal 380 kg/year per capita.

In 2009 the commercial and industrial sector produced 248,409 tonnes of waste, and the construction and demolition sector produced 369,287 tonnes of waste (the total 827,129 as mentioned above).

Total waste amounts 2009 by source and treatment

<table>
<thead>
<tr>
<th>Copenhagen</th>
<th>Recycling</th>
<th>Incineration</th>
<th>Landfill</th>
<th>Special treatment</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households</td>
<td>52,972</td>
<td>153,178</td>
<td>2,972</td>
<td>310</td>
<td>209,432</td>
<td>25.3%</td>
</tr>
<tr>
<td>Industrial/commercial</td>
<td>100,837</td>
<td>139,446</td>
<td>4,403</td>
<td>3,723</td>
<td>248,409</td>
<td>44.6%</td>
</tr>
<tr>
<td>Construction and demolition</td>
<td>320,712</td>
<td>40,798</td>
<td>7,777</td>
<td>0</td>
<td>369,287</td>
<td>30.0%</td>
</tr>
<tr>
<td>Total</td>
<td>474,521</td>
<td>333,422</td>
<td>15,153</td>
<td>4,033</td>
<td>827,129</td>
<td>100%</td>
</tr>
</tbody>
</table>
Landfilling of waste
Since 1997 it has not been allowed to landfill organic waste in Denmark, but the City of Copenhagen has not been landfilling organic waste since 1990. In total 1.8% (15,153 tonnes) of the waste is landfilled from the City of Copenhagen. This mainly consists of asbestos, insulation materials, and other inert materials.

Recyclable waste
On average 57.4% of waste was recycled in 2009. From households 27% was recycled and 71% was sent to incineration with energy recovery in 2010. The incineration plants used by the City of Copenhagen are connected to the district heating and electricity system and, and thus the heat generated from the incineration is used for heating houses within the municipality and the electricity is used in the electricity grid. From the building and construction sector 86.9% of the waste was recycled. From the industrial/commercial sector 40.6% was recycled.

Residual waste, paper, cardboard, batteries, and electronic waste is collected from citizens living in apartment buildings in containers in the back yard, and this ensures that it is easy to dispose the waste fractions that citizens have in larger amounts. It is the experience of the City that the easier people find it to source-separate their waste, the larger the amounts of waste sorted for recycling. Furthermore, the caretakers of apartment buildings can, free of charge, order containers for hazardous substances and bottles/cans and order a collection of bulky waste.

Residual waste, paper, gardening waste, and small electronic and hazardous waste is collected from single family houses in containers. Furthermore bulky waste, cardboard, electronic waste, impregnanted wood and PVC is collected by curb-side collection every two months.

All fractions collected at household level, except residual waste, can also be delivered to the City’s recycling centres. In total the City has eight recycling centres where both business and households can drop off waste in 21 fractions.

(max. 1000 words)
Details of those targets achieved or not, to date (within the last 5 – 10 years). Provide a review of how both situations occurred and lessons learned.

Make reference to:
1. Reduction of the amount of waste produced;
2. The amount of waste sent to landfills, particularly biodegradable waste;
3. Measures which have promoted awareness raising programmes;

**Waste reduction**

Waste amounts often follow economic trends and as a result of the economic crisis, waste amounts dropped from 2008-2009

![Changes in total waste amounts](chart)

(2010 data for building and construction as well as for industrial/commercial will be available in Oct. 2011)

Changes in waste amounts for households over a 10-year period are as follows:

![Changes in amounts of waste from households](chart)
As the tables show, there has been a decrease in the amount of waste in the past years. This has mainly to do with the economic crisis. However, despite the general decrease in waste the amount of waste for recycling has not declined. In the period 2007-2010 the amount of household waste produced per capita declined by 20%.

Waste prevention

In the Copenhagen Waste Management Plan 2012, the area of effort “More Waste Prevention and Reuse” has a target of “reducing the growth in waste arising by 10% - corresponding to prevention of 2,500 tonnes of waste in Copenhagen by 2012”.

The Waste Management Plan was drawn up at a time where there was growth in waste amounts, and at that time the goal was not to decrease the total amounts of waste, but just to decrease growth in amounts of waste. However, the economic crisis has reduced amounts of waste significantly. As the tables above show, total amounts of waste decreased by 63,797 tonnes from 2008 to 2009. It is therefore difficult to measure the absolute effect of the initiatives in the City of Copenhagen.

The City has taken several initiatives to promote source separation of waste and waste reduction. These include both awareness raising and various initiatives that make source separation easier for households.

The City of Copenhagen continuously works for waste prevention and has since the Waste Management Plan was approved (starting from 2009), initiated 12 of 14 initiatives specifically dealing with waste prevention. The initiatives all aim to prevent waste arising by awareness raising and by assisting in creating better possibilities for citizens to reuse materials or furniture. For instance, before the climate summit held in Copenhagen in December 2009, the City of Copenhagen initiated several awareness campaigns that linked CO2 reductions to waste prevention. These included a campaign on garbage trucks that asked people to reduce their waste by “think before you buy and think before you throw out”. Also regarding awareness raising on waste prevention, in May 2011 the City of Copenhagen headed a campaign that asked people to say “no” to unsolicited mail. The campaign was joined by 11 other municipalities in the vicinity of Copenhagen. For further information, see the campaign website (in Danish): www.reklamerneimtak.nu. Last year the City of Copenhagen also joined the European Week of Waste Reduction, with several small events organised jointly with the local committees.

