

## Limerick Clare Climate Change Strategy

Limerick Institute of Technology,

7<sup>th</sup> September 2007

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## National Plans - 2007



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## National Plans - 2007

- Single Electricity Market in 2007.
- Biomass firing at Moneypoint generating station by 2010.
- 30% co-firing of 3 state owned peat plants by 2015, Edenderry immediately.
- 15% of electricity from renewables by 2010.
- 33% of electricity from renewables by 2020.
- 400 MW from Combined Heat & Power (CHP) by 2010 Particular emphasis on Biomass.
- 800 MW from Combined Heat & Power (CHP) by 2020.
- 500 MW of installed ocean energy by 2020.

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## National Plans - 2007

- 5% renewables for heat market by 2010.
- 12% renewables for heat market by 2020.
- 100% Pure Plant Oil (PPO) used in Local Authority & Public Bodies vehicle fleets.
- 20% energy savings on electricity & heat by 2020.
- 30% energy savings on electricity & heat by 2020, indicated if international agreement reached on Post – Kyoto measures.
- 33% electricity & heat savings from Public Sector.
- Promotion of IS 393 Energy Management Standard for SME's.
- Review National Building Regulations (next review 2008).
- Introduction of Building Energy Rating labels, 2007.
- Introduce "Smart Meters for all electricity consumers over next 5 years.

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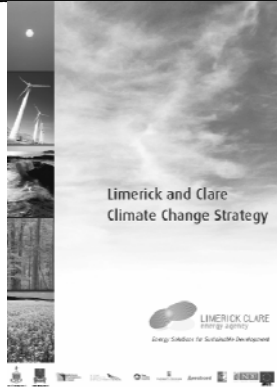
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## Climate Change Strategy

- Emissions analysis by fuel
- Emissions analysis by sector
- Emissions – Kyoto Commitment
- Summary emissions reduction
- Emissions Reductions by Sector
- Sustainable Energy Technologies
- Energy Crops and Forestry
- Carbon Abatement Costs
- Individual Responsibility



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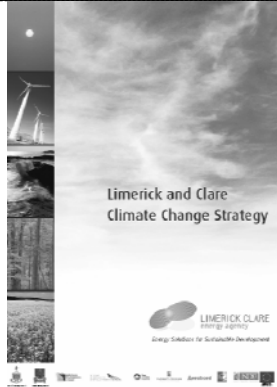
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## Sectoral Approach

- Energy Production & Supply
- Transport
- Built Environment
- Industry & Commerce
- Agriculture
- Waste



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# Working Document

## Why have a Climate Change Strategy for Limerick & Clare ?

- National policy cannot be delivered without local action
- National policy does not always reflect local needs & resources
- Local initiative & responsibility will lead to local growth & development
- Local economic development can be retained locally



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# CO<sub>2</sub> Reductions - Summary

'000 Tonnes CO <sub>2</sub>	Clare		Limerick		Limerick City	
	2010	2015	2010	2015	2010	2015
Energy Production & Supply	208.4	306.9	255.3	353.7	45.0	54.0
Transport	50.7	66.5	58.2	76.9	24.0	28.8
Built Environment	38.4	51.9	35.5	45.5	15.0	18.0
Industry/Commercial Services	47.0	49.2	55.4	58.0	22.5	27.0
Agriculture	12.0	22.2	16.1	29.4	7.5	9.0
Waste	5.4	5.4	19.3	19.3	4.5	5.4
<b>Total</b>	<b>361.8</b>	<b>502.1</b>	<b>439.7</b>	<b>582.8</b>	<b>118.5</b>	<b>142.2</b>
<b>Target</b>	<b>489.0</b>	<b>595.0</b>	<b>562.0</b>	<b>688.0</b>	<b>150.0</b>	<b>194.0</b>
<b>Gap to Target</b>	<b>127.2</b>	<b>92.9</b>	<b>122.3</b>	<b>105.2</b>	<b>31.5</b>	<b>51.8</b>

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# Clare - CO<sub>2</sub> Reductions - Summary

