

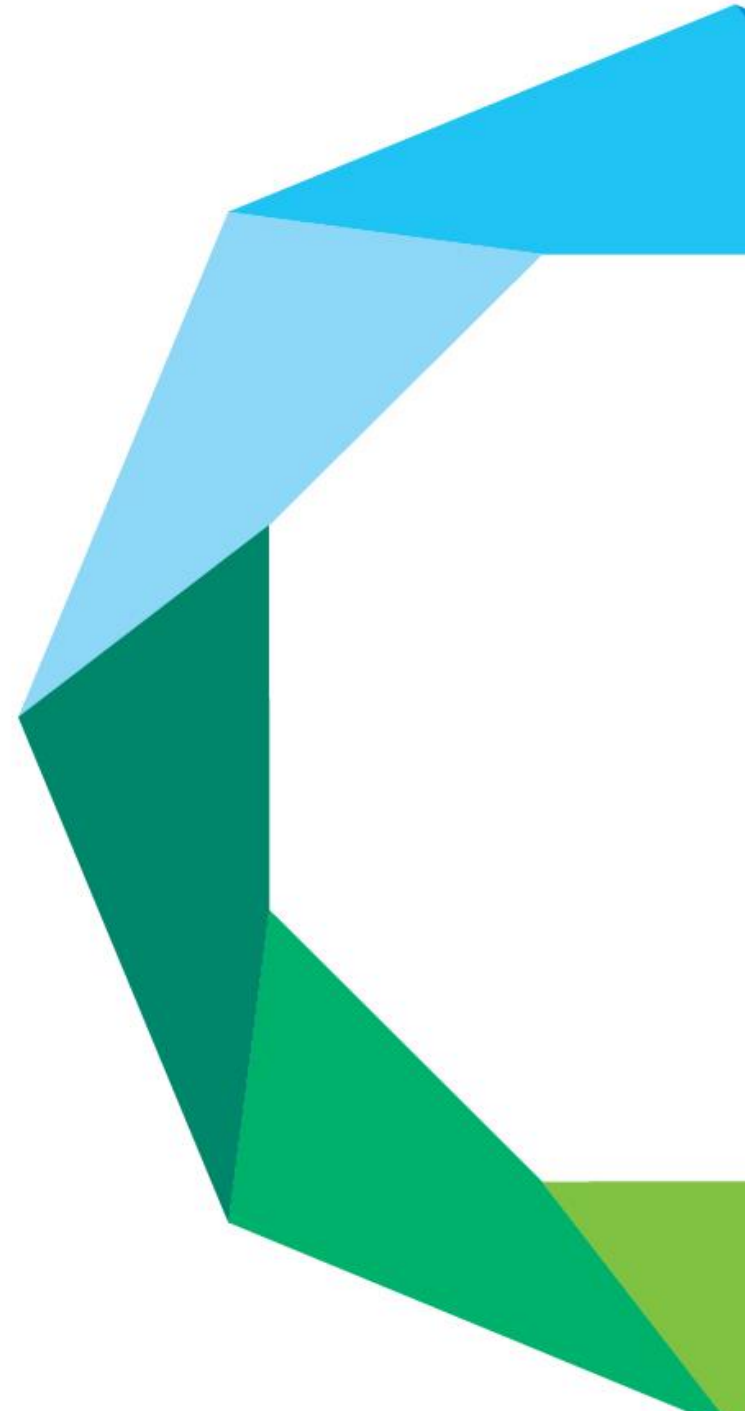


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Tom Sheehy

Impact of SSRH on Irish Heat Sector

Renewable Energy Solutions





- Introduction
- SSRH
- Heat in Ireland
- Biomass v Oil or Nat Gas
- Where's the opportunity
- Impact
- Conclusion



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- Est 2002
- 50MW Commercial Biomass Installations – Ireland & UK
- Turnkey Solution Provider
- Fuel processing, supply and distribution
- Nationwide Technical Services
- DCC Plc Group

