



# APPLYING SERVE TO CO. TIPPERARY

**Energy Targets to 2020**

[www.servecommunity.ie](http://www.servecommunity.ie)

SERVE Conference, November 2011



# CONTENTS

- SERVE achievements
- Co. Tipperary Energy Profile
  - Total, by Sector, by End Use
- 2020 targets
  - What they mean for Co. Tipperary
- Conclusions

# CORE PROJECT ACTIVITIES

## ✕ **Retrofitting for Existing Houses and Buildings**

- + Target 400 homes and 20 non-residential buildings
- + Reduce Energy Consumption by 30-40%
- + Increase use of renewables by 100%

## ✕ **New Buildings**

- + Build 132 highly efficient new buildings in eco-village
- + A new sustainable community
- + 100% Supply of Heat from Renewables

## ✕ **Monitor** what we do and prove results

## ✕ **Research** on socio-economic impacts and sustainable electricity options

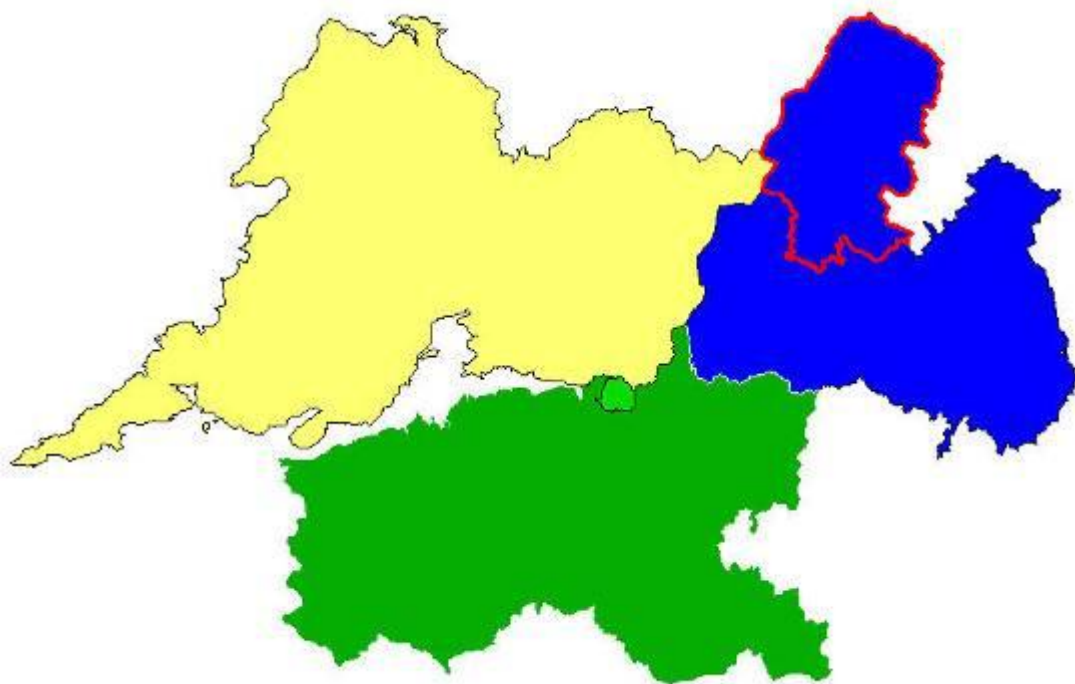
## ✕ **Train** people to build up skills



