

# Biomass in Tipperary in 2013



**Sub-title:** Tipperary County and North Tipperary County Council Biomass Heat Benefits & Status 2013

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## **1 Introduction**

This report is a brief summary of an analysis of Tipperary County's biomass heat installations as of 2013.

Particular focus is given to economic benefit and jobs created as a result of biomass heat in the county.

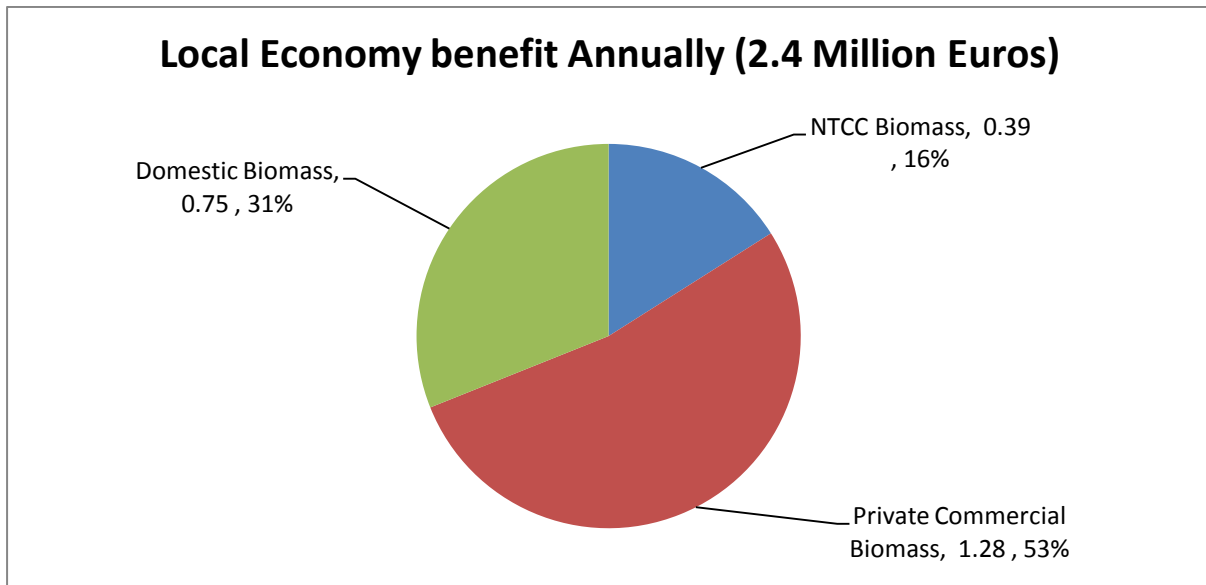
North Tipperary County Council's proactive implementation of biomass heat is shown as a clear early leader in the county as the single largest organisation in terms of numbers of installations and energy produced.

The report is presented in point form, where additional text or description is required, please contact TEA. Details of individual projects can be provided if required.

## 2 Tipperary's push towards biomass heat

### 2.1 Summary of installed systems in NTCC

- 1.1. Most of North Tipperary County Council's large heat loads have been switched off oil to biomass to save operational cost – by end of 2014 there should be no significant users on oil.
- 1.2. North Tipperary County Council has switched **380,000 litres** of oil to wood

