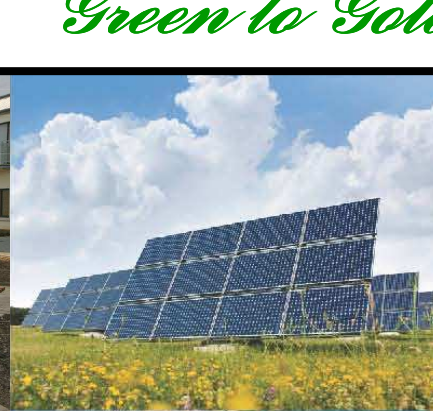




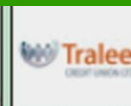
Kerry County  
Enterprise Board

# Kerry *Turning Green to Gold*

KERRY

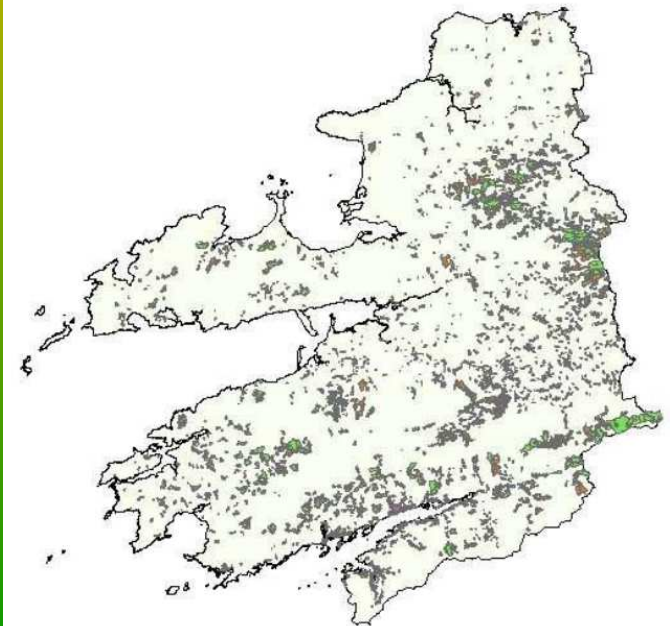


Kerry County Council  
Submission on Proposal for a Sustainable Energy Community



# Project Drivers

- Kerry is not on the natural gas mains.
- Over exposure to imported fuel availability and costs.
- Kerry has 55,000ha of forestry available.
- 60% of forestry is privately owned by 1500 farmers.
- Opportunity to create employment.
- Opportunity to reduce Kerry carbon emissions & better environment.
- Reduction in fuel poverty.
- Reduced burden on electricity generation.



# National Energy Targets for 2020

- 20% energy efficiency improvement (33% for public sector)
- 40% renewable electricity
- 12% renewable heat
- 10% renewable transport