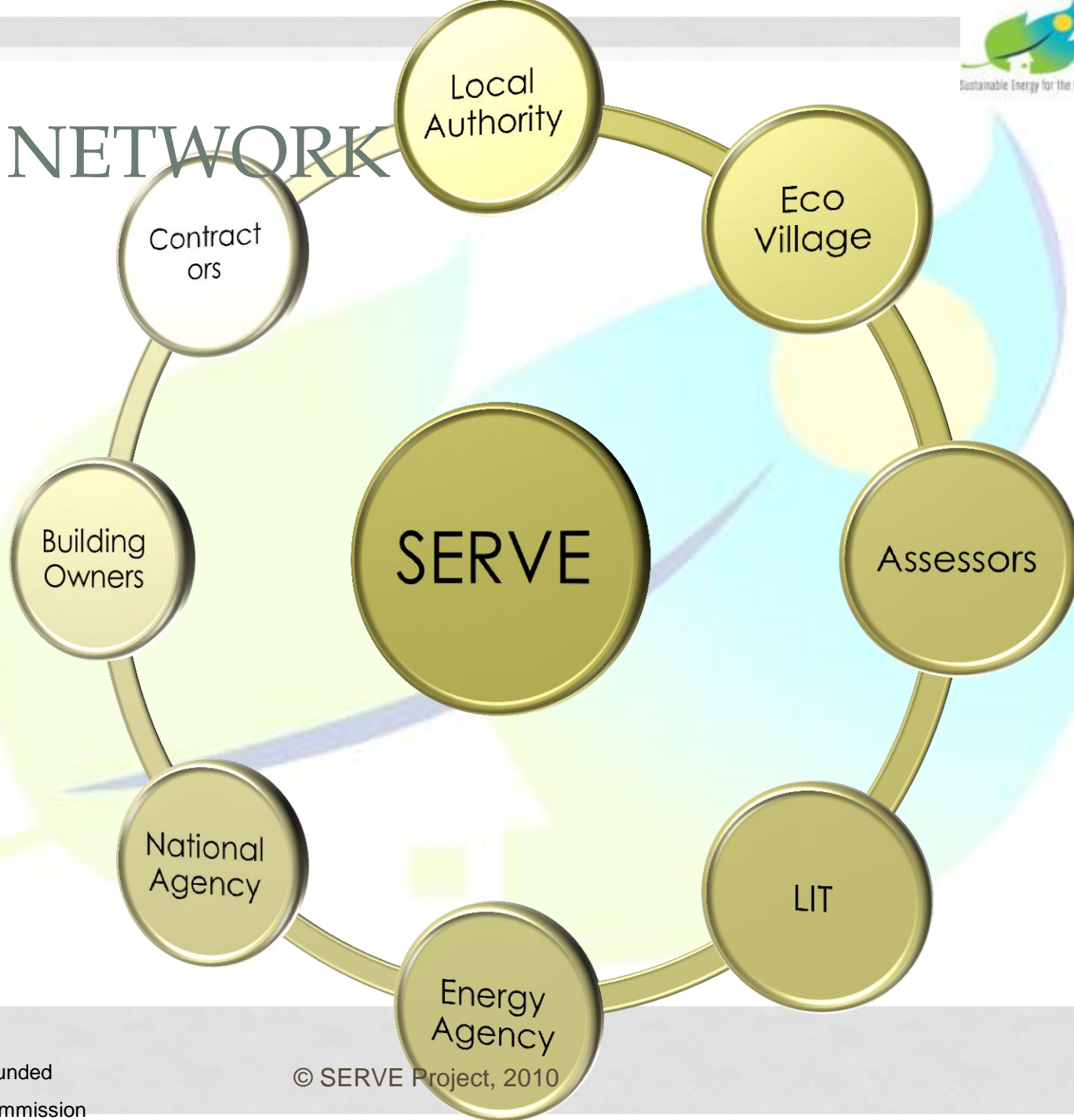


# SERVE REGION

- Rural
- 600 square kilometres
- 12,000 people
- 6,000 Dwellings
- 60% constructed pre 1981



