Dublin City Council
Comhairle Cathrach Bhaile Átha Cliath

Codema
Sustainable Dublin

Strategic Environmental Assessment Statement for

Dublin City Sustainable Energy Action Plan 2010-2020

Version 2.0

Strategic Environmental Assessment Statement for

Dublin City Sustainable Energy Action Plan 2010-2020

Report Prepared in association with Dublin City Council by

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Contents

1 Summary of Key Facts

Name of Responsible Authority: Codema

Title of Plan: Dublin City Sustainable Energy Action Plan 2010-2020

Purpose of Plan: Dublin City Council realises that the current trend of energy consumption within the city is unsustainable and a clear and ambitious plan is needed both to halt and to reverse this trend of rising energy consumption. The overall aim of the plan is to:

- Reduce the economic expenditure on energy for citizens, council and business
- Reduce Dublin's per capita CO_2 emissions
- Reduce Dublin's dependence on imported fuel
- Make Dublin a more competitive and attractive destination for business through modern and efficient energy infrastructure and pricing
- Increase Dublin's share of renewable and sustainable energy systems
- Encourage an environment that fosters and supports wellbeing for its present and future citizens

Subject: Energy

Period Covered: 2010-2020

Area Covered: Dublin City Boundary as defined by Dublin City Council

Date Adopted: 6th December 2010

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2 Introduction

This document is the Strategic Environmental Assessment (SEA) Statement for Dublin Sustainable Energy Action Plan (SEAP) 2010-2020, as required under Article 9(1) of the SEA Directive. This document identifies how the SEA process was taken into account by, and influenced, the SEAP. This SEA Statement has been prepared in accordance with Schedule 2, Section 16 (2) of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004).

2.1 Purpose of the Statement

The main purpose of the SEA Statement is to provide information on the decision-making process and to document how environmental considerations, the views of statutory consultees and other submissions received during the consultation phases have been taken into account in the adopted Plan and the arrangements put in place for monitoring. It illustrates how decisions were taken, making the process more transparent. The statement includes the following:

- Summary of how environmental considerations have been integrated into the Plan;
- Summary of how submissions received during consultation have been taken into account in the Plan;
- Reasons for choosing the recommended strategy, in the light of other reasonable alternatives considered; and
- Measures that are to be undertaken to monitor the significant environmental effects of implementing the Plan.

2.2 SEA Directive

The EU Directive on Strategic Environmental Assessment or SEA (Directive 2002/42/EC) came into force in July 2001 and requires Member States of the EU to assess the likely significant environmental effects of plans and programmes prior to their adoption thus providing for the assessment of strategic environmental considerations at an early stage of the decision making process.

Article 1 of the SEA Directive states:
"The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment."

The Directive came into effect in an Irish context in July 2004 and was transposed into Irish law through the Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I. No. 436 and the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435.

2.3 SEA Process

The Dublin City SEAP has undergone the full SEA process, this consisted of the following steps:

Screening

This is the initial part of the SEA process and aims at determining whether an SEA is required for the plan, after consultation with the directive it was decided that an SEA was required under the following criteria set out in article 3 of the directive

*'are prepared for agriculture, forestry, fisheries, **energy**, industry, transport, waste management, telecommunications, tourism, town and county planning or land use and which set the framework for future development consent of projects listed in Annexes I and II to the Environmental Impact Assessment Directive'*

Scoping

A scoping report is not a mandatory requirement under the Directive; however it is considered good practice to undergo the process in order to focus the environmental report onto the areas of greatest relevance. In this regard Codema attended several meetings with the Dublin City Council SEA team to gather opinion from the relevant departments, had several meetings with the SEA section of the EPA and numerous internal meetings. In addition the advice submitted by the three relevant authorities was taken into consideration, most agreed that the plan would have little significant environmental impact but that an SEA should be carried out as a matter of good practice. It is also the stage at which certain criteria that are deemed not to be significantly impacted by the plan can be 'scoped' or omitted from the environmental report in order to have a more relevant and focused assessment.

Environmental Report

- An outline of the content and main objectives of the Dublin City SEAP and the relationship between this and other relevant plans or programmes;
- The environmental characteristics of the area affected by the Plan;
- Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC (Directive for the Conservation of Wild Birds) and 92/43/EEC (Conservation of Natural Habitats and of Wild Fauna and Flora);
- The environmental protection objectives, established at International, Community or Member State level, which are relevant to the Plan and the way those objectives and any environmental considerations have been taken into account during its preparation
- The likely significant effects on the environment, including issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape;
- The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the Plan;
- An outline of the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of knowhow) encountered in compiling the required information;
- A description of the measures envisaged concerning monitoring in accordance with Article 10;
- A non technical summary of the information provided under the above headings.