SSRH

	Lower Limit	Upper Limit	Biomass Heat
Tier	[MWh/yr]	[MWh/yr]	Tariff [c/kWh]
1	0	300	5.66
2	300	1,000	3.02
3	1,000	10,000	0.5
4	10,000	50,000	0.37
5	50,000	n/a	0



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Heat in Ireland

- Up to 19th Century – Peat & Coal;
- 20th Century – Commercial Expansion – Imported Oil & Gas
- 1970's & 1980's reversion to solid fuel – Oil crisis
- Nat Gas – Kinsale, Corrib

Today's Heat Demand in Ireland

- Residential – 50%
- Industrial – 30%
- Commercial/Public – 20%

Source: Energy Institute

Versus Oil

Woodchip versus Oil		Heat User 1	Heat User 2	Heat User 3
Heat Demand	kWh/annum	700,000	1,000,000	2,000,000
Optimum Boiler Size	kW	200	300	600
Estimated Capital Cost	€	128,000	230,000	320,000
Fossil - Oil - SEAI	€/kWh	0.098	0.098	0.098
Woodchip Cost - SEAI	€/kWh	0.041	0.041	0.041
Operational Savings	€/annum	39,772	56,818	113,635
SSRH	€/annum	29,060	38,120	43,120
Payback	years	1.9	2.4	2.0

Wood Pellet versus Oil		Heat User 1	Heat User 2	Heat User 3
Heat Demand	kWh/annum	700,000	1,000,000	2,000,000
Optimum Boiler Size	kW	200	300	600
Estimated Capital Cost	€	122,000	205,000	280,000
Fossil - Oil - SEAI	€/kWh	0.098	0.098	0.098
Wood pellet - SEAI	€/kWh	0.058	0.058	0.058
Operational Savings	€/annum	28,057	40,082	80,164
SSRH	€/annum	29,060	38,120	43,120
Payback	years	2.1	2.6	2.3