Ref	Sector	CO <sub>2</sub> Reduction (000 Tonnes)		Investment Cost (€ m)		Indicative Abatement Cost (€/Tonne)	
		2010	2015	2010	2015	2010	2015
5.3	Energy Prod & Supply	208.4	306.9	130.8	197.4	627	643
5.4	Transport	50.6	66.6	7.0	12.0	138	180
5.5	Built Environment	38.4	51.9	25.4	41.8	662	806
5.6	Ind. and Comm. Services	47.0	49.2	7.0	7.0	148	142
5.7	Agriculture	12.0	22.2	6.6	6.6	549	304
5.8	Waste	5.4	5.4	1.0	0.1	186	-
	<b>Total</b>	<b>361.8</b>	<b>502.1</b>	<b>177.7</b>	<b>265.</b>	<b>491</b>	<b>527</b>
	<b>Target</b>	<b>489</b>	<b>595</b>				
	<b>Gap to Target</b>	<b>127.2</b>	<b>92.9</b>				

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## Limerick CO<sub>2</sub> Reductions - Summary

Ref	Sector	CO <sub>2</sub> Reduction (000 Tonnes)		Investment Cost (€m)		Indicative Abatement Cost (€/Tonne)	
		2010	2015	2010	2015	2010	2015
6.3	Energy Prod & Supply	255.3	353.7	154.4	257.3	605	728
6.4	Transport	58.2	76.9	7.0	12.0	120	156
6.5	Built Environment	35.5	45.5	21.0	34.6	592	761
6.6	Ind and Comm Services	55.4	58.0	7.0	7.0	126	121
6.7	Agriculture	16.1	29.4	6.6	6.8	411	230
6.8	Waste	19.3	19.3	4.0	0.1	207	-
	<b>Total</b>	<b>439.7</b>	<b>582.8</b>	<b>200.0</b>	<b>317.8</b>	<b>455</b>	<b>545</b>
	Target	562	688				
	Gap to Target	122.3	105.2				

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## Cost of Doing Nothing



Flooding

Sever storms

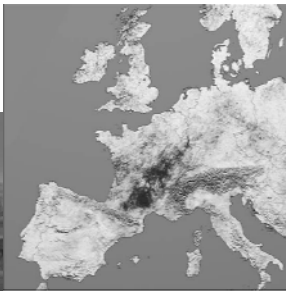
Heat waves

Increased Rain fall

Reduced bio diversity

UK Storm & Flood insurance claims 2007  
> £ 1. billion,

2003 Heat wave in France = 3,000 lives



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Source: NASA / meteorological

## CO<sub>2</sub> – Cost of Doing Nothing

### EPA report (29/8/07)

'Key Meteorological Indicators of Climate Change in Ireland', (ICARUS, NUI Maynooth).

Minister Gormley said

"The report is further confirmation that the impacts of climate change are already happening in Ireland and are accelerating.

This report confirms that annual rainfall has increased in the north and west. Not only is it raining more frequently, but the volume and intensity of rainfall is increasing.

The report shows us the absolute need for the people of Ireland to play their part in reducing greenhouse gas emissions and tackling climate change",

LCEA management committee is meeting the minister to discuss the Limerick Clare Climate Change Strategy, on Monday.

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## CO<sub>2</sub> – Cost of Doing Nothing

**STERN REVIEW:** The Economics of Climate Change

### Summary of Conclusions

The scientific evidence is now overwhelming: climate change is a serious global threat, and it demands an urgent global response.

Using the results from formal economic models, the Review estimates that if we don't act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more.