The purpose of the report is to outline any perceived impacts the SEAP may have on the receiving environment and to set up alternatives, mitigations and monitoring.

Consultation:
Once the environmental report is completed it is then subject to a consultation period where it must be put on public display. The plan was display in the front foyer of Dublin City Councils head offices on Wood Quay on the 12/3/2010 an ad was also entered into the Irish Times on 12/3/2010 notifying the public to the consultation process and seeking submissions. In addition to this process the environmental report and Dublin City SEAP were submitted to the three statutory bodies for comment, these are:

- The Environmental Protection Agency
- The Department of the Environment, Heritage and Local Government
- The Department of Communications, Energy and Natural Resources

SEA Environmental Statement
This statement is produced to describe how any submissions were taken into account and how the SEA process influenced the plan and how this influences were incorporated into the final draft

2.4 Purpose of the Environmental Statement

The main purpose of the SEA Statement is to provide information on the decision-making process and to document how environmental considerations, the views of statutory consultees and other submissions received during consultation and the recommendations of the Environmental Report have been taken into account in the adopted Plan and the arrangements put in place for monitoring. It illustrates how decisions were taken, making the process more transparent. The SEA Statement is available to the public, along with the Environmental Report and the adopted Plan.

The SEA Statement includes the following information:

- Summary of how environmental considerations have been integrated into the Plan;
- Summary of how submissions received during consultation have been taken into account in the Plan;
- Reasons for choosing the recommended strategy, in the light of other reasonable alternatives considered;
- Measures that are to be undertaken to monitor the significant environmental effects of implementing the Plan.

3 Environmental Report Submissions

An ad was placed in a national newspaper informing the public of the Dublin City SEAP and associated SEA and that it was available to view in the foyer of Dublin City Councils head office in Wood Quay. The plan and environmental report was also sent to the three statutory authorities for their comments. The process resulted in the following:

3.1 Public Submissions

After the statutory period of consultation the public submissions were reviewed, overall there were very few submissions and the ones received were more in the form of a commentary on the plan rather than a call for any alterations to the proposed set of actions. The submissions were duly noted.

3.2 Department of the Energy, Communications and Natural Resources

The department had no additional comments to make on the plan

3.3 The Environmental Protection Agency

The EPA are the body responsible for the roll out of the SEA process in the state and had lots of helpful comments and suggested alterations to the proposed plan that were subsequently fed into the final draft of the Dublin City SEAP, these were:

- A clear statement of the key strategic objectives of the SEAP
- Provision should be set for a formal review of the plan
- Timescale of the plan should appear in the title of the plan
- Specific coded references for each of the proposed measures and actions in the plan to facilitate linkages with relevant recommendations from the SEA
- A schematic linking all proposed measures with current and past actions within the city
- A schematic linking the plan the SEA process and the appropriate assessment (screening) should be considered
- Integration of the SEAP with a water conservation strategy should be considered
- The plan should highlight that under the EIA and Planning and Development regulations certain projects may arise that require and environmental assessment
- Ensure that the required information as described in Annex 1 of the SEA directive (a)-(i) with particular emphasis in (d), (f), (g), (h) and (i) is included in the non technical summary
- In setting the baseline information and assessing the likely significant effects, any identified data gaps should be stated
- The preferred alternative comprising the full SEAP should be included as one of the alternatives
- Consideration should be given linking the mitigation measures with key likely significant effects
- The monitoring program should be flexible and be able to deal with specific environmental issues as they arise
- Consider including a reference to PM 2.5 as appropriate

3.4 Department of the Environment, Heritage and Local Government

The Department had a number of comments to make concerning:

- The need for a screening for an appropriate assessment
- A decoupling of the SEA process for the Dublin City SEAP from the Dublin City Development Plan
- A more robust section in the SEA for Architectural heritage and Archaeology

4 How the SEA Process Informed the Plan

All of the above submissions were considered and incorporated into the Dublin City SEAP and the environmental report for the SEA. In addition once the SEA process was adopted the plan was then informed using the criteria that is set down in the directive namely, population and human health, biodiversity flora and fauna, air, climatic factors, water, material assets, landscape and soil and cultural heritage. The objectives of the plan were assessed against these criteria, after this the three alternatives were examined and a preferred option emerged that achieved all the goals with the least impact on the criteria.