# Vision Statement

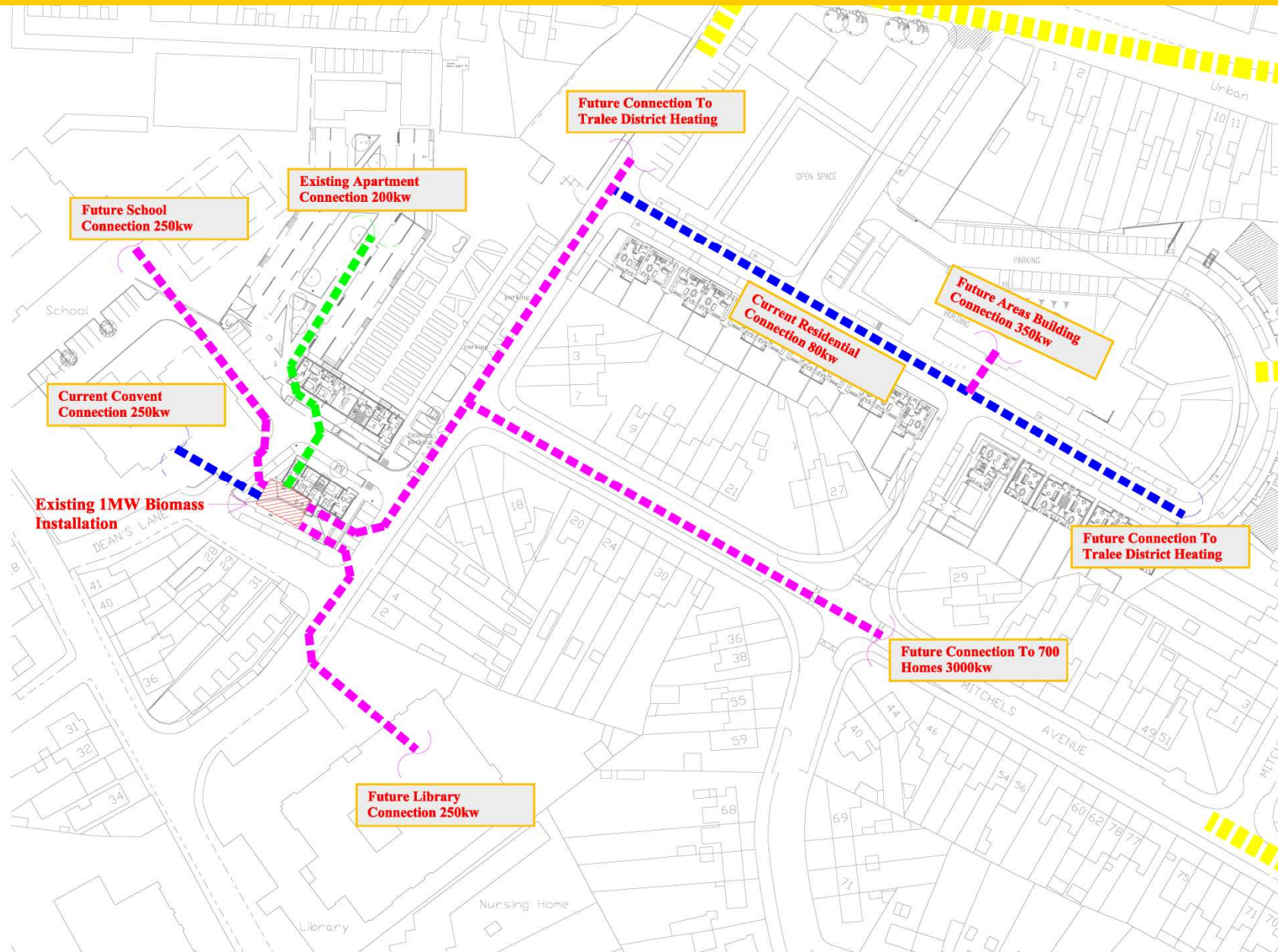
Kerry County Council in a multi-agency partnership with core community involvement proposes to establish an Energy Efficient Self-Sustaining Region for Tralee and Killarney, through a twin track program beginning with energy conservation of both commercial and domestic premises followed by the development of biomass energy centers meeting identified demand, using locally produced biomass. Transforming the local economy base through job creation and achieving a high living standard and excellent quality of life.

CREATING A  
SUSTAINABLE  
ENERGY  
COMMUNITY



Building a New Future - together

# ***Sustainable Energy Zone***





# Plant Room

- Two 500kW Hertz Wood Chip Boilers each with an auger feed system from the fuel store.
- The boilers which operate on duty/assist control are linked to two 5,000l thermal store buffer tanks.
- Distribution header with separate branch, pump and district heat pipe for each block of apartments and spare connections for future demand.