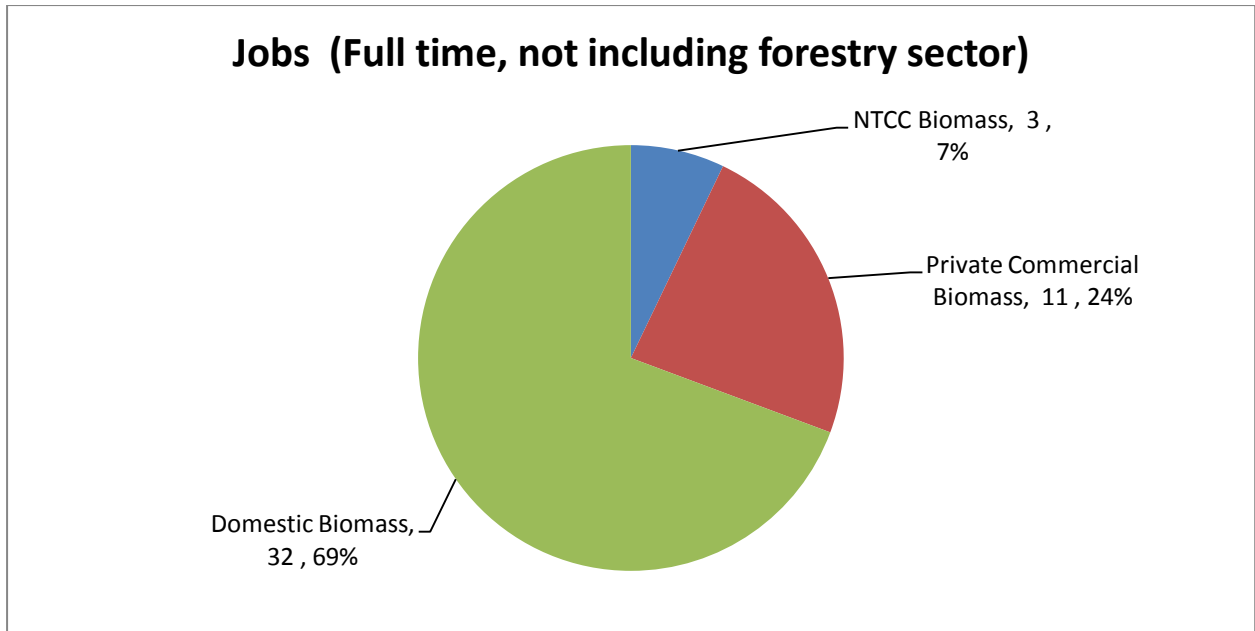


### 2.2 NTCC savings & benefits achieved

- 1.1. Annual savings are **€240,000**
- 1.2. Would be spending €390,000 on oil (money leaves area), now spending **€150,000** on local biomass, that's a benefit to the local economy of **€390,000 annually!**
- 1.3. CO2 emissions saved are 1000 Tonnes or 400 Cars taken off the road
- 1.4. Full time jobs supported by NTCC biomass are **3** (Not including forestry sector)

### 2.3 Whole Tipperary County savings

- 1.1. Annual savings are **€1.3M**
- 1.2. Would be spending €2.5M on oil, now spending **€1.1M** on local biomass, that's a benefit to the local economy of **€2.4M annually!**
- 1.3. CO2 emissions saved are 6000 Tonnes or 2,500 Cars taken off the road
- 1.4. Full time jobs supported by NTCC biomass are **46** (Not including forestry sector)



## 2.4 How did it succeed?

- 1.1. Contracts to supply heat not fuel!!!
- 1.2. Feasibility studies done independently
- 1.3. Careful Procurement
- 1.4. Independent expert support from TEA
- 1.5. Supports from EU funded projects that we have carried out such as SERVE, FOREST & Bio-En-Area

## 2.5 Supply chain

- 1.1. Training and capacity building over a long period
- 1.2. Local wood fuel producers
- 1.3. Quality fuel supply
- 1.4. Limerick & Tipperary woodland owners group

### 3 National Context

#### 3.1 National Targets – Progress

- 1.1. Renewable Energy Directive – obliges Ireland to meet the targets for renewable energy (€40m per annum)
- 1.2. National Progress towards targets
  - 1.2.1. RES-H is 4.8% (Target is 12%)
  - 1.2.2. RES-T is at 3.6% (Target is 10%)
  - 1.2.3. RES-E is at 18% (Target is 40%)

#### 3.2 Address Current National Energy Security Scenario

- 1.1. €6.5Bn spent annually on imported fossil fuels
- 1.2. 2020 target will go towards meeting €0.5Bn