4.1 Matrix of SEA and Dublin City SEAP Planning

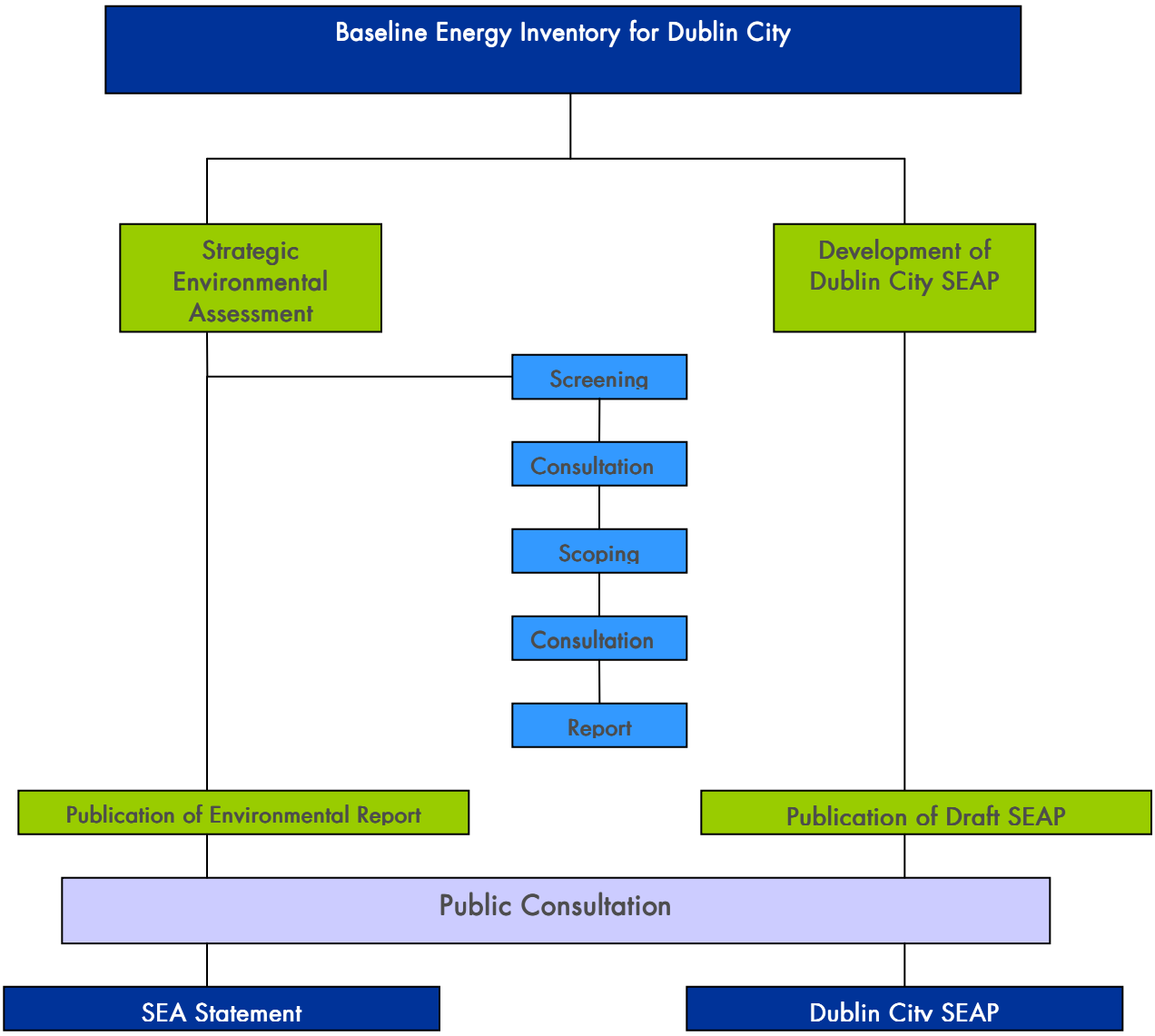

Table 1: SEA and SEAP Flow concurrent Chart

4.2 Plan alternatives

Article 5 of the SEA Directive requires the Environmental Report to evaluate the alternatives identified i.e. "…..reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated."

