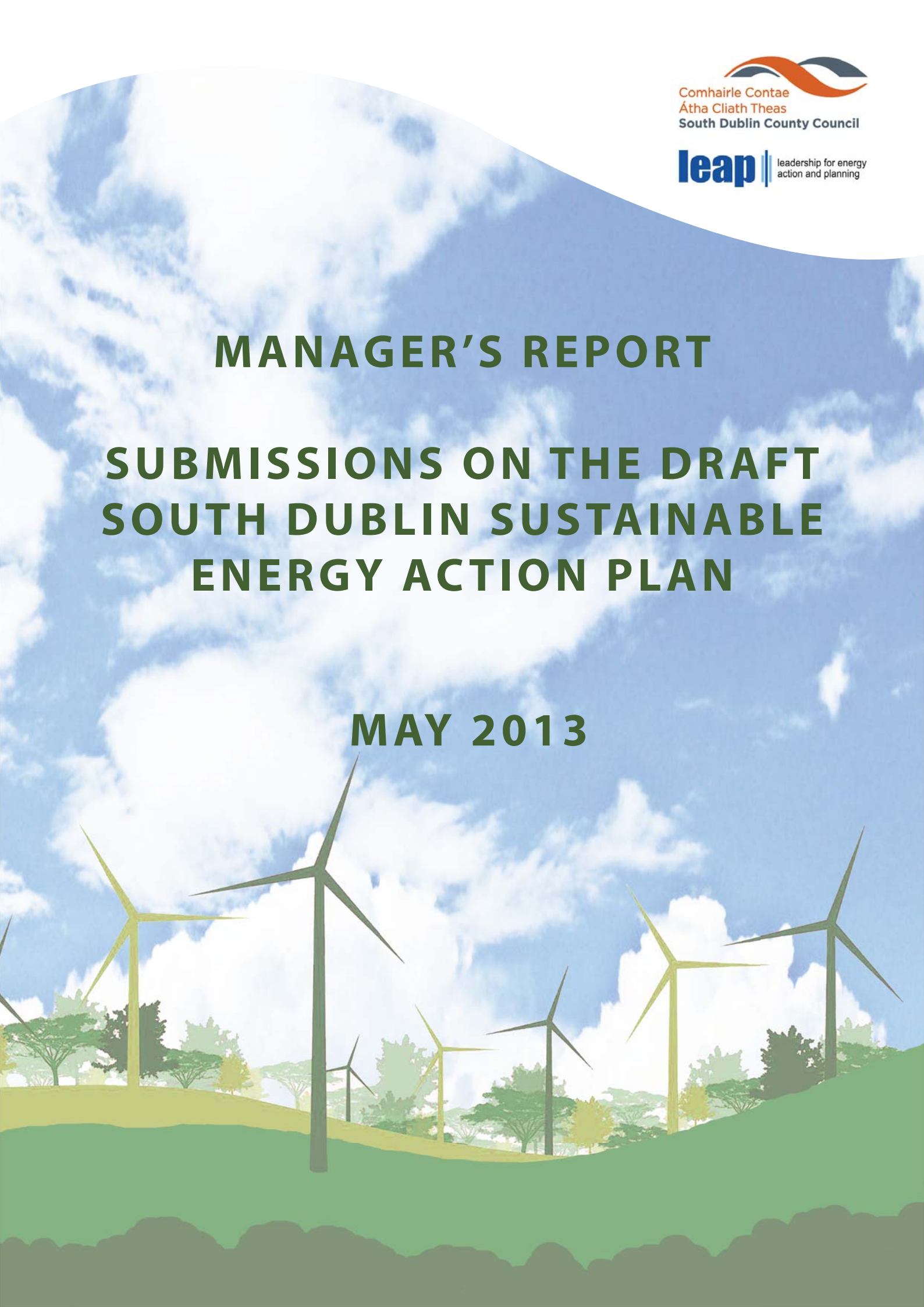
Comhairle Contae
Átha Cliath Theas
South Dublin County Council

leap leadership for energy action and planning

MANAGER'S REPORT

SUBMISSIONS ON THE DRAFT SOUTH DUBLIN SUSTAINABLE ENERGY ACTION PLAN

MAY 2013



Section 1 Introduction

Purpose and Content of the Report

The purpose of this document is to report on the outcome of the consultation process carried out after the publication of the Draft South Dublin Sustainable Energy Action Plan. It is to inform the elected members of any proposed amendments to the Draft Plan prior to adopting the final SEAP document.

Sustainable Energy Action Plan

The Sustainable Energy Action Plan (SEAP) puts forward an energy roadmap, setting out how South Dublin County can take the lead in addressing EU and national energy targets to 2020. The SEAP has been undertaken in partnership with the Town and Country Planning Association (TCPA) and eight other local authorities across the EU, as part of the Leadership for Energy Action and Planning Project (LEAP), funded by EU intelligent Energy Europe Programme (IEE).

South Dublin County Council signed up to the Covenant of Mayors in June 2012. A key component of this signing was to adopt a SEAP within a 12 month period. The Draft SEAP sets out baseline data for 2006, specific energy targets to 2020, and a range of actions to reach these targets under the three key principles of Record, Reduce and Replace. The role of stakeholders and citizen involvement is examined and the issues of monitoring and funding are also addressed in the Plan.

Public Consultation

Submissions were sought from members of the public, SDCC staff and elected members, community groups, residents groups, academic bodies, relevant statutory bodies, and other interested parties during the Draft SEAP public consultation period. The consultation period ran from Thursday 21st February to Thursday 4th April 2013. Five submissions were received during this period and have been summarised in this report.

Organisation of the Report

This report is organised into four Sections:

Section 1	provides an introduction to the report, details on the Sustainable Energy Action Plan and public consultation undertaken
Section 2	includes a summary of the main issues contained in the submissions
Section 3	contains recommendations
Section 4	contains the appendices

Appendix A	contains a List of Persons/Bodies Consulted
Appendix B	contains a List of Persons/Bodies who made Written Submissions and
Appendix C	copies of submissions
Appendix D	contains the original Newspaper Advert in the Irish Times

Section 2 Submissions Received

Section 2.1 List of Persons and Bodies who made submissions

DraftSEAP0001 John Bird

DraftSEAP0002 Mary Bird, La Leche League Leader, Dodder Valley Group

DraftSEAP0003 John Bird on behalf of the Knocklyon Network

DraftSEAP0004 John and Beverley Power

DraftSEAP0005 Councillor William Lavelle

Section 2.2 Detailed Consideration of Submissions received

Upon receipt of each submission, the submission was given a reference number and it is this numbering sequence which is used in the report.

Submission Number	Name
DraftSEAP0001	John Bird

Issues Raised

- Lives in a 1970's house with poor insulation and associated high energy costs.
- Supports any initiative that would increase sustainability and resilience on a public or private basis.
- Would engage with SEAP team in areas such as insulation, local energy production, urban agriculture and waste water recovery/reuse.
- Particularly interested in Actions REP 2 (Heat pumps), REP 3 Feasibility projects), REP 4 (ITT Student Projects) and RED 14 (Local Permeability Projects).

Response

- The Council aims to develop a residential pilot scheme where energy behavioural issues, energy costs and energy consumption/emissions will be addressed in private households in the County. This project is at a very early planning stage and would be initially piloted on a small-scale basis.
- The key action areas identified in this submission are currently being developed and will involve varying levels of public consultation during which members of the public will have an opportunity to be involved.