# Wood Chip Conveyor and Store



# Cost of Producing Heat (kWh)

Month	Heat produced (kWh)	Total Cost of Heat & Elec & Maint (€)	Euro/kWh
Jan-13	140,860	€8,125.34	€0.06
Feb-13	124,130	€5,695.41	€0.04
Mar-13	154,920	€6,802.74	€0.04
Apr-13	118,640	€5,157.47	€0.04
May-13	117,190	€6,641.34	€0.05
Jun-13	43,170	€2,751.18	€0.06
Jul-13	50,960	€4,454.56	€0.08
Aug-13	48,270	€3,048.81	€0.06
Sep-13	61,610	€3,246.21	€0.05
Oct-13	62,900	€3,515.71	€0.05
Nov-13	156,080	€5,922.35	€0.04
Dec-13	147,450	€8,185.40	€0.05
Totals	1,226,180	€63,546.52	€0.05

Ex VAT 1,046,180

VAT Element	€6,702	
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€56,844.51

heat loss Cost per kWh

Total VAT €6,702.01 Ex VAT 0.054



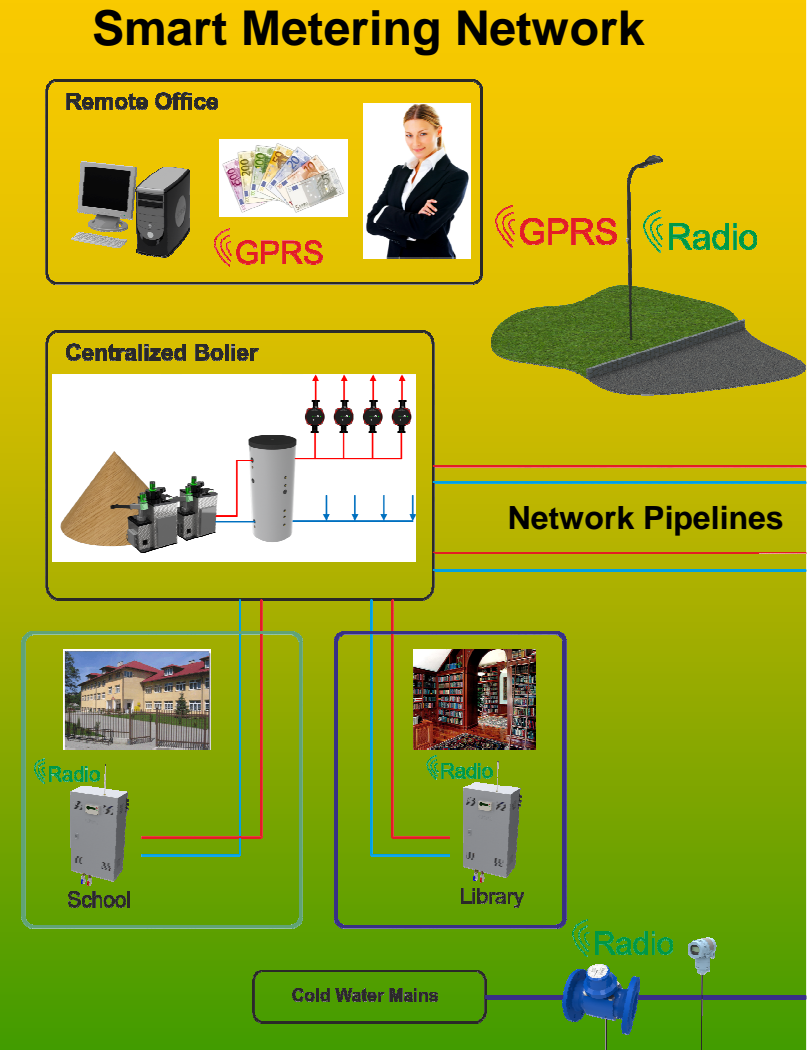
# PAY AS YOU USE PREPAYMENT SYSTEM

“Pay As You Use Pre Payment System” will provide the following benefits to the householder:

- Financial/energy awareness meter
- Fitted to all energy users
- Allow **monitoring and control** of energy demand
- Daily trends generated
- Profiles will be used to manage the zone
- Addressing the issue of fuel poverty
- No **bulk purchase** of fuel required
- No **energy debts** accumulated

Potential to use the prepayment system as a form of **guarantee for repayment**.