# SERVE NETWORK





# SERVE NETWORK



## Retrofitting

- Local Authority - Finance
- Energy Agency – QA
- Contractors



## New Build

- Eco Village - Finance
- Contractors
- Local Authority - Planning



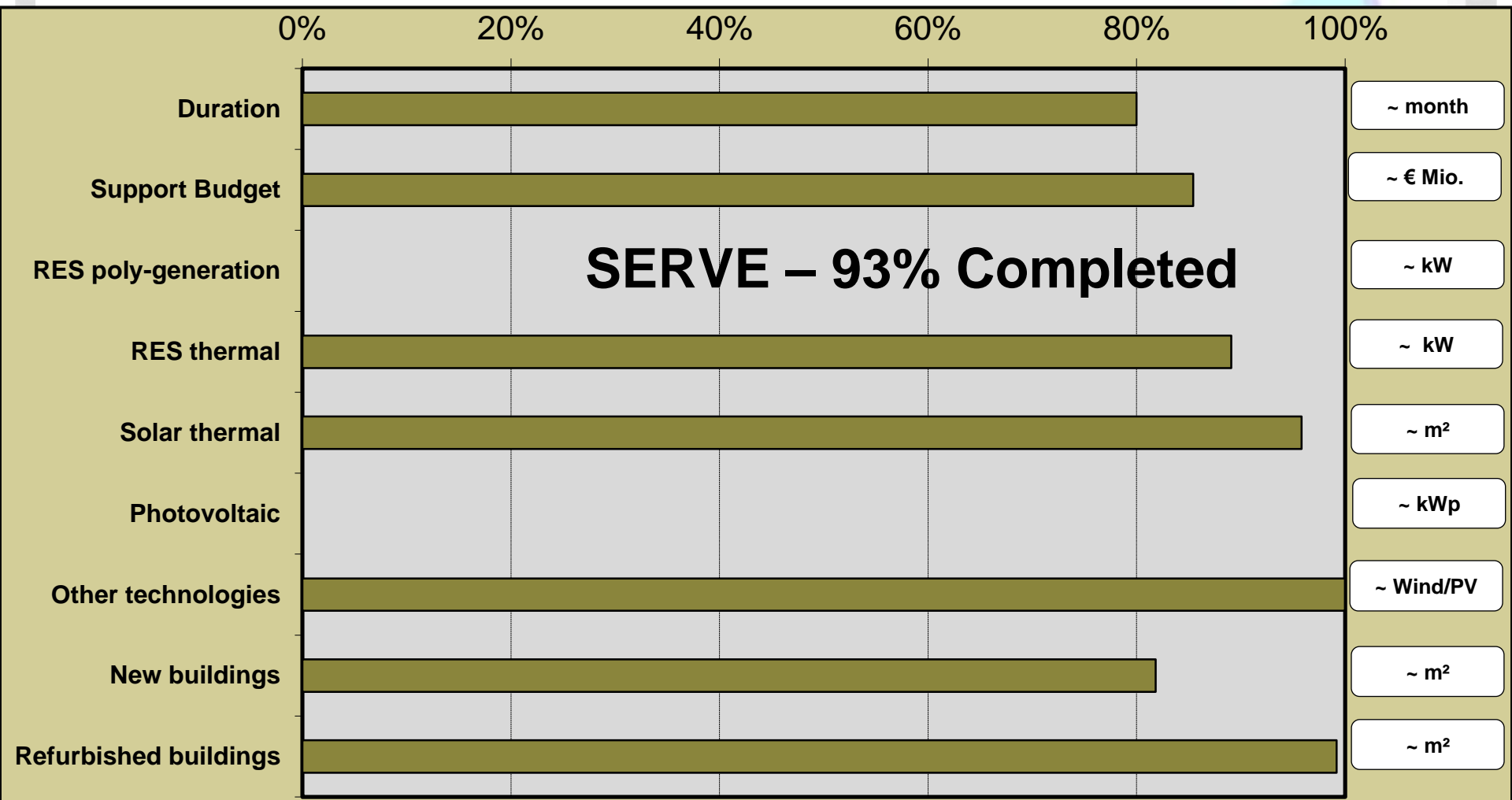
## RES

- Local Authority and Eco Village – Finance
- Contractors Installers
- Energy Agency - QA