Three alternatives to the full SEAP have been identified and examined during the preparation of the SEAP, these have been included in the text of the plan but will be evaluated here under the environmental protection objectives. The alternatives are

1. A do nothing business as usual model
2. Short term easy to implement and relatively low cost actions, referred to in the SEAP as scenario 1
3. Longer term harder to implement higher cost actions, referred to in the SEAP as scenario 2 or full SEAP

Business as Usual (BAU)

BAU sees the trajectory of CO_2 emissions continue along the rising trend line from 1990 to 2006. This scenario amounts to a minimal compliance with legal requirements, with no long-term vision. Although in some cases there is no direct local effect from non implementation, such as in flooding frequency, habitat destruction or species extinction, the SEAP must be viewed in the global hierarchy of GHG reduction. GHG emissions from the city do not have a direct affect on the local climate or cause local flooding; this is a more complex issue of global climatic patterns but non implementation must be seen as an overall rise in GHG concentrations and therefore increases the risk of flooding and biodiversity degradation. Pollutants such as lead, particulates and NOx will affect the local air quality and so have an immediate measurable affect.

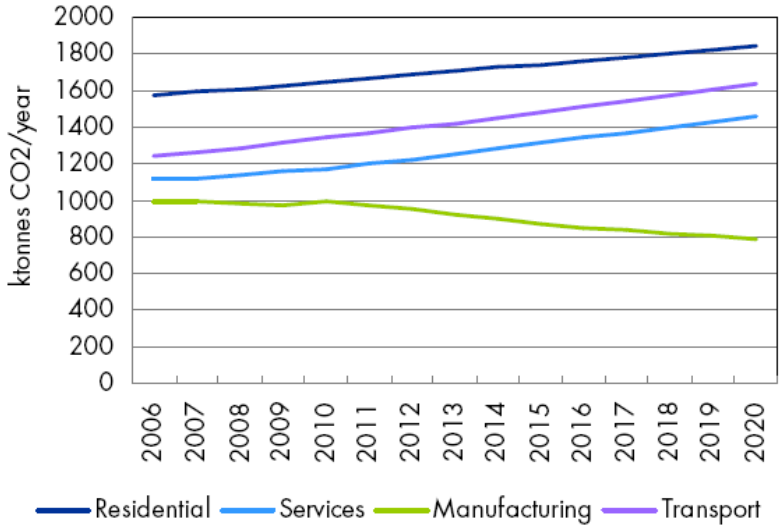

Figure 1: Business as Usual CO_2 projections to 2020

Scenario 1

Scenario 1 comprises 'the low hanging fruit' measures, that are generally very cost-effective (but not at zero cost, as is sometimes assumed) and that can be applied immediately. Again this scenario must be viewed at the global level in terms of GHG emissions and their ability to cause local flooding and biodiversity degradation. This scenario will stabilize but not reverse the upward trend of energy consumption and CO_2 emissions, it should also improve air quality in terms of particulates and NOx, but it must be noted that some biofuels and diesel have higher particulate emissions than traditional fuel types. This must be considered in any change of fuel and should be assessed in conjunction with the city development plans air quality aims and any associated legal requirements. This will achieve some of the aims of the SEAP but not the longer term vision.

Scenario 2 (full SEAP)

Scenario 2 includes all the measures listed under Scenario 1, plus major additional measures using existing technologies that are either not common in Ireland at present or are not cost-effective

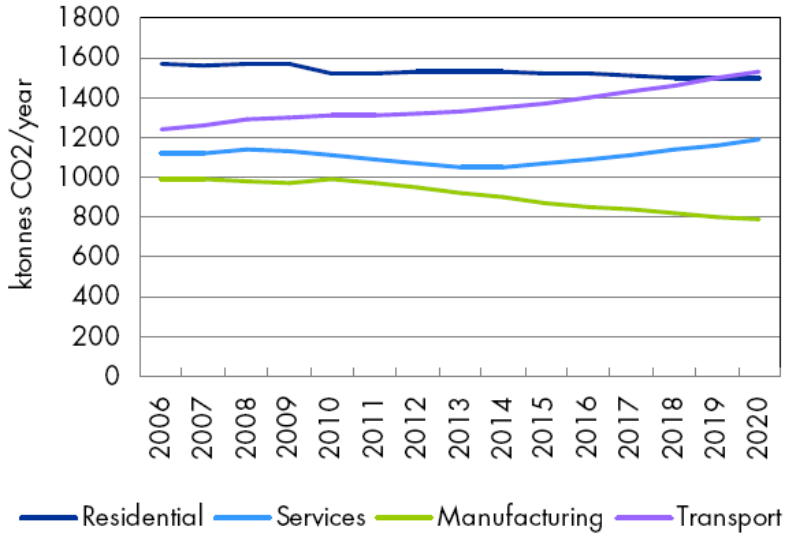

Figure 2: Full SEAP projects to 2020

4.3 Preferred Plan

Scenario 1 will stabilize the upward trend of CO_2 emissions and energy consumption but will not reverse it. Scenario 1 is a good starting point for the SEAP, indeed the SEAP is built on a combination of scenario 1 and scenario 2, many of the actions in scenario 2 depend on the implementation of the actions in scenario and hence why scenario 2 was not treated as an individual alternative. In a worse case situation the actions of scenario 1 could be used to stop the upward trend of energy consumption.