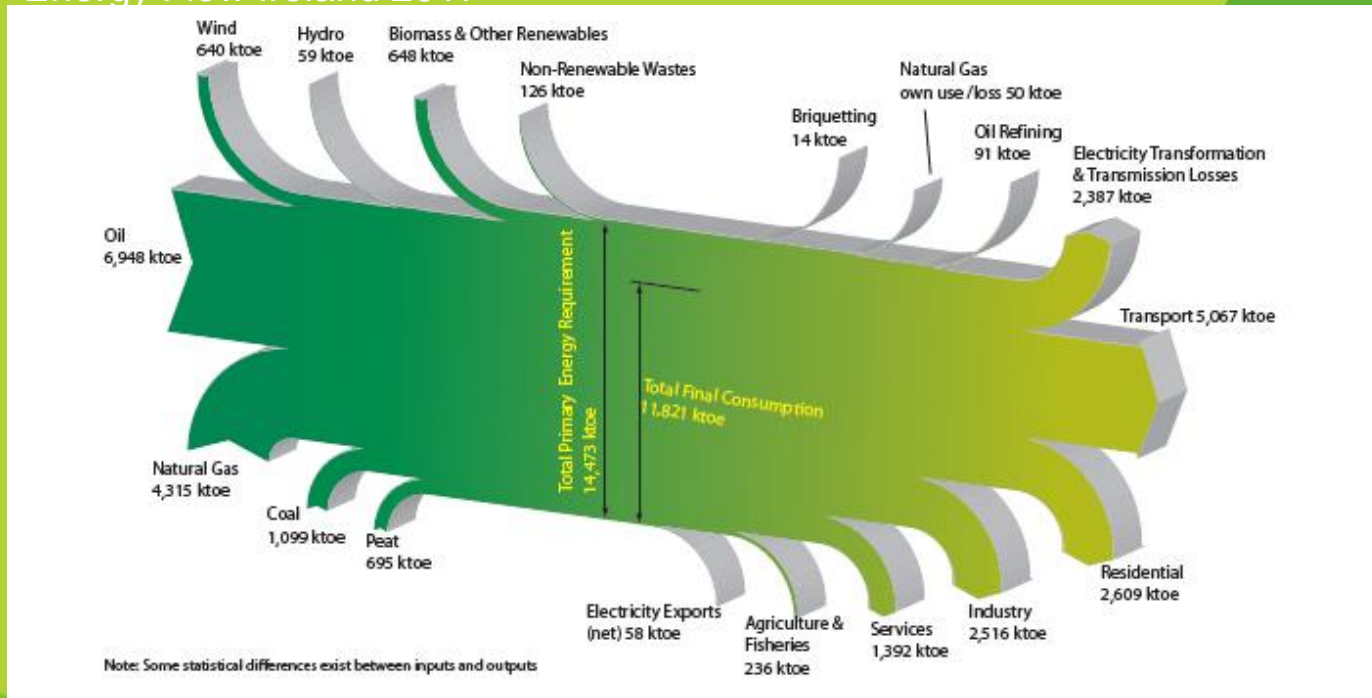
Versus Nat Gas

Woodchip versus Nat Gas		Heat User 1	Heat User 2	Heat User 3
Heat Demand	kWh/annum	700,000	1,000,000	2,000,000
Optimum Boiler Size	kW	200	300	600
Estimated Capital Cost	€	128,000	230,000	320,000
Fossil - Nat Gas - SEAI	€/kWh	0.045	0.045	0.045
Woodchip Cost - SEAI	€/kWh	0.041	0.041	0.041
Operational Savings	€/annum	2,549	3,641	7,282
SSRH	€/annum	29,060	38,120	43,120
Payback	years	4.0	5.5	6.3

Woodpellet versus Nat Gas		Heat User 1	Heat User 2	Heat User 3
Heat Demand	kWh/annum	700,000	1,000,000	2,000,000
Optimum Boiler Size	kW	200	300	600
Estimated Capital Cost	€	122,000	205,000	280,000
Fossil - Nat Gas - SEAI	€/kWh	0.050	0.050	0.050
Woodpellet Cost - SEAI	€/kWh	0.058	0.058	0.058
Operational Savings	€/annum	- 5,684	- 8,120	- 16,239
SSRH	€/annum	29,060	38,120	43,120
Payback	years	5.2	6.8	10.4