- The progression of actions and the replication of such actions over a wider area are anticipated and assistance from experienced persons in such areas will be greatly appreciated. The further development and strengthening of action groups to oversee specific actions/projects will benefit from additional involvement from interested individuals in the future.

Recommendation

- No amendments to draft SEAP recommended.

Submission Number	Name
DraftSEAP0002	Mary Bird, La Leche League of Ireland

Issues Raised

- Breastfeeding and the health giving benefits, energy saving, sustainable and resilient attributes.
- The energy benefits associated with breastfeeding were outlined including the saving associated with CO2 emissions, fuel consumption, length of food chain and packaging.
- Any action plan for Sustainable Energy must include the promotion and support of breastfeeding.
- Tallaght hospital has adopted breastfeeding policy and breastfeeding friendly workplace policy which could serve to inform the SEAP.

Response

- Whilst it is acknowledged the excellent health and environmental benefits associated with breastfeeding, specific actions relating to this are not addressed in the SEAP as it is considered too specific for an individual action.
- There may be scope within staff and public awareness campaigns (as outlined in Reduce Actions Nos. 2 & 3) to raise the issue of breastfeeding and associated breastfeeding friendly policies within a package of wider behavioural and physical issues that can reduce energy consumption and emissions.

Recommendation

- No amendments to draft SEAP recommended.

Submission Number	Name
DraftSEAP0003	John Bird on behalf of Knocklyon Network

Issues Raised

- Praises the Draft SEAP as containing many excellent ideas.
- Would like to become involved in the Citizen Involvement Campaign component of the SEAP.
- Issues of particular interest are the Replace Action 2 (Heat Pumps), Replace Action 3 (Feasibility Studies for renewable projects) Replace Action 4 (ITT Student Projects) and Replace action 14 (Local Permeability Projects).
- Expressed an interest in becoming involved in projects that would reduce energy consumption in homes, communities and businesses as well as identifying cheaper, sustainable and more resilient energy supplies.
- The role of urban agriculture was also highlighted as offering new possibilities for food production and visual improvements. Energy efficient greenhouses are cited as one potential project which could be trialled locally.
- Economic difficulties associated with the recession were identified in terms of willingness for many members to retrain in new areas of opportunity.
- Expressed an interest to work with the County Energy Champion and elected members in researching new projects.

Response

- Citizen involvement campaigns have played an important role in the SEAP development and implementation process, including a 'Connect with Energy' week in June 2012. The Council welcomes involvement from members of the public in future citizen involvement campaigns and will continue to use social media, the council's website and other such means to keep the public informed.
- The Council aims to develop a residential pilot scheme where energy behavioural issues, energy costs and energy consumption/emissions will be addressed in private households in the County. This project is at a very early planning stage and would be initially piloted on a small-scale basis.
- Other projects relating to energy consumption in businesses, schools and communities are also identified as Reduce actions (RED nos. 9-12) in the Draft Pan, which will continue to be developed and replicated in the coming years.
- Energy efficient greenhouses and other such projects in the area of urban agriculture present a valid opportunity for energy efficiency and could be incorporated into the renewable energy measures and projects outlined in the SEAP as these actions are progressed and rolled out in the coming years.

Recommendation

- No amendments to draft SEAP recommended.

Submission Number	Name
DraftSEAP0004	John and Beverley Power

Issues Raised

- Submission was accompanied by a wealth of information on a range of energy related issues including climate change, waste heat from large cities, food security and wasted food and climate change and peri-urban areas.
- In relation to global climate change some interesting statistics were provided in Irish weather statistics for March 2013 and the associated global climate change pattern which has been witnessed in Ireland.
- The issue of waste heat from large cities was outlined and its affects on temperatures and global weather patterns.
- Food security and Wasted Food and the increasing awareness of the issues around air miles and wasted food were highlighted. Food miles are one factor used when assessing the environmental impact of food and the impact on global warming.
- Climate change and peri-urban areas was also identified as important issue and the potentials of Dublin's peri-urban regions. The Peri Urban Regions Platform Europe (PURPLE) seeks policies which recognise the need for viable peri-urban agriculture linked to short food chains etc.

Response

- The information provided was very informative but is associated with a more nationally based over arching policy objective which South Dublin County Council continues to enforce at a local level through a range of plans and policy objectives.
- Many of the climate issues raised above are addressed in the Council's *'Climate Change Strategy'* which was adopted in 2009. This Strategy identifies actions and key performance indicators under the following key areas – energy, planning, transport, waste management and biodiversity are set out in the strategy.
- In relation to the peri-urban regions in Dublin, the Council continues to support a coherent spatial policy framework for the future development of the County through the South Dublin County Council's Development Plan 2010-2016 Core Strategy. This includes supporting agricultural activity in specified areas and consolidating and strengthening existing town centres.

Recommendation

- No amendments to draft SEAP recommended.

Submission Number	Name
DraftSEAP0005	Councillor William Lavelle

Issues Raised

- Commended the plan as being comprehensive and ambitious and in particular, welcomed the multi-facetted and cross-sectoral nature of the actions proposed.
- In relation to Action RED6 (upgrading of public lighting and development of pilot projects in this area), to continue to prioritise implementation of county-wide programme of public lighting replacement.
- In relation to Action REP 3 (projects for renewables and low carbon technologies/strategies) need to continue to work closely with the Lucan Village Network in exploring hydro-based projects at Liffey Weir/Mill.
- The potential partnering with a commercial sustainable energy provider is recommended in relation to such hydro projects.
- Findings from the CSO's 'Profile 10 Door to Door – Commuting in Ireland (2012)' are quoted as particularly significant in the pursuit of greater modal shift from private car to public transport.
- The role of the Council in engaging with the NTA in pursuing evidence based approach to increasing carrying capacity of public transport, as well as the introduction of new services.

Response

- The increased use of public transport is part of an over-arching national policy objective which South Dublin County Council have actively implemented and planned for.
- The need for greater modal shift from private car to public transport has been acknowledged by the Council in its range of statutory and non-statutory plans and strategies which have been formulated over the past number of years. Policies in the South Dublin County Council Development Plan 2010-2016, in particular, promote and facilitate Transport 21 and National Transport Authority Strategies.
- Increasing modal shift at a local level is very much an issue for the SEAP and as such a series of REDUCE transport based energy actions are identified in order to reduce energy demand, costs and CO2 emissions and increase energy efficiency and awareness.

- Key indicators are identified in the future review of the SEAP in terms of identifying future public transport levels in the County and monitoring the success of sustainable travel actions identified in the plan.
- SEAP indictors will also capture the level of renewable/low carbon projects including hydro-based pilot projects and will address barriers and implementation issues which arise with such projects including the issue of funding and potential partnerships.
- The Council aim to continue to roll out energy saving public lighting initiatives in the County under the Reduce Action No. 6 of the draft SEAP in consultation with the relevant Council Departments.

Recommendation

- No amendments to draft SEAP recommended.

Section 3 – Recommended amendments

Following completion of the public consultation process and review of submissions received no amendments to the Draft SEAP document are recommended.

APPENDIX C - Copies of Submissions

Submission Number	Name
DraftSEAP0001	John Bird

I welcome this excellent and exciting document!

I live in the Knocklyon area in a 1970's house with the poor insulation and consequent high energy costs associated with that period of construction.

Any initiative that would increase sustainability and resilience on a public or private basis is greatly to be welcomed. In this regard I would be happy to engage with the SEAP team in areas such as insulation, local energy production, urban agriculture and waste water recovery and reuse.