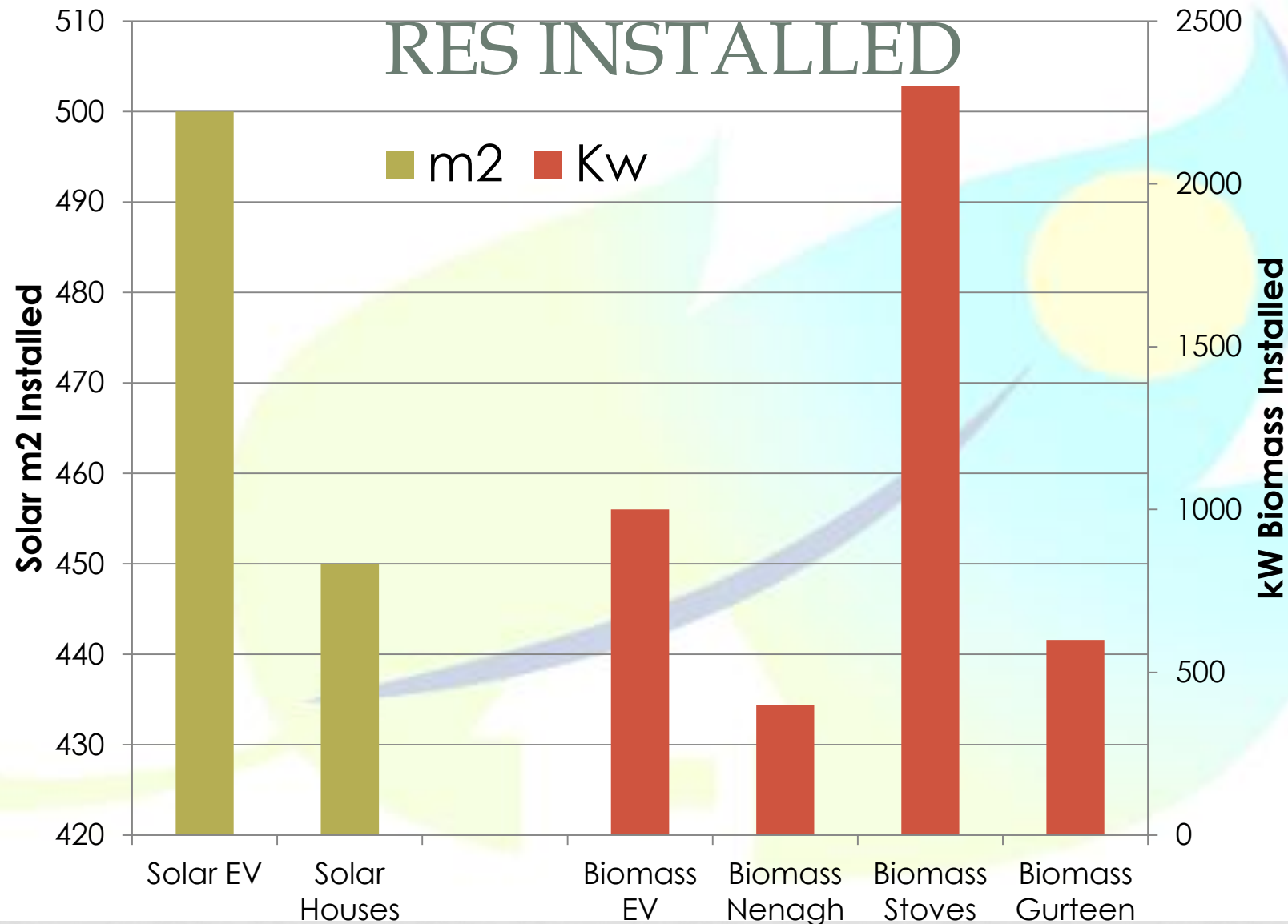
Monitoring, Training and Promotion

# WHAT HAS BEEN ACHIEVED

# PROGRESS CHART