Clare GDP (cso) €2.74 billion 5% = €137.3 million; 20% €549 million

Limerick GDP (cso) €3.25 billion 5% = €162.7 million; 20% €651 million

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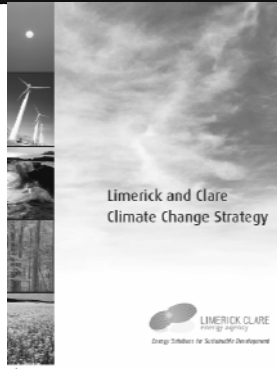
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## Energy Production & Supply

- Electricity – commercial
- Electricity – micro generation
- Co-firing of ESB plants
- Combined Heat & Power
- District Heating
- Forestry – wood chip
- Wood / Miscanthus fuel pellets
- Renewable technologies.
- Installer training & certification



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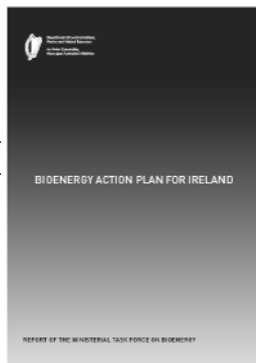
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## Energy Crops & Forestry

### Bio Energy – Action Plan 2007

- Biomass firing at Moneypoint generating station by 2010.
- 15% of electricity from renewables by 2010.
- 33% of electricity from renewables by 2020.
- 400 MW from Combined Heat & Power (CHP) by 2010 - emphasis on Biomass.
- 5% renewables for heat market by 2010.
- 12% renewables for heat market by 2020.
- 100% Pure Plant Oil (PPO) used in Local Authority & Public Bodies vehicle fleets.



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## Energy Crops & Forestry

Clare has 43,700 ha of land under forestry (14%)  
 Limerick – 24,200 ha (8%)

County Clare Wood Energy Project estimates 8,000 tonnes+ of wood is available per annum for energy. More Detail this afternoon at the workshop.

First Commercial wood chip projects are already in place



Miscanthus is proposed as a suitable energy crop on reasonable set aside land



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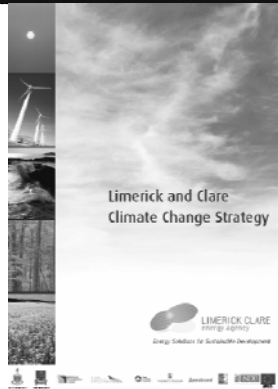
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## Transport

- Most Difficult sector to effect change
- Bio fuels initiatives
- County Councils in moves to use pure plant oil
- Clare Accessible Transport using pure plant oil
- Regional transport policy is needed
  - Rail
  - Inter-city bus
  - Community bus.
  - Cycle lanes



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## Transport Energy & Emissions

Energy emissions from transport are the largest and fastest growing sector.

Transport emissions are exceedingly difficult to reduce

The areas targeted by LCEA are tabled below

Ref	Action	Quantified Indicative Reductions Proposed (kT-CO <sub>2</sub> )	
		2010	2015
	Car Efficiency	25.75	29.30
	Unnecessary Trips	14.86	14.86
	Car Pooling	2.29	2.29
	Hybrid Cars	0.78	1.57
	Cycling	4.70	4.70
	Bus	0.75	0.75
	Green Fuels	5.16	16.9
	<b>Total</b>	<b>54.29</b>	<b>70.34</b>

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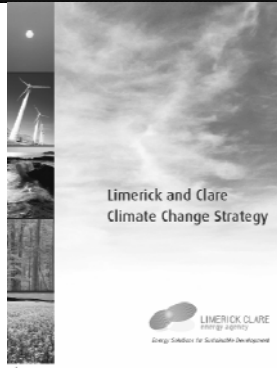
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## Agriculture & Forestry

- Energy Crop Establishment grants introduced
- Energy crop harvesting premiums established
- Farm – Food debate needed
- Energy Efficiency at farm level to be addressed
- Partnership for rural development between farming representatives, Teagasc, LEADER, Local Authority & LCEA



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## Summary

- The challenges outlined above offer excellent opportunities for a **LOW CARBON COMMUNITY & COMMERCE**.
- If we ignore our dependence on imported energy we will risk our economic & environmental sustainability
- Limerick & Clare have excellent natural resources in wind, wave, biomass, solar and people. These can be harnessed for the good of the Shannon Region.
- A comprehensive transport strategy linking the major towns to the local communities within the county and major towns outside the county.
- Energy efficiency and conservation must become a normal management function in all organisations

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**LIMERICK CLARE**  
energy agency



Energy Solutions for Sustainable Development

## Thank you.

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