Energy in Ireland 2018 Report SEAI

Energy Flow Ireland 2017



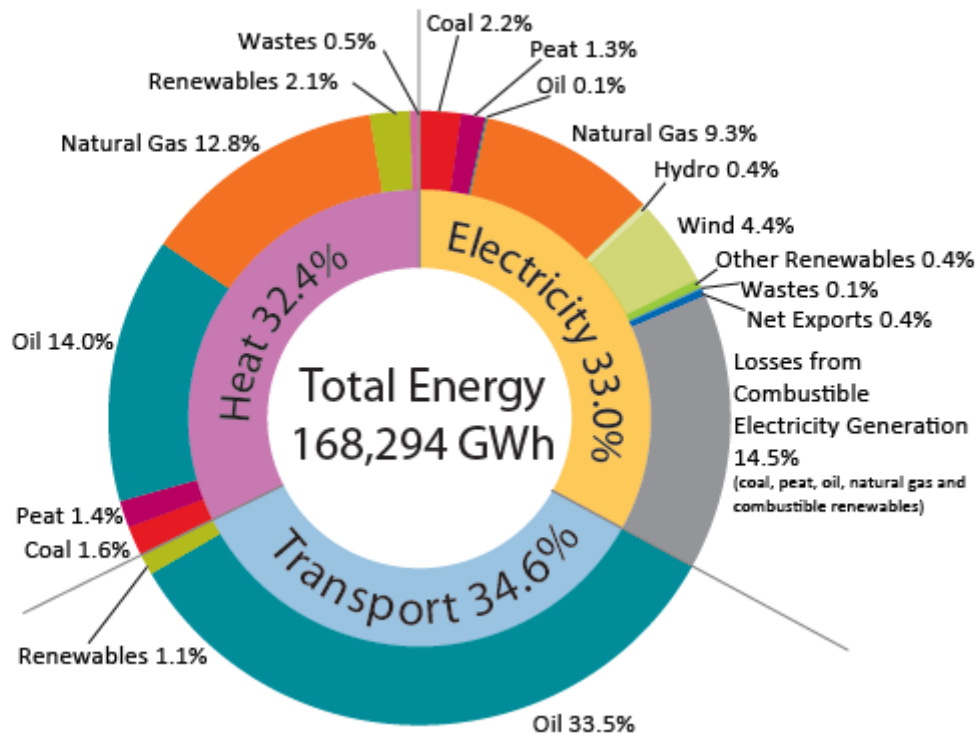
TPE Oil = 6,948 ktoe



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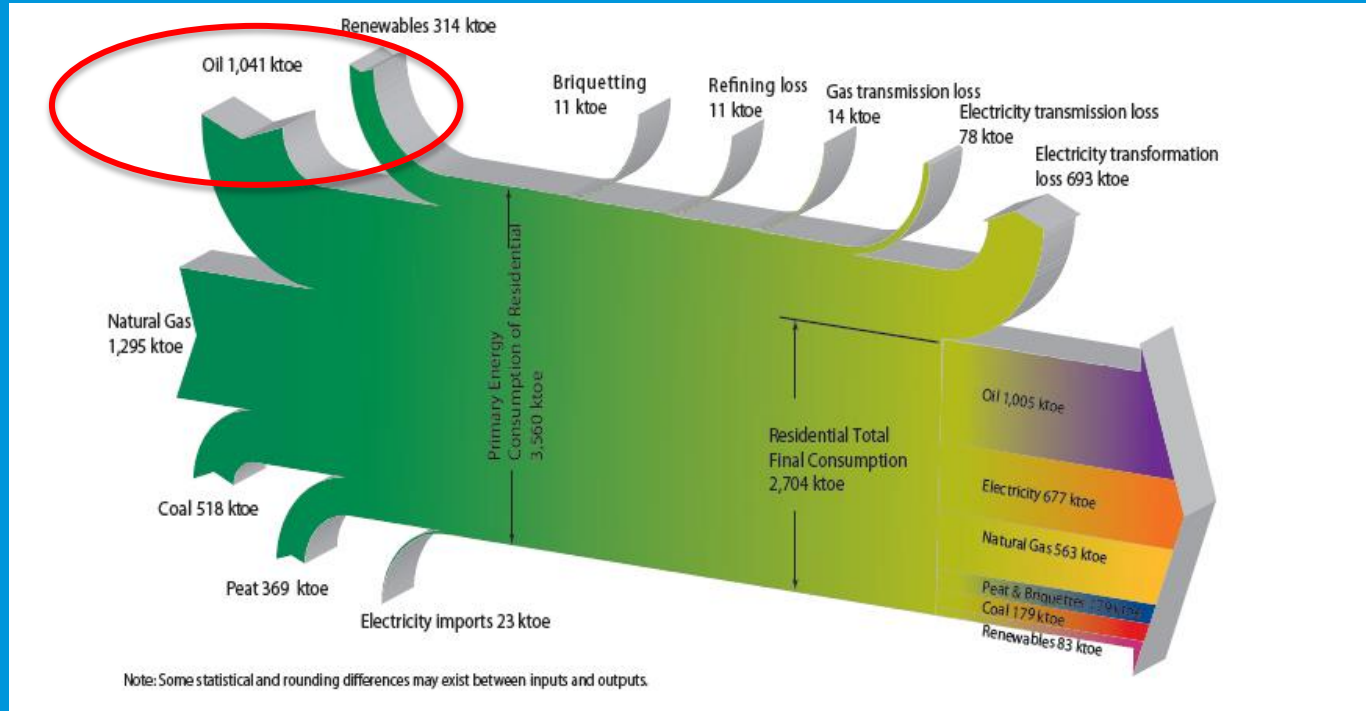
Energy in Ireland 2018 Report SEAI