Of particular interest are the following projects:-

- REP2 Heat Pumps
- REP3 Feasibility projects, particularly in the Knocklyon area of the Dodder Valley
- REP4 ITT Student Projects
- REP14 local permeability

Submission Number	Name
DraftSEAP0002	Mary Bird, La Leche League of Ireland

Breastfeeding - Health Giving, Energy Saving, Sustainable and Resilient.

Accepted and documented by the WHO, UNICEF, Dept of Health, HSE and FSAI as the norm for infant feeding, and for the promotion of lifelong maternal and child health, breastfeeding also has many energy saving characteristics and advantages. There is no food more environmentally friendly and locally produced.

The major energy saving advantages can be summarised as follows:-

- Co2 Emissions - 0
- Length of food chain - 0
- Fuel Consumption - 0
- Packaging - 0
- Packaging Waste - 0

Breastfeeding is a natural efficient use of resources with optimum health outcomes for both mother and child. In contrast formula feeding requires valuable environmental resources for formula production; for packaging and transportation of the product; use of water and fuel for mixing the product and heating it, for sterilizing bottles ; waste disposal of the cans, bottles, accessories, cartons, etc. Increasing breastfeeding rates helps reduce waste going to landfill. Any Action Plan for Sustainable Energy must include promotion, protection and support of breastfeeding. Formula fed infants have higher rates of many illnesses and a higher incidence of childhood obesity.

We therefore request that you include in the final Sustainable Energy Action Plan an Energy Conservation Objective such as the following:-

"In view of :-

- The enormous health benefits and cost savings of breastfeeding both to individuals and to the community and also in terms of energy conservation and resilience
- The elimination of costs of production energy, packaging, transport and packaging disposal

This Council supports and encourages breastfeeding and the dissemination of breastfeeding information to its staff and citizens."

Note: Tallaght Hospital has recently adopted a Breastfeeding Policy for both child and adult patients as well as a Breastfeeding Friendly Workplace policy. These policies might serve to usefully inform the Council Policy to protect, promote and support breastfeeding as part of the Sustainable Energy Action Plan.

Submission Number	Name
DraftSEAP0003	John Bird on behalf of Knocklyon Network

Knocklyon Network is a voluntary group working to reduce unemployment and support existing businesses in the Knocklyon area.

We are supported by and work closely with The Dodder Valley Partnership and the County Enterprise Board.

Further details of our organisation can be found at our websites www.knocklyonnetwork.com and www.klip.ie (Knocklyon Local Initiative Project)

We welcome the Draft SEAP and the many excellent ideas therein.

As a active and pro-active local organisation meeting twice a week at the Iona Centre in Knocklyon, we would see ourselves as providing an important link in the "Citizen involvement campaign" (Draft SEAP, Pg 7).

Of particular interest to us are

- REP 2, (Heat Pumps)
- REP 3, (Feasibility Studies for District Heating, Dodder Valley hydro scheme and for wind energy in public parks)
- REP 4, (ITT Student Projects)
- REP 14, (Local Permeability Projects)

We would be particularly interested in projects that would reduce the energy requirements of our homes, community buildings and business premises. Equally, we would welcome any projects that would provide cheaper, sustainable and resilient energy supplies both to our buildings and for private and/or communal gardens and greenhouses. Alternatively, profits from energy sales from local initiatives could be used to improve our local open spaces and community facilities to the benefit of all.

Urban Agriculture offers new and exciting possibilities for food production and visual improvements. For example, energy efficient greenhouses could be trialled in our area on public or private land. International examples of these and of similar emerging ideas and technologies can be seen on www.carrotcity.com

A number of our members are particularly interested in working an allotment and we consider that allotments with greenhouses and soil warming could work well.

Many of our members are struggling to survive the recession, and are actively seeking work and retraining in new areas of opportunity. We represent a wide range of existing skills such as engineering, skilled crafts persons, IT, accountancy, management, languages, training, sales and marketing. There

is a huge desire to seek out new opportunities and emerging trends and technologies.

We would be delighted to work with the County Energy Champion and his team and with the Elected Representatives in order to research new and exciting projects.

Submission Number	Name
DraftSEAP0004	John and Beverley Power

JOHN & BEVERLEY POWER
LOCK COTTAGE, THE GRANGE, LUCAN, COUNTY DUBLIN.

Draft South Dublin SEAP - Submission

Global Climate Change

Last month has been described as the coldest March on record:

- Casement Aerodrome recorded a temperature -3.5 ° C difference from average for period 1981-2010 Monthly Averages. (see report from MET éireann Appendix I).
- This is now being generally accepted as global climate change, (also now referred to as "global weirding"). The immediate problem is seen to be the unpredictable changes to the normal patterns of the jet streams, which shapes the seasonal changes.

Waste Heat from Large Cities

A study published in the journal Nature Climate Change says that waste heat from large cities affects temperatures in distant regions. (See article from The Independent Appendix II)

- Data Centres are availing of mild climates . Cool air, which is used to extract heat from the facility is then discharged as warm air . This type of operation must be contributing to the global changes. Heat emitted should have a 'value' to the local area which could benefit horticulture, local food production and area heating. Although some centres will use wind energy for increased efficiency as it comes available, this does not impact on the amount of heat dispersed to the atmosphere.

Food Security and Wasted Food

The increasing awareness of the issues around air miles and wasted food must be addressed:

- National and International co-operation utilising the spin off from industry, such as heat exhaust, should be directed into producing food in its local distribution area.
- Waste food could be substantially reduced with no air miles.
- A targeted approach would address local consumption demand with any excess being donated locally to charities.
- Food miles are one factor used when assessing the environmental impact of food, including the impact on global warming. Ref Engelhaupt, E (2008) "Do Food Miles Matter?

Climate Change and peri-urban areas

Food security which refers to the availability of food and one's access to it could become an important issue in the near future. Examine the possibility of realising the potential of Dublin's peri-urban regions by researching Peri Urban Regions Platform Europe (PURPLE). This group proposes that specific policies are needed to ensure a balanced development of peri-urban areas with the aim of bringing multiple benefits both for the citizens of the EU's cities, as well as those living and working nearby. In particular PURPLE seeks policies which recognise the need for viable peri-urban agricultural and horticultural production linked to short food chains, and sustainably managed open space which nourishes local biodiversity and provides access and recreation for all. Documents from their website www.purple-eu.org are included below:

- PURPLE Topic Paper Number I (see Appendix III)
- Dublin Region - Climate Change (see Appendix IV)

Appendix I

MARCH 2013

Very cold everywhere, records set at a number of locations

Monthly mean temperatures were below average, with differences of -3°C or more in most parts. Mean temperatures were the lowest on record nearly everywhere except in the South and Southwest. Dublin Airport reported a mean temperature of 3.1°C, its coldest March since the site opened in 1942 (71 years), while Claremorris and Mullingar also reported their coldest March on record since opening in 1950 (63 years). Majority of stations in the South and Southwest reported their coldest March since 1962 (51 years) with exception of Shannon Airport, which reported its coldest March since 1955 (58 years). All mean maximum and minimum temperatures were below average, with highest maximum temperatures in parts of the East, South and North the lowest recorded, and lowest minimum temperatures in parts of the Southeast, Southwest and West the lowest in at least seven years. Johnstown Castle and Cork Airport reported highest maxima of 10.8°C and 10.4°C on the 8th, their lowest for March since the sites opened over 50 years ago while their lowest minima of -1.8°C and -3.7°C on the 12th, were the lowest for both sites since March 2006. Rainfall was on or above average in the East, Southeast and in parts of the South, with most in the area reporting it as their wettest March in five to seven years. Long-Term Average (LTA) rainfall was nearly double at Phoenix Park with 97.1 mm, its wettest March since 2008, while Cork Airport reported 138 % of its LTA and its wettest March in 17 years. Both of these stations attributed over a fifth of their monthly rainfall totals to the heavy rain on the 21st/22nd. Stations along the Atlantic coast and in the Midlands reported below average rainfall with most areas reporting less than 50% their LTAs. Shannon Airport and Newport both reported just over a third of their LTA rainfall for the month with totals of 28.3 mm and 53.4 mm, respectively, their driest Marchs since 1950 (63 years) and 1961 (52 years). Available sunshine totals were on or above average in the West and Southwest and below average elsewhere, with Dublin stations reporting around 60% their LTA sunshine and their dullest Marchs since 1996 (17 years).