Pay As You Use (Prepayment) already in use in 420 units in Tralee and Killarney.



# ENERGY CONSERVATION RETROFIT HOUSING STOCK

- To achieve a minimum Building Energy Rating of C1 for all housing units in the SEC
- External insulation to 134no. Units
- This produced 60 jobs over 14 weeks period
- Tralee TC/ ESB Electric Ireland / SEAI / DOECLG Partnership Retrofit Project for 134 units in the Mitchels area
- Building Energy Rating improved from G to C (improvement of 300 kWh/m<sup>2</sup>/yr)
- Potential savings €1000 - €1500 per annum on heating and hot water cost per unit.



# Heating & Hot Water Energy Usage for Retrofitted Houses

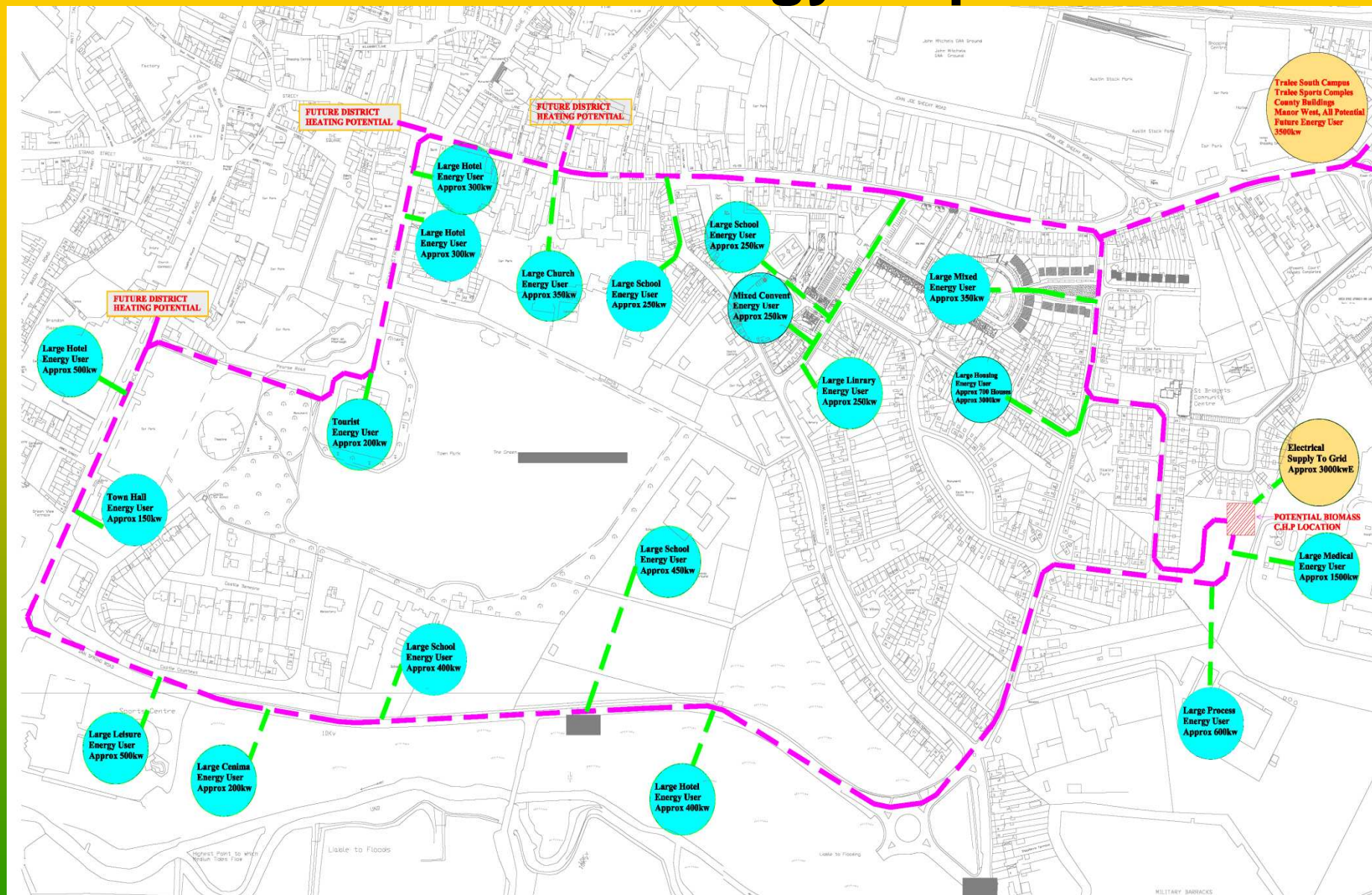
- Energy consumption prior to retrofit of 1935 solid wall construction houses:
  - 38,400 kWh per year, BER G
- Energy consumption after retrofit and connection to District Heating System:
- 9 Mitchel's Avenue 3 bed end house, floor area 70m<sup>2</sup>, BER C2
  - Annual energy consumption of 5,393 kWhr
- 15 Mitchel's Avenue 4 bed terrace, floor area 130m<sup>2</sup>, BER C2
  - Annual energy consumption of 8,656 kWhr