Figure 6: Primary energy by mode and fuel



PE Oil (Heat)
~ 2,000 ktoe

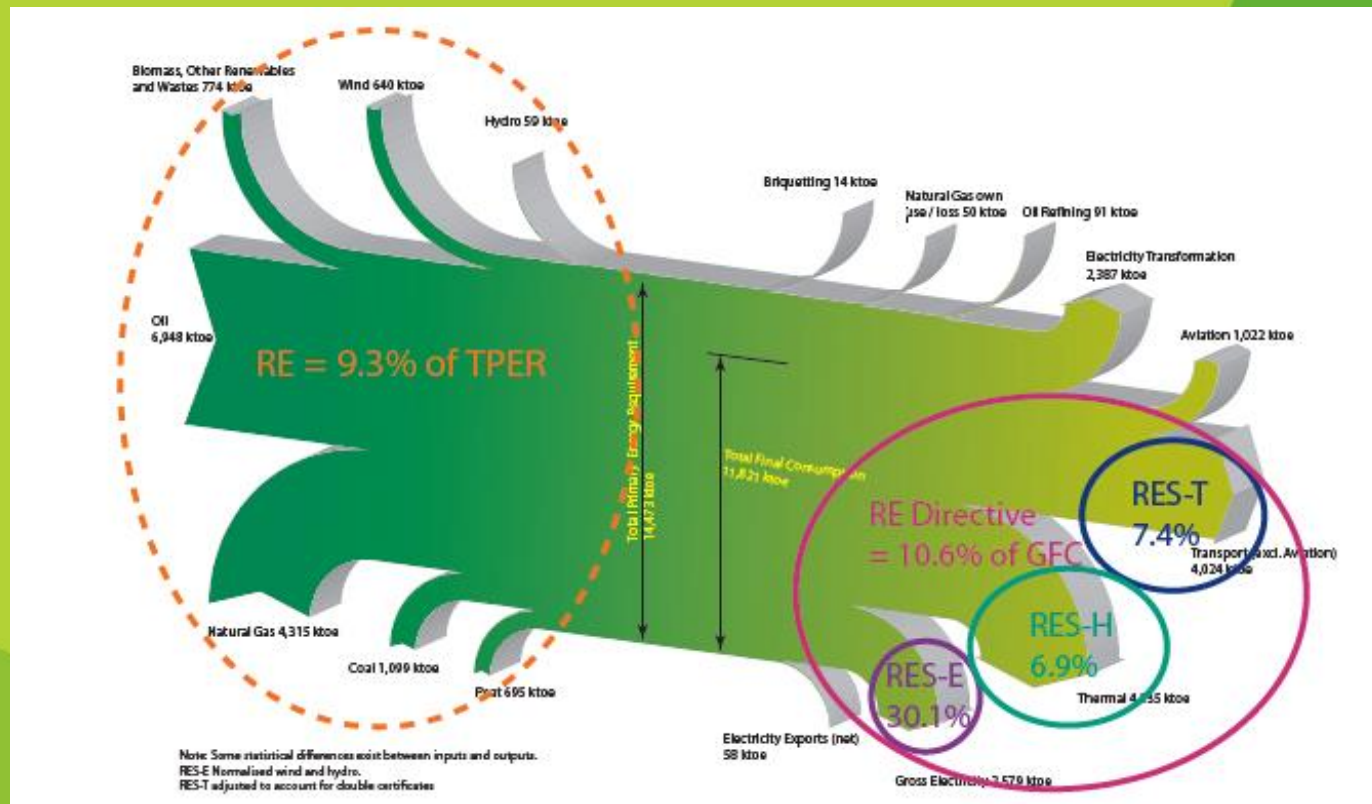
Energy in Residential 2018 Report SEAI



TPE Oil (Heat):
approx 2,000 ktoe

- TPE Oil (Res.)