5 Evaluation of the Significant Environmental Effects of the SEAP

In order to get an overarching view of the possible impacts the SEAP may have on the receiving environment, it is necessary to create a matrix that will cross reference all of the possible impacts against the environmental objectives of the SEAP, shown in table 2 below, the symbols represent:

\+ Positive effect on the environmental criteria

0 Negligible or no effect on the environmental criteria

\- Negative effect on the environmental criteria

From this matrix of results the determination was made as to the individual action's effect on the environment and subsequently the need for alternative actions or mitigation to reduce any negative impacts.

	Reduce Fuel Poverty	Promote healthier commutes through cycling and walking initiatives	More compact city to encourage use of public transport	Protect and where possible increase areas of biodiversity as a carbon sink resource	Preserve species as indicators for climate change	Protect good air quality status and minimise the output of Nitrogen Oxides (NOx) and Particulate matter(PM10)	Increase energy efficiency and renewable energy production	Minimise GHG emissions	Reduce and manage the risk of flooding	To reduce traffic levels by encouraging modal change from car to more sustainable forms of public transport	Reduce GHG's and other pollutants
Residential Sector Actions											
Improve User Behavior in Energy Use	+	0	0	0	0	+	0	+	0	0	+
Low Energy Light Bulbs	+	0	0	0	0	+	0	+	0	0	+
Attic Insulation in Existing Homes	+	0	0	0	0	+	0	+	0	0	+
All New Houses to be A rated on the BER Scale	+	0	0	0	0	+	+	+	0	0	+
Major Refurbishment of Existing Houses, Including Wall Insulation, Windows, Boilers and Renewables	+	0	0	0	0	+	+	+	0	0	+
District Heating Phase 1, with Renewable Energy Sources	+	0	0	0	0	+	+	+	0	0	+
Commercial Sector Actions											
Behavioral Camapigns to Reduce Energy	0	0	0	0	0	+	0	+	0	0	+
Low Energy Lighting Systems and Controls	0	0	0	0	0	+	0	+	0	0	+
Upgrading of Heating, Ventilation and Air Conditioning	0	0	0	0	0	+	0	+	0	0	+
Insulations of the Fabric of the Existing Buildings	0	0	0	0	0	+	0	+	0	0	+
All New Commercial Buildings Over 1000m2 to be A Rated	0	0	0	0	0	+	+	+	0	0	+
Transport Sector Actions											
Workplace Travel Plans for Commuters	0	+	0	0	0	+	0	+	0	+	+
School Travel Plans	0	+	0	0	0	+	0	+	0	+	+
Cycle Initiative	0	+	0	0	0	+	0	+	0	+	+
Ecodriving Training for Professional Drivers of Buses, Taxis and Trucks	0	0	0	0	0	+	0	+	0	0	+
Electric Cars (including plug in hybrids) at 10% Penetration	0	0	0	0	0	+	0	+	0	0	+

Table2: Environmental Impacts of the SEAP on Dublin City Receiving Environment

6 Measures for Monitoring the Dublin City SEAP

It is vital that all possible impacts on the environment from the Dublin City SEAP are monitored periodically, as seen from the SEA process the Dublin City SEAP will not have any negative impacts on the baseline environment, it is still good practice to establish a system of monitoring to gauge the success of the plan. Several sources have been identified as indicators towards this monitoring they are:

Environmental Receptor	Environmental Protection Objective	Target	Indicator	Data Source	Frequency
Population and Human Health	Reduce fuel poverty	No Increase in the occurrence of fuel poverty and ideally a marked reduction	Energy ratings from the (draft) Dublin City Council Housing Action Plan	Dublin City Housing Action Plan	Ongoing
	Promote healthier commutes through cycling and walking initiatives	Extension and improvement of the cycling and walking network	% Change in modal split	Canal cordon count	Annual
			Number of pedestrians and cyclists crossing the canals as measured by the canal cordon survey	Canal cordon count	Annual