# Heating & Hot Water Energy Usage for New build Houses

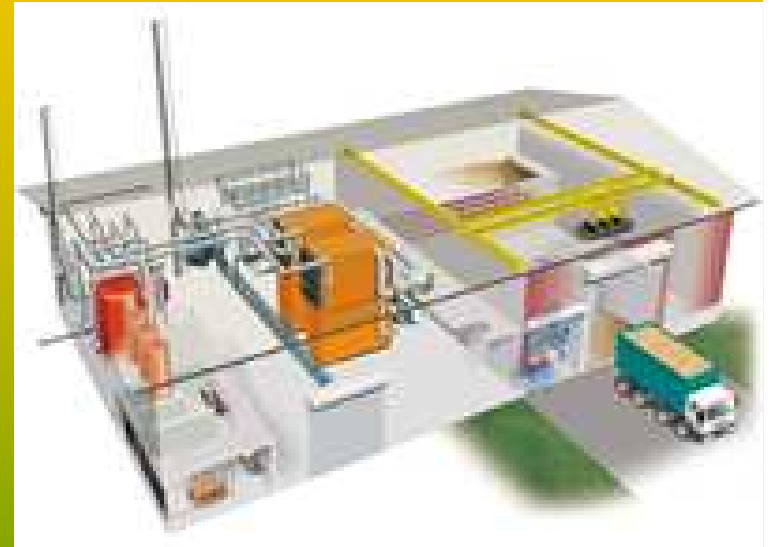
- Towards Carbon Neutral, BER A2
  - 4 Criolar Na Mhistealach, floor area 90m<sup>2</sup>
  - Annual energy consumption of 2,043kWh
- House to new Building Regulation Standards, BER B1
  - 15 Criolar Na Mhistealach, floor area 103m<sup>2</sup>
  - Annual energy consumption of 3,463kWh

# Tralee Energy Map



# Potential Returns

- Potential Size 20MW Biomass Installation
- Approx 50,000 Biomass Tonnes Per Year
- Approx Biomass Flue Cost €7.0 million per year
- Potential Thermal Income €14.0 million per year
- Approx 45,000 tonnes CO<sub>2</sub> Saving
- 14,000,000L Oil Displaced
- Supporting 150 full time jobs in the local community.





# SEAI Legacy Award Winner 2013