Progress to targets 2017



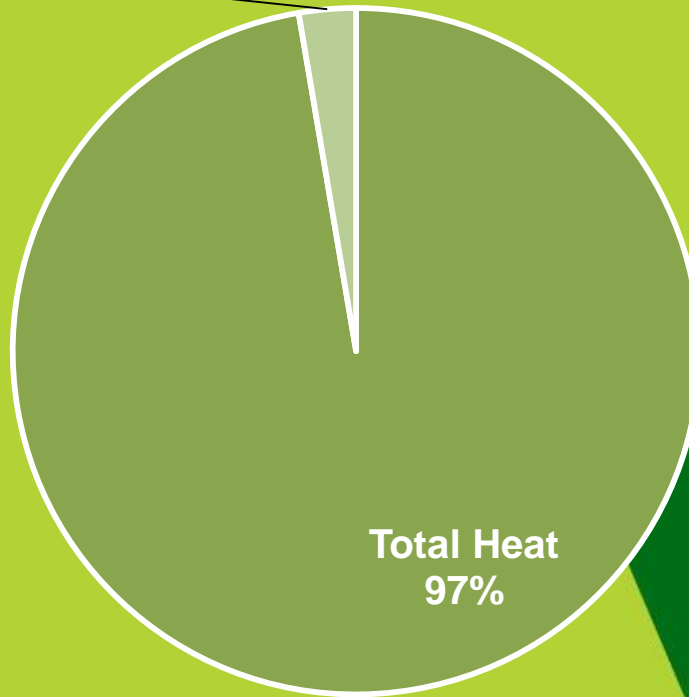
Required SSRH
Contribution
Approx 3%



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SSRH - Heat Sector

SSRH Target
3%

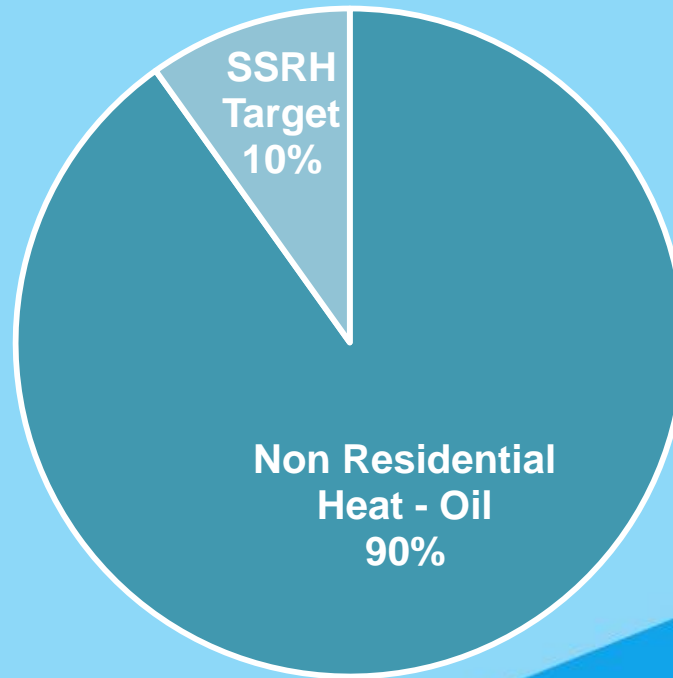


Total Heat
97%



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SSRH - Non Res. Heat Oil





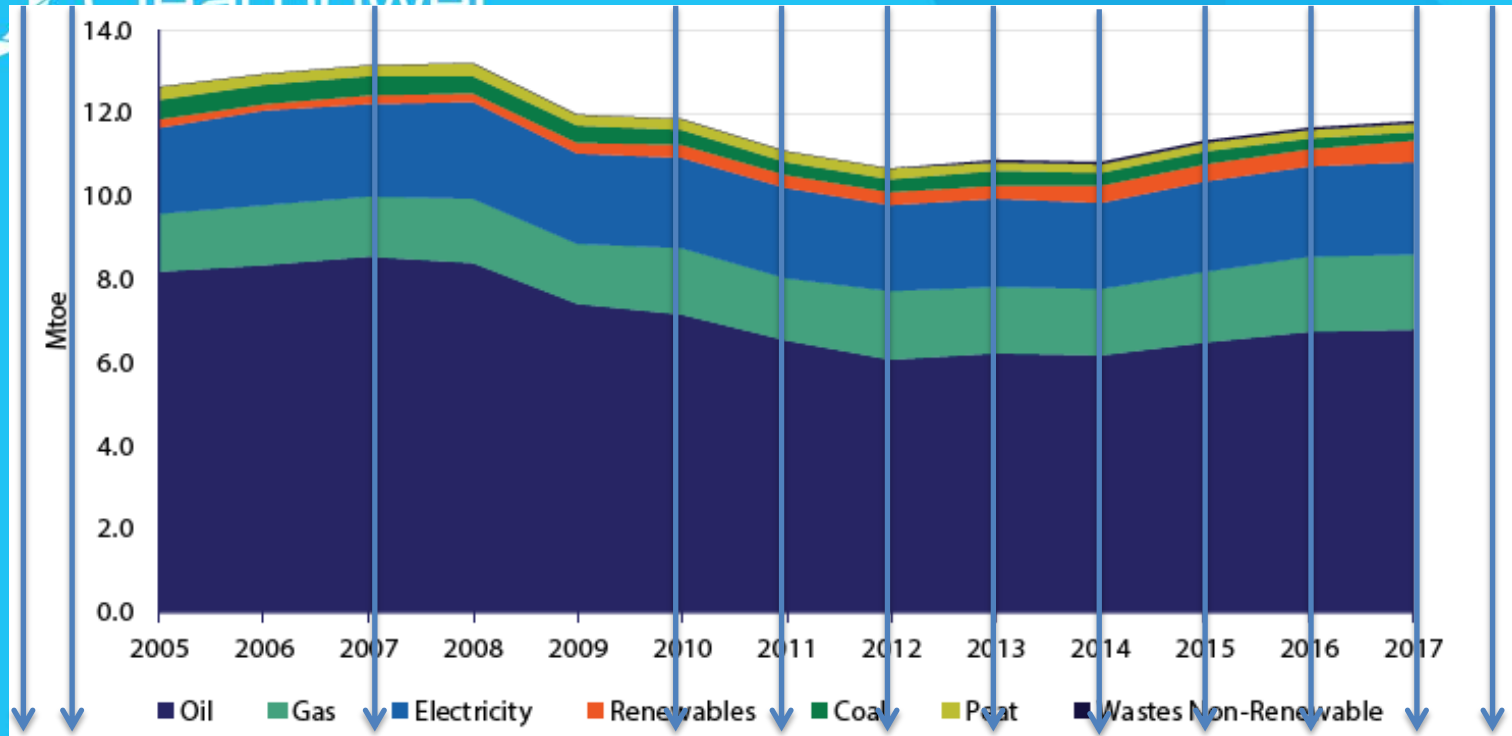
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Other Considerations

- Natural Gas as the counterfactual?
- Public Sector Buildings?
- The role of Forestry Sector and relevant stakeholders – public and private to support supply chain.



Total Final Consumption by Fuel



2000 – National Climate Mitigation Strategy

2003 – Community Climate Change Consortium

2007 – Revised National Climate Change Strategy

2010 – Climate Change Response Bill

2011 – Review National Climate Change Strategy

2012 – National Climate Change Adaptation Strategy

2013 – NESC Climate Change Challenge

2014 – National Position Paper Climate Change

2015 – Climate Action Low Carbon Dev. Act

2016 – Climate Advisory Council Ratification of Paris Agreement

2017 – Statutory National Mitigation Plan

2018 – Climate Action Fund



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Thank You

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Renewable Energy Solutions