The City of Copenhagen has also encouraged reuse, and in so doing has contributed to reductions in waste. At all recycling centres, except one, in the City of Copenhagen, there is a place where citizens can leave furniture, books, etc, that can be used by others. Other citizens are then allowed, free of charge, to collect these items. The city has conducted a survey at one of the smaller recycling centres that can only be accessed on foot, and estimates that about 20 tonnes of products are reused from the recycling centre. Furthermore the City of Copenhagen has developed a guide for establishing a “reuse corner” in the back yard of apartment buildings. Citizens can acquire the guide as well as posters free of charge and start their own “reuse corner”. The City of Copenhagen has also jointly with the Danish EPA arranged an “Exchange Day”, where people, free of charge, could bring and take things that would otherwise end up as waste.

The City of Copenhagen acknowledges the potential to prevent waste in its own institutions, where the City is not only in control of managing waste, but also of procurement. By starting to procure items with less packaging materials, longer life-products, etc. the City Council can reduce its waste arising substantially. Currently, a
study has been initiated that is investigating where the potential for waste prevention is the greatest.

Amount of waste sent to landfill – particularly biodegradable waste
As mentioned in section 1 on Waste Production and Management, the City of Copenhagen only landfills 1.8% of the total amount of waste and none of it biodegradable.

Recycling and waste awareness programmes
In the Copenhagen Waste Management Plan 2012, the target for “Increase in Separation of Waste” is “in 2012 to separate 33,000 tonnes of the waste, that would otherwise go to incineration, to more eco-friendly treatment”. If the development in the waste arising is corrected for the general decrease in waste amounts, since 2008 4,500 tonnes of household waste that would otherwise be incinerated has now been sent for recycling. In 2012 we expect this figure to be 11,910 tonnes, so the City of Copenhagen is well underway. The same development can be seen for commercial waste, including construction and demolition waste, and in total, recycling has increased from 55% in 2007 to 57.4% in 2009. For a number of years recycling of construction and demolition waste has been app. 88%.

The City of Copenhagen has several initiatives that promote better separation of waste. The initiatives span from awareness raising, to efforts to make source separation more logical and easy for citizens and to enforcement of waste management legislation.

The City of Copenhagen produces various types of information materials to make it easier for the citizens to know how to handle and separate waste properly. For instance, the City offers a localised guide to the waste solutions in the back yard. The caretaker of the building fills in an internet-based form and then the City of Copenhagen prints a waste guide based on the information for distribution amongst the people living in the apartment buildings. Furthermore, the City distributes a quarterly waste magazine to all City households, explaining about the environmental benefits of correct waste management.

In order to improve recycling, it is also vital that it is easy to do the right thing in terms of separation of waste. Currently, the City is involved in a project where selected households have been given containers for indoor source separation. The City is investigating whether this will improve people’s inclination to sort waste.

However, awareness raising and other ways to promote source separation cannot succeed by themselves. It is also necessary to be firm on enforcing legislation on source separation and recycling. The City of Copenhagen makes frequent inspections at both small and large companies based in the municipality. The City also holds meetings for new businesses in Copenhagen to ensure that they are informed about how to handle waste.

Lessons learned:
- It is possible to improve source separation and thus recycling by making it as easy and convenient as possible for citizens to separate waste
- Building in economic incentives into the waste management system that promotes recycling – eg. in Denmark a national fee on landflling (70 EUR/ton) and incineration (40 EUR/ton) and no fee on recycling
- By continuously promoting waste prevention it is possible to raise
awareness amongst citizens on the need to produce less waste

(max. 800 words)
Plans to meet or revise key targets for the future and proposed approach to achieve these.

**Collection of plastic, metal and electronics**

Overall the City expects to achieve the targets in the Waste Management Plan 2012. In 2012 the City will implement a scheme in apartment buildings for separate collection of plastic, metal and electronics. In total about 30,000 containers will be put up in the back yards of apartment buildings.

**EU-Life**

In general, the City of Copenhagen will have increased focus on plastic waste in the period 2011-2014. The City has received a grant from EU-Life to look at all aspects of plastic waste. The project will be coordinated by the City of Copenhagen, but other stakeholders include the City of Hamburg in Germany, Malmö Municipality in Sweden, the City of Tampere in Finland, private waste management companies in Riga, Latvia, and leading research institutions. The key target of the project is to get plastic out of the waste for incineration. This will be done to make waste incineration carbon neutral. Some of the initiatives in the project include: prevention of plastic waste by demonstration projects, improved methods for sorting plastic waste, increasing knowledge about the markets for recyclable plastic, building partnerships with producers of packaging materials in order to find alternative materials or ways to reduce plastic in packaging.

**Waste and Resource Management Plan 2018**

The City of Copenhagen has initiated work for the coming waste management plan for the period 2013-2018. The City anticipate that the resources debate will become increasingly predominant in the coming years, and with the EU target of 50% recycling of household waste as well as the EU flagship project “A resource efficient Europe” it is crucial that the City of Copenhagen also focuses on extracting resources from waste.

The vision of the coming Waste and Resource Management Plan 2018 is “A Waste Free City”, based on the philosophy that there is no such thing as waste; everything is a resource that needs to re-enter the cycle. Thus the overall aim of the plan is “Green Growth and Resources”. The City of Copenhagen believes that by being a front runner in looking at waste as a resource that is too valuable to be thrown away, it is possible to create green growth through innovation and development of new ways to prevent, collect and treat waste.

Below is a figure that shows the structure of the plan with some preliminary focus areas.