1st to 5th: Mainly dry with some drizzle along Atlantic coasts. Cloudy and misty conditions at times but with good periods of sunshine, especially in the East. Winds were light, with no gale gusts.
6th to 13th: Mainly overcast with small amounts of sunshine recorded before the 10th, regular outbreaks of rain, heavy and persistent at times. Very cold after the 11th as an easterly/northeasterly airflow covered Ireland with bands of wintry precipitation and snow showers affecting mainly the eastern half. Winds were mainly moderate to fresh, occasionally gale force in the North, with gale gusts reported along coasts.
14th to 20th: Unsettled weather, rain and scattered showers, some with hail and thunder. Precipitation was widespread and heavy at times, turning to snow and sleet in places. Sunny periods mainly in the Southwest and West, with few gale gusts in the West and along Atlantic coasts. Winds were mainly light to moderate, occasionally fresh.
21st to 31st : Unsettled weather continued with periods of rain and showers, sometimes heavy, with precipitation falling as snow or sleet at times. Few showers with thunder and hail. Otherwise dry, with long sunshine durations, but remained cold. Gale force winds recorded on the 21st to 23rd in the North and West, and gale gusts reported everywhere.

Wind and Elements: Mean windspeeds for the month were between seven knots *(13km/h)* at Carlow (Oak Park) and 19 knots *(35km/h)* at Malin Head, with most stations reporting their highest March winds in five years. Cork Airport reported a March mean wind speed of 12 knots *(24km/h)* its highest since 1994 (19 years). Number of days with gale gusts ranged up to 12 at Malin Head, with the site also reporting the month's highest gust on the 22nd with 61 knots *(113km/h)*. Six days with gale force winds were reported, all in the North and West with severe gale force winds in the North on the 21st and 22nd. Scattered thunderstorms were recorded on the 18th and 22nd in the South and Southwest and in the East on the 19th and 20th. Number of days with ground and air frost were up to 24 and 22 days, respectively, at stations in the Midlands.

Extreme values at synoptic stations

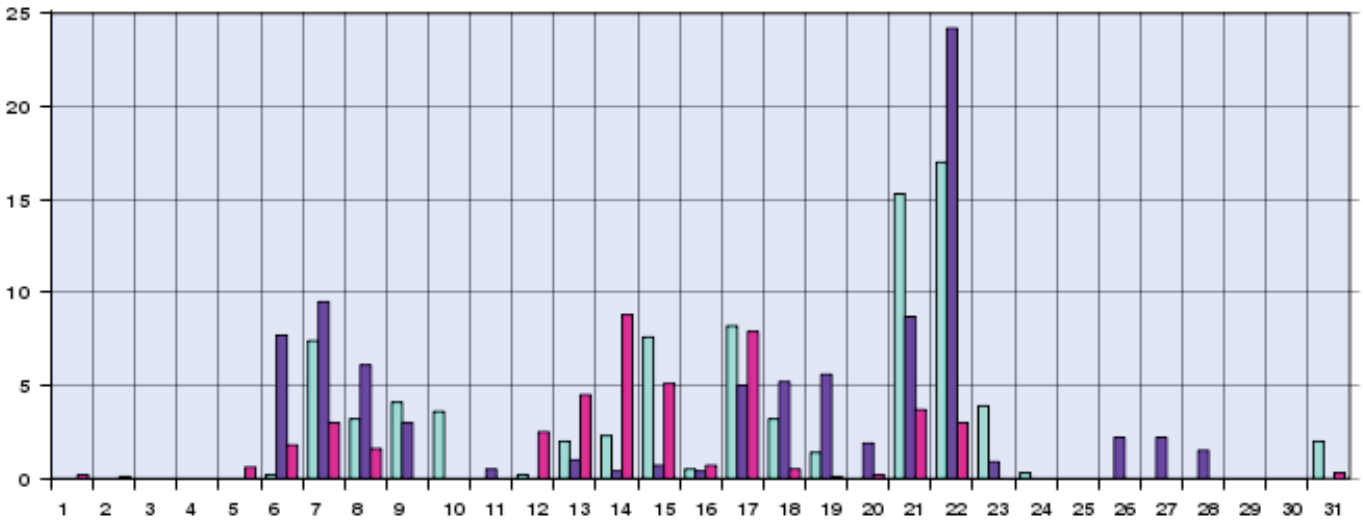
Rainfall
Highest total: 134.9 mm at Cork Airport *(its wettest March since 1996)*
Lowest total: 28.3 mm at Shannon Airport *(its driest March since 1950)*
Highest daily rainfall: 41.2 mm at Cork Airport on 21st *(its highest March daily fall since 1996)*

Temperature
Highest mean monthly temperature: 6.0°C at Sherkin Island *(its coldest March since 1979)*
Lowest mean monthly temperature: 2.7 °C at Knock Airport *(its coldest March since it opened 1996)*
Highest temperature: 14.3°C at Athenry on 8th
Lowest air temperature: -7.6°C at Markree on 12th
Lowest grass minimum temperature: -13.7°C at Markree on 12th

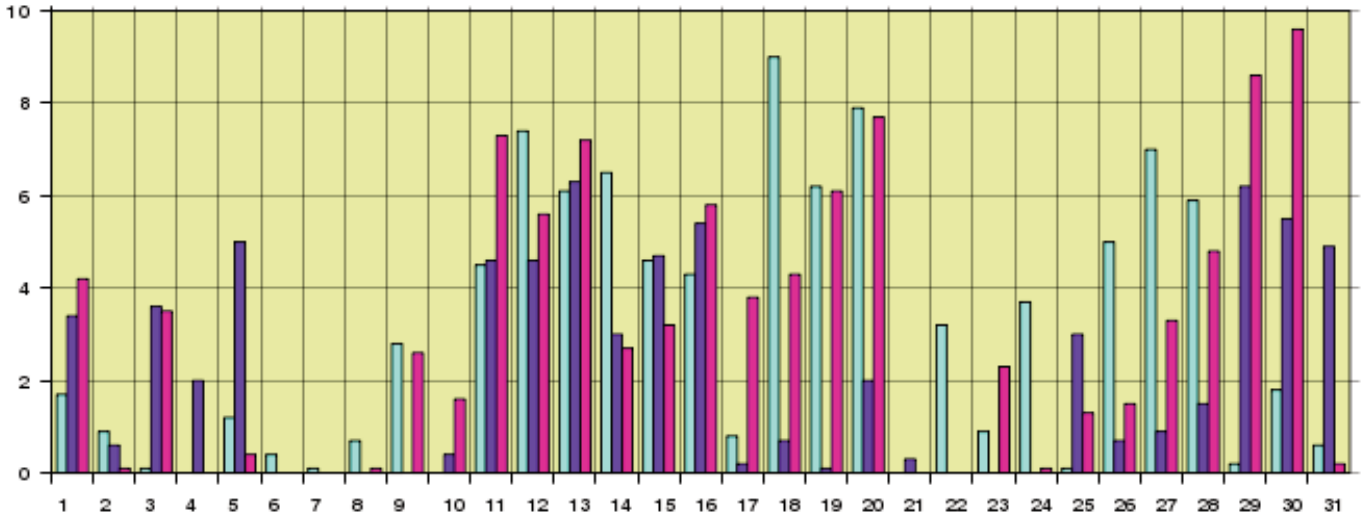
Sunshine
Highest monthly total: 102.0 hrs at Shannon Airport *(its dullest March since 2006)*
Lowest monthly total: 58.9 hrs at Casement Aerodrome *(its dullest March since 1996)*
Highest daily sunshine: 9.6 hrs at Belmullet on 30th *(its lowest daily sunshine for March since 1998)*