	More compact city to encourage use of public transport	Sustainable densities achieved in new residential / mixed-use schemes	Average residential housing densities	Census	4 Yearly
Biodiversity, Flora and Fauna	Protect and where possible increase areas of biodiversity as a carbon sink resource	No adverse impacts on designated habitats or species or any possible carbon sink	Total area of designated sites (Natura 2000 and pNHA's) Total area of Conservation Areas Survey and monitor street trees of Dublin City Total 'green' areas in the city	Dublin City Development Plan	5 Yearly
	Preserve species as indicators for climate change	No adverse impact on indicator species	Survey and monitor the extent of invasive species	Dublin City Biodiversity strategy	Ongoing

			Survey and monitor the distribution of butterfly populations		
Air	Protect good air quality status and minimise the output of Nitrogen Oxides (NO_x) and Particulate matter(PM_{10})	No increase in Nitrogen Oxides (NO_x) and Particulate matter(PM_{10}) From biofuels or other fuel sources	Values of monitored pollutants in the air, including the levels of Nitrogen Oxides (NO_x) and Particulate matter(PM_{10})	Dublin air quality monitoring program	Ongoing
Climatic Factors	Increase energy efficiency and renewable energy production	Meet and exceed the targets set down in NEEAP, minus 3% IEE project and increase the citywide renewable share	Total share of renewable energy for heat	Climate Change Strategy and SEAP	Annual

	Minimise GHG emissions	Fulfill housing action plan in regards to energy efficient refurbishments	Total share of renewable energy for public buildings and installations, including traffic		
		Citywide housing refurbishment program	Number of (social) housing units, public buildings and community centres connected to district and group heating systems	Climate Change Strategy and SEAP	Annual
			Number of CHP units within the private housing and commercial sectors		
			Number of A and B rated buildings within the social and private residential sector and as a percentage of the total stock	Climate Change Strategy and SEAP	Annual
			Average energy consumption of new residential housing stock		
		Citywide behavioral campaign for commercial sector to reduce energy	Number of A and B rated buildings within the commercial and public buildings sector and as a percentage of the total stock	Climate Change Strategy and SEAP	Annual

Water	Reduce and manage the risk of flooding (through the new city development plan as planning is not the remit of the SEAP)	Citywide commercial lighting upgrade 20-30% Reduction by 2020 Compliance with the Floods Directive and with OPW / DoEHLG'Flood Risk Management in the Planning Process' standards	Tonnes CO_2/capita/year Number of incidences of flooding to property Number of developments incorporating flood risk avoidance and flood risk alleviation measures categorised under A. 'Hard' defences B. 'Soft' or 'Green' ▪ defences including: ▪ SUDs ▪ WADIs ▪ Swales	Dublin City Development Plan	5 Yearly

			▪ Detention Ponds ▪ Bio Retention Cells etc		
		Avoid new development in flood prone areas or where this is unavoidable require that flood resilient measures be incorporated into new developments	Number of flood defences, flood defence structures and features identified in the development plan	Dublin City Development Plan	5 Yearly
		Avoid the development risk of destruction of flood defences, flood defence structures and features			
		Identify Sustainable Urban Drainage Systems (and features which are identified as having a flood defence function) in all new developments	Number of Sustainable Urban Drainage Systems and flood defence features identified		

Material Assets (Transport)	To reduce traffic levels by encouraging modal change from car to more sustainable forms of public transport and encourage non-car dependent development Reduce GHG's and other pollutants	Extension and improvement of the cycling and walking network Workplace travel plans School travel plans Eco Driving Electric vehicles Bio vehicles	% change in modal split Number of pedestrians and cyclists crossing the canals as measured by the annual cordon survey % Electric vehicles % Bio vehicles	Canal cordon counts and DTO and DOT statistics	Annual

Table 3: Targets, Indicators, Monitoring data sources and monitoring period

7 Conclusion

The strategic environmental assessment carried out during the preparation of the Dublin City Sustainable Energy Action Plan 2010-2020 has ensured that any potential significant environmental impacts of the Plan have been identified and that they have been given appropriate consideration. Consultation on the Proposed Plan and Environmental Report has further contributed to the development and finalization of the adopted SEAP.

The publication of this SEA Statement does not conclude the strategic environmental assessment process; the process continues with monitoring of environmental impacts of the implementation of the Plan, and periodic progress reports to the SEAP.

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