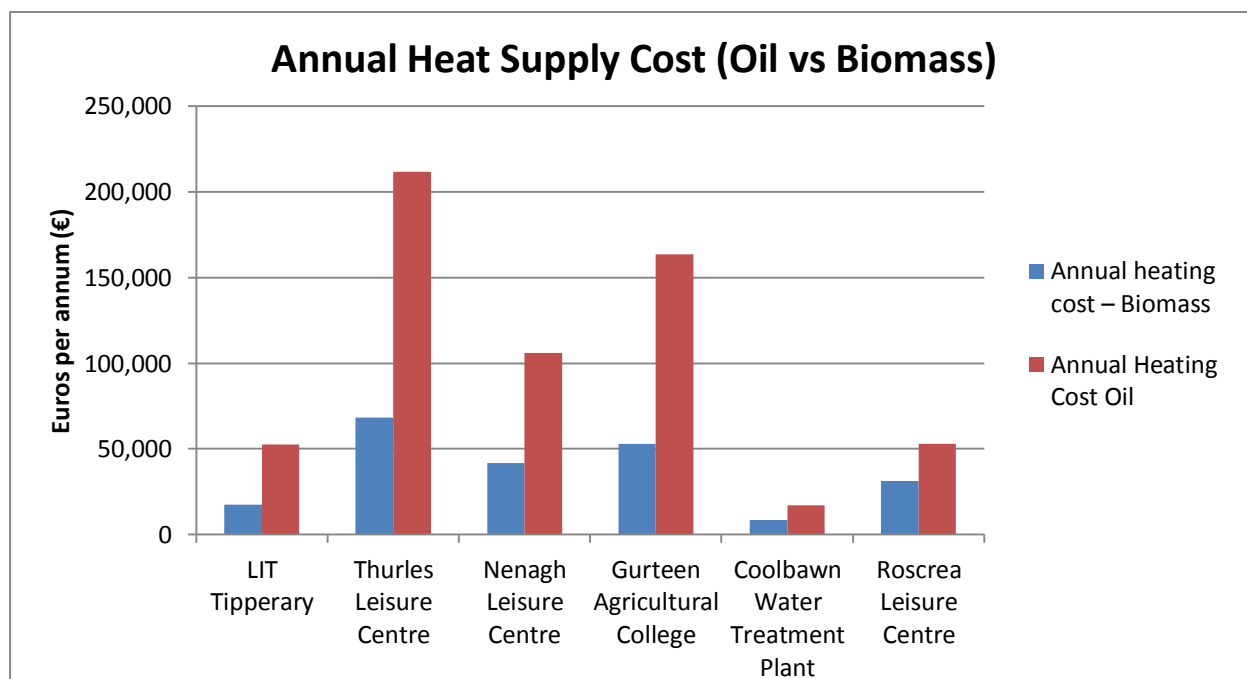
#### 3.3 Potential to create long-term jobs all around Ireland

- 1.1. If 2020 targets are met = 3600 FTE JOBS in Ireland & distributed around country (IRBEA)

#### 3.4 What needs to happen for the above to be achieved?

- 1.1. A joined up approach that tackles supply of fuel & installation of DH & Domestic situations
- 1.2. Investment in systems
  - 1.2.1. Access to finance (in the absence of supports)
  - 1.2.2. Support to DH pipeline
  - 1.2.3. Further awareness of the savings
  - 1.2.4. Additional support such as greater feed in tariffs
  - 1.2.5. Training for the sector
- 1.3. Planting of more biomass
  - 1.3.1. The planting of bio-energy crops is supported but the demand requires stimulation

## 4 North Tipperary Projects (TEA assisted)



	LIT Tipperary	Thurles Leisure Centre	Nenagh Leisure Centre	Gurteen Agricultural College	Coolbawn Water Treatment Plant	Roscrea Leisure Centre
Capital Cost	159,950	146,330	203,165	212,000	0 (ESCO)	n/a new build
Annual Load in kWh (post boilers)	447,000	1,800,000	900,000	1,391,000	143,480	449,000
Annual heating cost – Biomass	17,388	68,400	41,850	52,858	8,631	31,430
Annual Heating Cost Oil	52,588	211,765	105,882	163,647	16,880	52,824
Litres of Oil Equivalent	51,658	208,020	104,010	160,753	16,582	51,890
Tonnes of CO2 Saved	135	544	272	421	45	136
Cars off the Road per year	54	216	108	167	18	54
<b>Annual Heat Saving €</b>	<b>35,200</b>	<b>143,365</b>	<b>64,032</b>	<b>110,789</b>	<b>8,249</b>	<b>21,394</b>
<b>Percentage Saving (%)</b>	<b>67%</b>	<b>68%</b>	<b>60%</b>	<b>68%</b>	<b>49%</b>	<b>41%</b>
<b>Simple Payback (yrs)</b>	<b>4.54</b>	<b>1.02</b>	<b>3.17</b>	<b>1.91</b>	<b>0 (ESCO)</b>	<b>0 (New Built)</b>
Boiler Rating (kW)	300	500	400	600	85	500
Manufacturer	Schmid	Gilles	KOB	KWB	Gilles	Hertz
Fuel Type	Chip	Chip	Pellet	Chip	Pellet	Pellet
Year of install	2011	2011/2012	2011	2011	2012	2009