MARCH 2013 DAILY VALUES AT SELECTED SYNOPTIC STATIONS

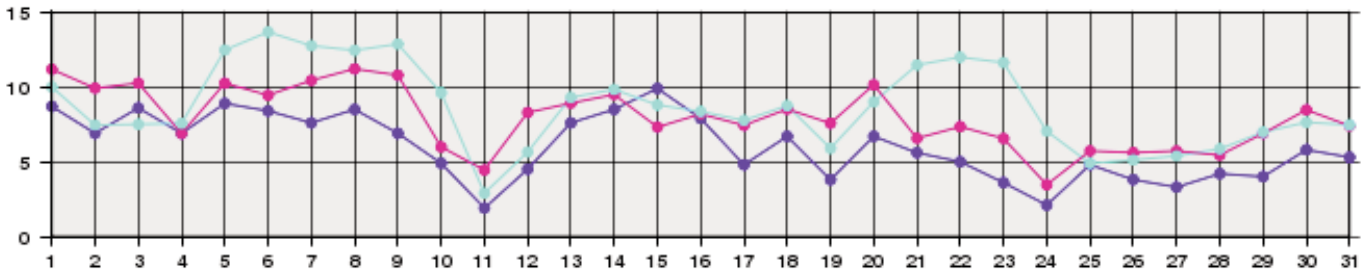
DAILY 00-24 h RAINFALL VALUES (mm)



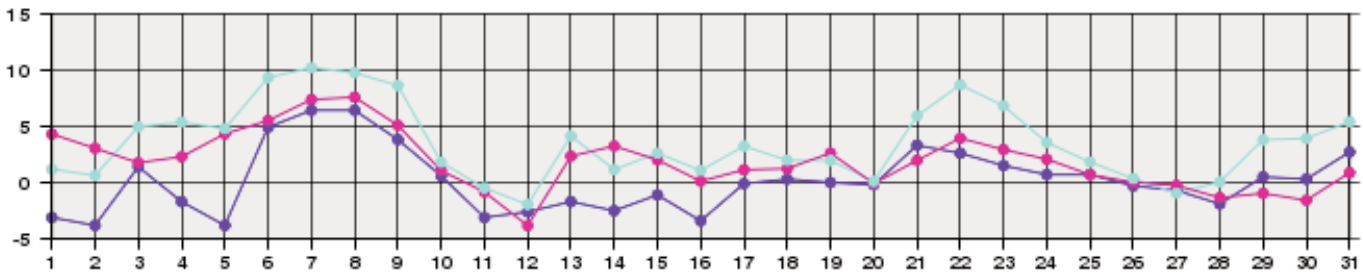
DAILY SUNSHINE HOURS (hours)



DAILY 00-24 h MAXIMUM TEMPERATURES (°C)



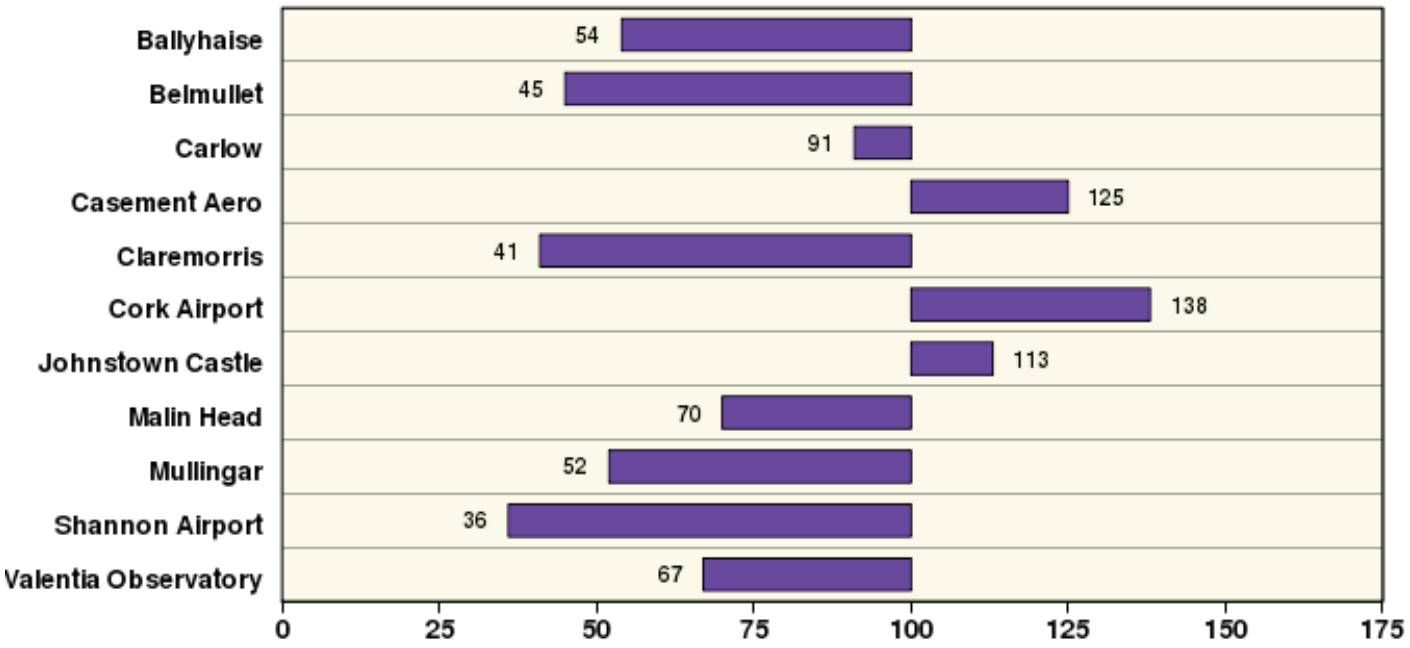
DAILY 00-24 h MINIMUM TEMPERATURES (°C)



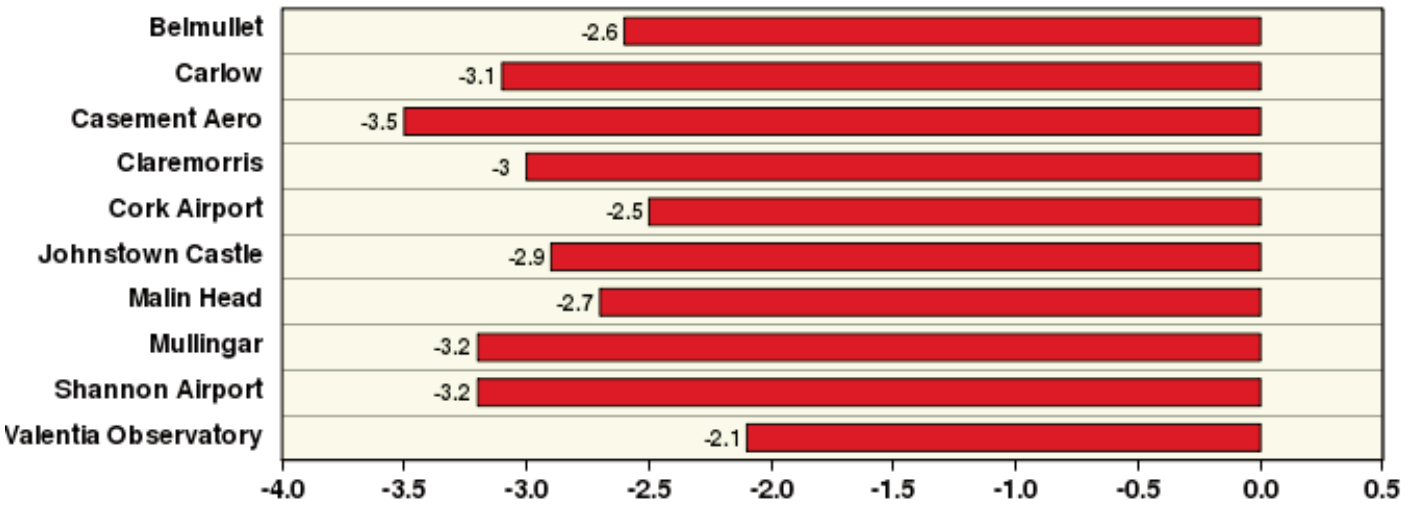
• Valentia Observatory • Dublin Airport • Belmullet

MARCH 2013 PERCENTAGE/DIFFERENCE FROM 1981-2010 MONTHLY AVERAGES

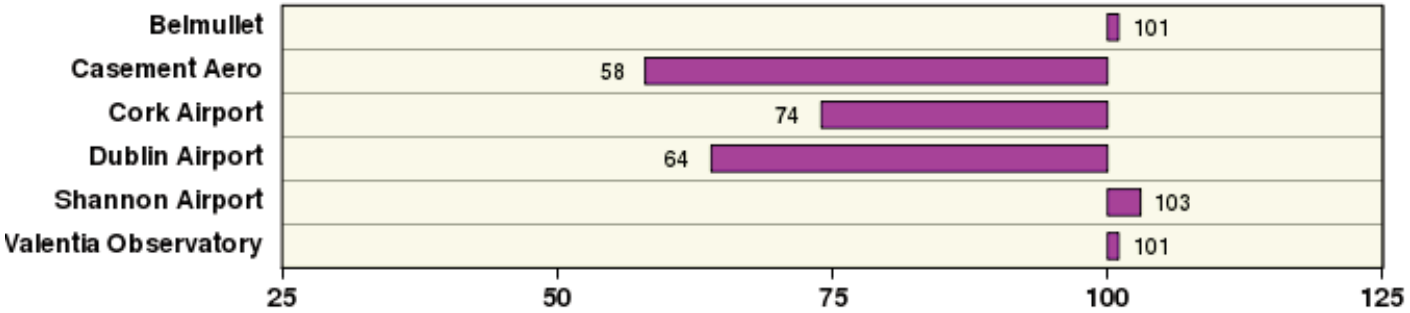
RAINFALL (% OF AVERAGE FOR PERIOD 1981-2010)



TEMPERATURE (°C) (DIFFERENCE FROM AVERAGE FOR PERIOD 1981-2010)



SUNSHINE (% OF AVERAGE FOR PERIOD 1981-2010)



Issued by the Climatology and Observations Division of Met Éireann on 2nd April 2013
This report is based on preliminary and available data from the synoptic weather stations operated by Met Éireann
*A detailed summary is available in the **Monthly Weather Bulletin***
*For more information, contact Met Éireann at 01-8064200 or e-mail: **climate.enquiries@met.ie** website: **www.met.ie/climate***

Appendix II

The INDEPENDENT

Wasted heat from large cities affects temperatures in distant regions

Steve Connor

Sunday, 27 January 2013

The waste heat generated by large cities can affect temperatures in areas hundreds of miles away by changing wind patterns in the upper atmosphere, a study has found.

Scientists have estimated that the heat released into the atmosphere from buildings, cars and factories could play a significant role in the warming – and the cooling – of locations in other countries.

Using computer models of how heat is transported around the globe, the study published in the journal Nature Climate Change says that waste heat from 86 urban centres in the northern hemisphere could in theory raise temperatures of parts of North America and northern Asia by as much as 1C.

The same models suggest that other parts of the northern hemisphere, notably Europe, could actually become cooler at certain times of the year by up to 1C as a result of the heat affecting the direction of high-altitude winds such as the jet stream.

Appendix III

PURPLE TOPIC PAPER Number 1

Climate Change and peri-urban areas

Introduction:

Peri-urban development is one of the fastest growing land uses in the EU. The objectives of multi-functional land use and social cohesion need to be fitted to the objectives of climate adaptation **and** mitigation.

In this short paper, PURPLE members have highlighted a number of ways in which peri-urban regions are likely to be particularly vulnerable to climate change. We have also developed an adaptation strategy agenda specific to peri-urban regions, as well as exploring linkages between adaptation and mitigation. We conclude that the nature of the climate change challenge in peri-urban areas requires more effective policy integration which takes account of economic, political, social and cultural issues.

Peri-urban areas accommodate a rich mix of economic activity and functions – food production, service and logistical industries, residential development, landscape for recreation. These functions are all important for ensuring future economic success and quality of life, but their juxtaposition poses a particular challenge for planners and policy makers in the development of appropriate climate adaptations.

Many of the pressures (social, economic, political and cultural) and responses for peri-urban areas identified in this paper are in conflict or trade-off.

We also pose some specific questions for policy makers.

We recognise this is a huge and complex topic. PURPLE therefore proposes to develop an on-line resource using our website www.purple-eu.org where we can present the arguments in more detail, share experience, showcase current initiatives and innovative project work, and develop new strategies and solutions.

1. Climate impacts in peri-urban areas include:

- **Urban pressure:** encroachment and expansion of urban populations is a feature of peri-urban areas and results in more soil sealing, growing demand for resources (e.g. water), expansion of transport, waste and other infrastructure. These already have negative impacts on quality of life, health and the natural environment.
- **Lack of space:** peri-urban areas are crowded in terms of settlements, industry, economic activity and infrastructure. Climate Change impacts will increase the pressure on available space with the need to accommodate necessary adaptation and mitigation measures (such as water retention, sustainable energy and increasing green surfaces).
- **Agriculture and food production:** climate change will impact on food production and food security and supply. Peri-urban regions, close to large populations will have a particularly important role to play in the future in feeding Europe's growing urban populations.
- **Droughts and extreme heat periods:** the urban heat island effect will overlap physically into peri-urban areas, impacting upon the ecology of soils, freshwater, vegetation and habitats. The effects

of the urban heat island are predicted to drive housing, employment and leisure use out of cities into peri-urban areas.

- **Flooding and extreme weather events:** flood plains and water retention areas for cities are traditionally sited in peri-urban areas. High land values and pressure for development cause such areas to be built on and artificially surfaced, thus increasing the vulnerability to floods and storms.
- **Sea level rise & salt water incursion:** impacts upon coastal or estuarial areas, which are often peri-urban and in close proximity to high quality farmland, industrial plants, or urban infrastructure.
- **Soil erosion and landscape structure degradation:** experience from some Mediterranean areas shows that urban pressures can speed the abandonment of traditional farming means, and the collapse of historic drainage and irrigation systems. The result is that many landscapes, sometimes directly adjacent to urban areas, can collapse into dust in just a few years.
- **Invasive species and habitat decline or fragmentation:** this is linked to all of the above: it is particularly pertinent in peri-urban areas that are often cut through by roads and under pressure from housing, industry and infrastructure.