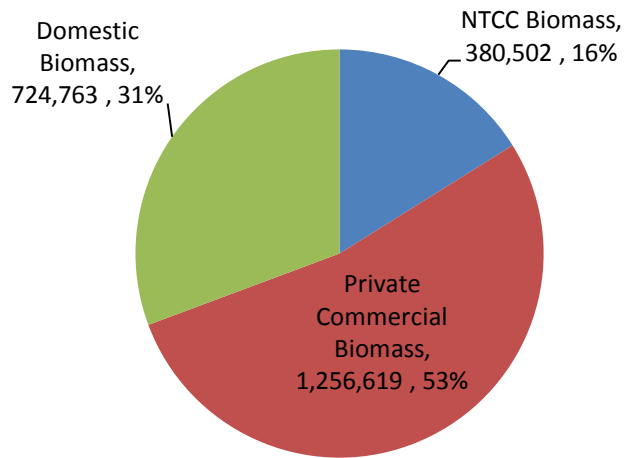
## 5 Annex

Tipperary Summary Biomass Savings (Oil vs wood fuel)				
	NTCC Biomass	Private Commercial Biomass	Domestic Biomass	Total
Litres of oil saved per annum	380,502	1,256,619	724,763	2,361,883
Money saved per annum (€)	237,040	821,149	258,621	1,316,809
Money spent locally on biomass heat (€)	150,311	458,089	492,197	1,100,597
Money that had been spent on oil heat (€)	387,351	1,279,238	824,542	2,491,130
Tonnes CO2 saved per annum	997	3,286	1,896	6,179
Cars off the road per annum	396	1,304	752	2,452
MW installed	1	7	12	21
GWH	4	13	7	24
Jobs (ACE) (Using 0.84 Jobs/GWh)	3	11	32	46
Local economy benefit from savings (€)	387,351	1,279,238	750,818	2,417,406

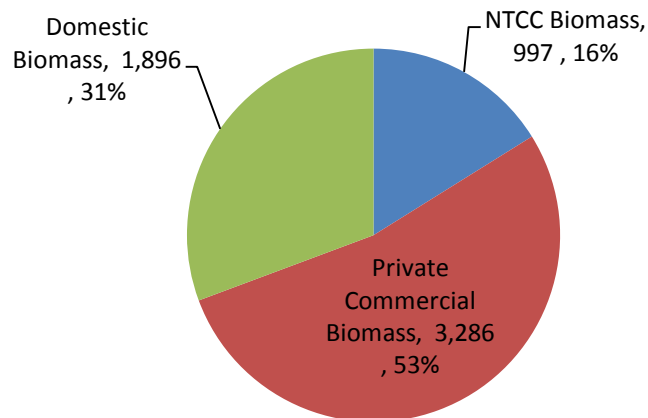
Land Use Estimates				
	NTCC Biomass	Private Commercial Biomass	Domestic Biomass	Total
Dry Tonnes/annum	1,210	3,998	2,306	7,514
Wet Tonnes/annum	2,421	7,995	4,611	15,027
m3 from forest/annum	2,480	8,192	4,725	15,397
hectares/annum of 50m3/Ha 1 <sup>st</sup> thinning	49.61	163.84	94.49	308
hectares to supply 1 <sup>st</sup> thinning based on a 30yr cycle	1,488	4,915	2,835	9,238
Percentage of total forestry planted in Tipp	3%	12%	7%	<b>22%</b>
hectares to supply based on 20m3 growth/annum	124.02	409.59	236.23	770
Percentage of total forestry planted in Tipp	0.29%	0.96%	0.55%	<b>1.80%</b>



### Litres of oil saved per annum



### Tonnes CO2 saved per annum



### Money saved per annum (€)