2. An adaptation agenda for peri-urban areas

Adaptation measures should become part of regional policy, incorporating the specifics of the cities and the surrounding peri-urban areas within one whole integrated strategy covering inter-connected areas across the whole city region. This is both a policy and governance issue. The principle of *integrated catchment management* which crosses policy and economic boundaries has now been accepted in the EU Water Framework Directive. To respond fully to the climate adaptation agenda, we need to extend this to an *'integrated climate management'* approach – including topics such as green infrastructure, soils, habitats, landscape management, localised agricultural practice, local energy and waste management, and so on. Specifically, in peri-urban areas we need to look at:

- **Redesign of the built environment** towards a more responsive, low impact pattern of buildings and spaces. This applies at various levels from individual house to city-region.
- **Protection of critical infrastructure against flood and other extreme events:** many major infrastructure functions – transport, water, energy, waste, minerals, forestry and heavy industry – are sited in peri-urban areas. Protection strategies will need an ecological approach as much as heavy engineering.
- **Avoidance of high flood risk areas:** taking a focused approach to flood risk management, and following an 'ecosystems services' approach. This demands an integrated form of cross-boundary governance and fiscal structure, which in peri-urban areas often needs to be strengthened.
- **Green infrastructure**: open space design, multi-functional land use, and ecological connectivity in the urban and peri-urban environment. This includes 'breeze pathways', non-motorized transport routes and freshwater resilience planning.
- **Sustaining peri-urban agriculture and food production:** it will be necessary to test and develop new crops and production methods, to promote the sustainable



management of resources, including soils, shorter supply chains and cradle to cradle systems.

3. Linking adaptation and emissions mitigation in the peri-urban environment:

- **New forms of renewable energy and distribution**: while much can be sited in remote rural areas, this often creates conflicts with landscape and nature conservation. Energy plants can be community owned or controlled as part of a decentralised energy system, and there will be demand for peri-urban locations as a result. There are also **other forms of "clean" energy** that need less space, like *solar energy* - there is still huge potential roof surface that could be used; *biomass energy* - bio-fuel of the 2nd generation uses the 'waste' parts of biomass production to generate energy; *wind-energy* - smart combinations of land use on 'brown' land can reduce the demand for additional space.
- As oil prices rise, and carbon policies strengthen, there will be increased policy pressures for **higher urban densities and clustered settlements**. Populations in peri-urban areas, closer to urban services and employment, are projected to continue to grow, bringing increased pressures to find the most sustainable settlement and transport patterns to accommodate this.
- At the same time, there is public demand and a desire on the part of policy-makers to create **attractive and high quality urban communities,** to avoid outward migration: much of this effort will focus on the peri-urban areas, where large populations already live by choice.
- **Carbon neutral transport and mobility**: there is a need for infrastructure and strategies which enable more sustainable mobility patterns in peri-urban areas for commuters and businesses etc.
- Protection of **carbon sinks and storage capacity**. While the majority of this can be quite remote, there will be a demand for peri-urban landscapes to contribute to carbon conservation.

4. The capacity of peri-urban areas to adapt to climate change: a positive message

Peri-urban areas contain both urban and rural characteristics and are thus vulnerable to climate change impacts o both types. Is this all bad? Not necessarily, because these same areas are ideal locations for innovation and experiment in terms of adaptation and mitigation. They are:

- Dynamic (many are economically very successful)
- The locations for valuable resources which can be recognised and can be 'priced' due to the vicinity of dense populations
- Well-resourced (people, skills, infrastructure, knowledge centres), and so well-placed for development of new strategies and new markets
- Well-placed to work with cities in practical mitigation and adaptation strategies (eg short food chains, recycling, renewable energy, initiating 'circles' of economic activity)

Well-placed and well-resourced to find climate 'wins' – opportunities for new entrepreneurs, maximising potential of local food supplies and locally produced goods and services, technical innovation, smarter use of resources (eg water retention areas for recreation).

5. Some questions for policy makers

- Do we need an integrated energy/mitigation/adaptation strategy for each peri-urban area?
- Where should this be managed - at local, city, city-region, or regional level?
- Does this need financial investment from the public sector? Or can it be delivered solely by the private sector (water, energy, waste, transport, housing, landowners, etc)?
- Do we need territorial carbon markets to help bridge the gap between investment and return?
- Can we use the model of the Water Framework Directive, which aims for policy integration?
- Can this be done mainly through land use planning?
- How best can we retrofit areas which are already in some kind of 'urban sprawl'?
- Should EU Cohesion Funds be conditional on climate change policy criteria?

6. Next steps

The PURPLE network wishes to promote debate and facilitate the exchange of best practice on this topic.

We would like to hear from other regions, networks and organisations working on climate change strategies in a peri-urban context.

We have made a start by uploading relevant examples, projects, initiatives, and policy and research documents on to our website at:

http://www.purple-eu.org/publications

This paper has been produced by the PURPLE network which is working to raise awareness of peri-urban regions in the EU and the issues they are facing.

PURPLE **Member Regions**: Catalonia, Dublin, Flanders, Frankfurt Rhein-Main, Ile-de-France, Mazovia, MHAL (Maastricht/Heerlen, Hasselt, Aachen, and Liège), Nord-Pas-de-Calais, Randstad, Rhône-Alpes, South-East England, Stockholm, West Midlands and ZealandDenmark.

The PURPLE network would like to thank the following: Joe Ravetz, Carl Paauwe, and Patrick Aelmans.

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Further PURPLE Topic Papers will be available shortly.

Appendix IV

DUBLIN REGION - CLIMATE CHANGE

Introduction

With respect to climate change in Ireland, the Dublin Region is first and foremost guided by the National Climate Change Strategy (NCCS) 2007-2013. The targets set out within this Strategy should be considered in the context of the EU's current climate change policy which was adopted in December 2008 and seeks:

- A 20% cut in emissions of greenhouse gases by 2020, compared with 1990 levels (possibly rising to 30%)
- A 20% increase in the share of renewables in the energy mix, and
- A reduction in energy consumption of 20% through an increase in energy efficiencies.

Market demands which are directing policy towards developing renewable energy potential, both from a sustainable socio-economic perspective and an environmental protection perspective, have resulted in a current 40% national target for renewable generation by 2020 in Ireland (up from 33% in the NCCS, 2007). Notwithstanding this, Ireland's National Climate Change Strategy (NCCS) 2007-2012 sets out its policy direction, and relative sectoral reduction rates envisaged, through projects such as Transport 21 (national transport infrastructure policy), biofuels obligation, greener homes initiatives, increasing carbon sequestration, diversion of biodegradable waste, renewable energy generation, and so forth. Upon adoption later this year, the NCCS's "National Adaptation Strategy" will provide the framework for the integration of adaptation issues into decision-making at the national and local levels of government.

Climate change in peri-urban regions

Building a local and regional strategy to address the challenges of climate change is a key requisite to ensuring buy-in at the individual level. Climate change adaptation is a moving target and has many uncertainties about impacts, the challenge, therefore, for peri-urban regions is to ensure cognisance of the varied impacts of climate change on the sustainable development and growth of the regions and to develop a co-ordinated response and approach to addressing these impacts at the level of the peri-urban region.

For example, local climate change scenarios and effects for specific geographical areas and sectors and associated adaptive measures to deal with both positive and negative effects will need to be developed over time and in line with best evidence. The existing and/or potential effects (both direct and indirect) are numerous and **will vary across regions.** These potential effects can appear contradictory and may include issues such as: increased flooding; drinking water shortages; an increase in invasive species; failed harvests; increased agricultural yields; weather related impact on mortality rates; in the longer term a greater need for air conditioning and higher insurance premiums, among others.

In the Dublin context, climate change mitigation and adaptation is an issue of central importance. The greatest concentration of population is based within the greater Dublin Region which is the economic driver of national economic prosperity[1].

[1] The GDA contributes just under half of GVA output nationally and represents approximately 40% of the national population

National estimates therefore provide proxies heavily weighted towards the greater Dublin area's economic and social activity.

Climate Change and the Dublin Region

This is not to undermine the importance of acting locally and the role of community initiatives - "**thinking globally and acting locally.**"

Energy Action Plans at local level can play a significant role, for example, in bringing about a body of evidence and the data required to accurately measure per capita contribution to Green House Gas emissions at local and regional level. The Dublin Region currently has one such action plan developed for the Dublin City area and it is expected similar plans will follow for other municipalities within the Region. While action plans provide targets for carbon reduction and more sustainable living, **Energy Master Plans** will supply a logical next step in **spatial mapping** of regional energy consumption, heat loss and so forth. This will visually identify opportunities for energy savings.

In terms of peri-urban influence - carbon reduction, energy savings and more sustainable living is often reflected in terms of supply of fresh local produce and shorter travel distances to supply food to urban markets. These are noteworthy impacts, however, peri-urban areas (and policies) have a role to play not only in terms of the city-edge but also in terms of growing arms into the city physically and metaphysically both in terms of connecting with green and blue corridors and then also through inspiring garden allotments and self sustenance amongst urban dwellers.

Next Step Actions:

The Dublin Region suggests the following actions (these suggestions are based on the climate change paper of the PURPLE Network):

1. Undertaking a spatial mapping exercise for the peri-urban regions of PURPLE utilising existing spatial data, such as, Corine data. This will prove valuable to the regions in terms of highlighting peri-urban areas as carbon sinks, as areas of importance in terms of water retention and flood absorption, as providers of local food supply, and so forth.

2. As local, regional and central governments continue to shift policy towards carbon budgets, the PURPLE network should pursue a policy of promoting locally managed carbon budgets. This will highlight the value of peri-urban areas in terms of opportunity for renewable energy and related entrepreneurial activity. It will furthermore give value to peri-urban areas in terms of linking carbon values to monetary units within localised carbon budgets.

3. PURPLES's peri-urban areas should be marketed and branded as areas of climate change resilience in two ways -

    a. Their adaptability in terms of extreme weather, e.g. absorption of flooding events, heat sinks, etc.
    b. As areas of sustainable urban practice with a capacity to contribute to sustainable socio-economic and environmental growth.

4. The PURPLE network should develop and tailor, through existing available research within respective member regions, a series of policy recommendations to outline a pathway to creating less carbon intensive peri-urban regions. This might include more sustainable farming practices, energy and water conservation, building codes, utilisation of renewable resources and technologies, etc. These policies should be customised but unified - customised to the needs of each region but unified in terms of overall policy direction.

Submission Number	Name
DraftSEAP0005	Councillor William Lavelle

I wish to make some observation in relation to the proposed Draft South Dublin SEAP. I welcome the publication of this comprehensive and ambitious plan and I wish to commend the Council and all involved in its preparation. I particularly welcome the multi-facetted and cross-sectoral nature of the actions proposed.

I wish to make specific recommendations in relation to three areas:

Action RED6: *Continuing energy upgrade of public lighting and develop pilot projects in this area*

I note the stark statement that public lighting accounts for over half of SDCC energy usage with up to 35,000 public lighting columns. I further note; and am greatly impressed, with the report on the Springfield Avenue pilot project which resulted in a final reduction in energy usage of 55%. I would strongly recommend that the Council prioritise implementation of a county-wide programme of public lighting replacement.

Action REP3*: Feasibility Projects to assess large scale renewable and low carbon technologies/strategies*

I note this action includes ***"****desk top studies on the use of hydro based energy production on the River Dodder and River Liffey".* I would recommend that the Council continue to work closely with the Lucan Village Network in exploring the potential of establishing a hydro-based demonstration project at the Liffey weir/mill race in Lucan Village, linked to an upgrade of public lighting in the village, to be powered by hydro-electricity. The potential of partnering with a commercial sustainable energy provider should also be examined.

Need for greater modal-shift from private car to public transport

I feel the SEAP could be further strengthened by inclusion of a more explicit action to seek to increase public transport carrying-capacity in our County.

The 2012 CSO report *"Profile 10 Door to Door* – Commuting *in Ireland",* which is based on the findings of Census 2011, highlighted that:

- 66% of work trips in South Dublin County are by car, compared to a Greater Dublin average of 61%;
- Only 24% of residents travel to work in the City Centre with most working elsewhere in our County or along the M50 (however, anecdotally, over 95% of public transport trips from our County are radial trips, to and from the city centre); and
- The rate of car-usage to deliver and collect children to and from primary school has increased in recent years from 43% to 48%.

In this context I would recommend that the Council would become an active champion, engaging with the National Transport Authority, to pursue an evidence-based approach to seek an increase in the carrying-capacity of public transport services (in particular on key bus route) and through the introduction of new orbital bus routes, so as to seek to support a greater modal shift from private car to public transport.

APPENDIX D

Original Newspaper Advert in the Irish Times

Comhairle Contae
Átha Cliath Theas
South Dublin County Council

SOUTH DUBLIN COUNTY COUNCIL PUBLIC CONSULTATION FOR DRAFT SOUTH DUBLIN SUSTAINABLE ENERGY ACTION PLAN (SEAP)

Notice is hereby given, that South Dublin County Council, being the Planning Authority for the County, has prepared a **Draft South Dublin Sustainable Energy Action Plan**. The Draft South Dublin Sustainable Energy Action Plan sets out how South Dublin County can address EU and national energy reduction targets to 2020, through a range of actions across all sectors.

Information

Public Consultation for the Draft South Dublin SEAP will take place from **Thursday 21st February to Thursday 4th April 2013, inclusive**. The Draft South Dublin SEAP and SEA and Appropriate Assessment Screening Reports can be viewed at www.southdublinenergy.ie and can also be viewed at **County Hall, Tallaght, and at the Civic Offices, Clondalkin** during normal opening hours (excluding public holidays).

Any queries on the Draft South Dublin SEAP should be made by telephoning 01-4149000 or emailing energyteam@sdublincoco.ie.

Submissions

Submissions and observations on the proposed Draft South Dublin SEAP can be made in writing only to the addresses below from **21st February 2013 to 4th April 2013**.

Only submissions received by **Thursday 4th April 2013** and addressed as set out below will be considered. Submissions and observations should state **name, address**, and where relevant, the **body represented**. All comments, submitted to the Council in regard to this plan, including the names of those making comments, may form part of a report which may be presented to the Members and may appear on the Council's website. Submissions cannot be accepted in any other format or to any other e-mail or postal address. Submissions and observations will be taken into consideration in deciding upon the South Dublin Sustainable Energy Action Plan.

By e-mail: devplan@sdublincoco.ie or

By Post: Administrative Officer, Development, Economic & Transport Planning Department, South Dublin County Council, County Hall, Tallaght, Dublin 24.

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