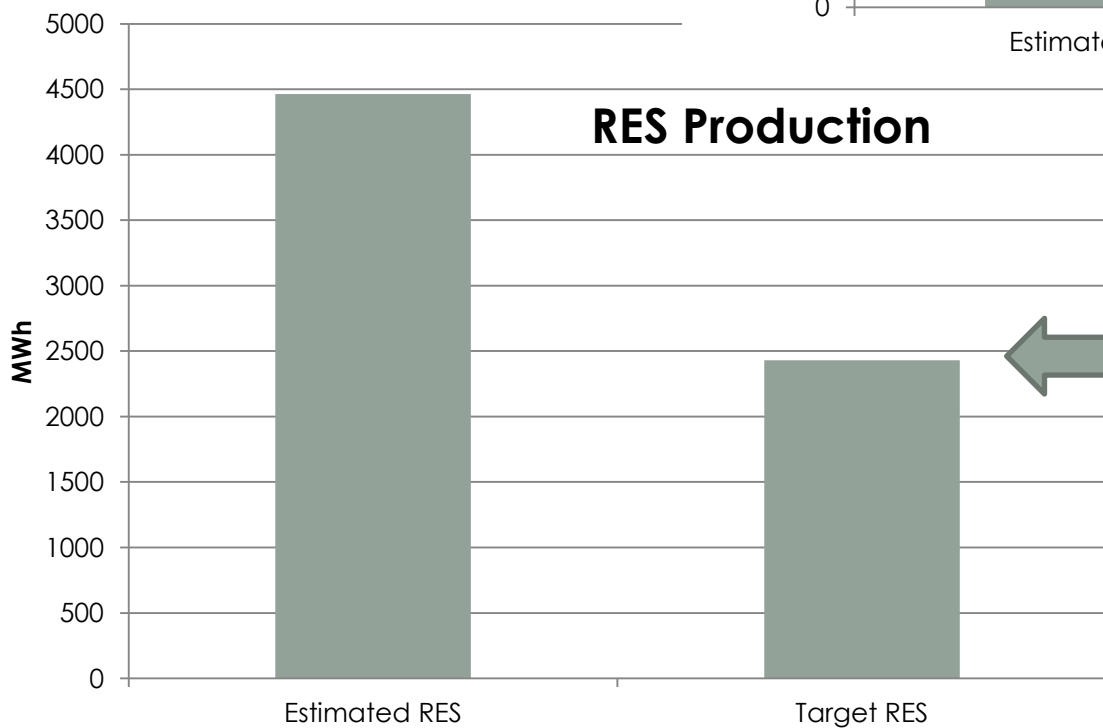
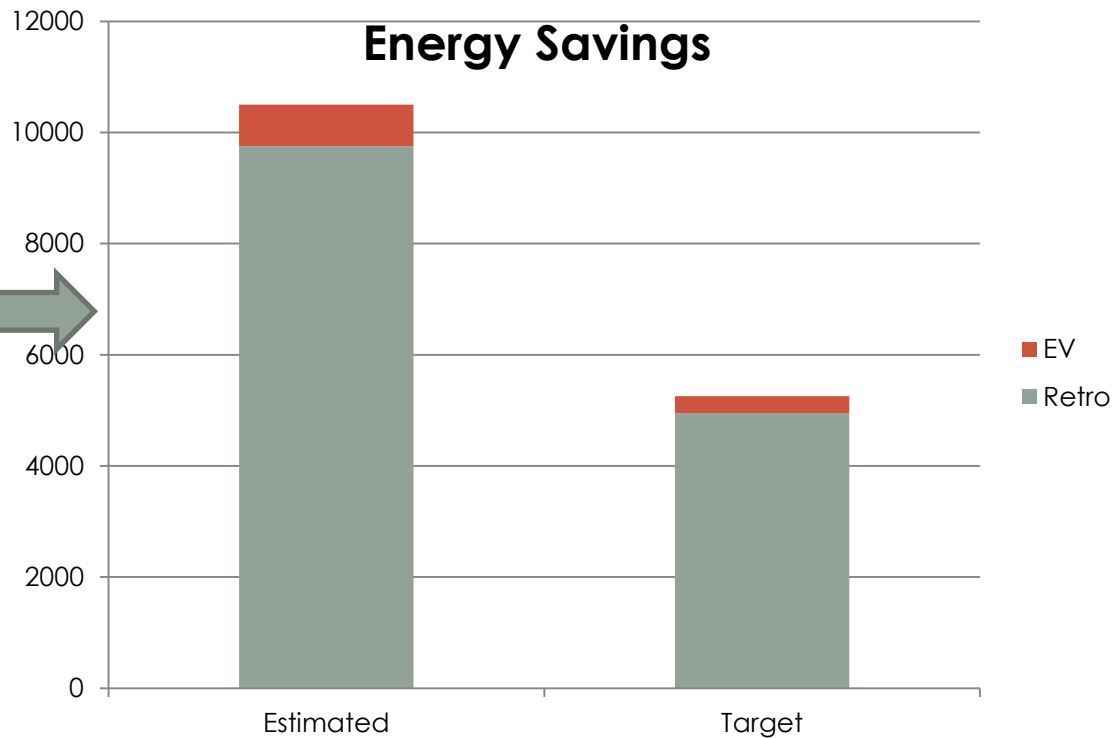




55,000m<sup>2</sup> of retrofits  
8,500m<sup>2</sup> new buildings

Mw

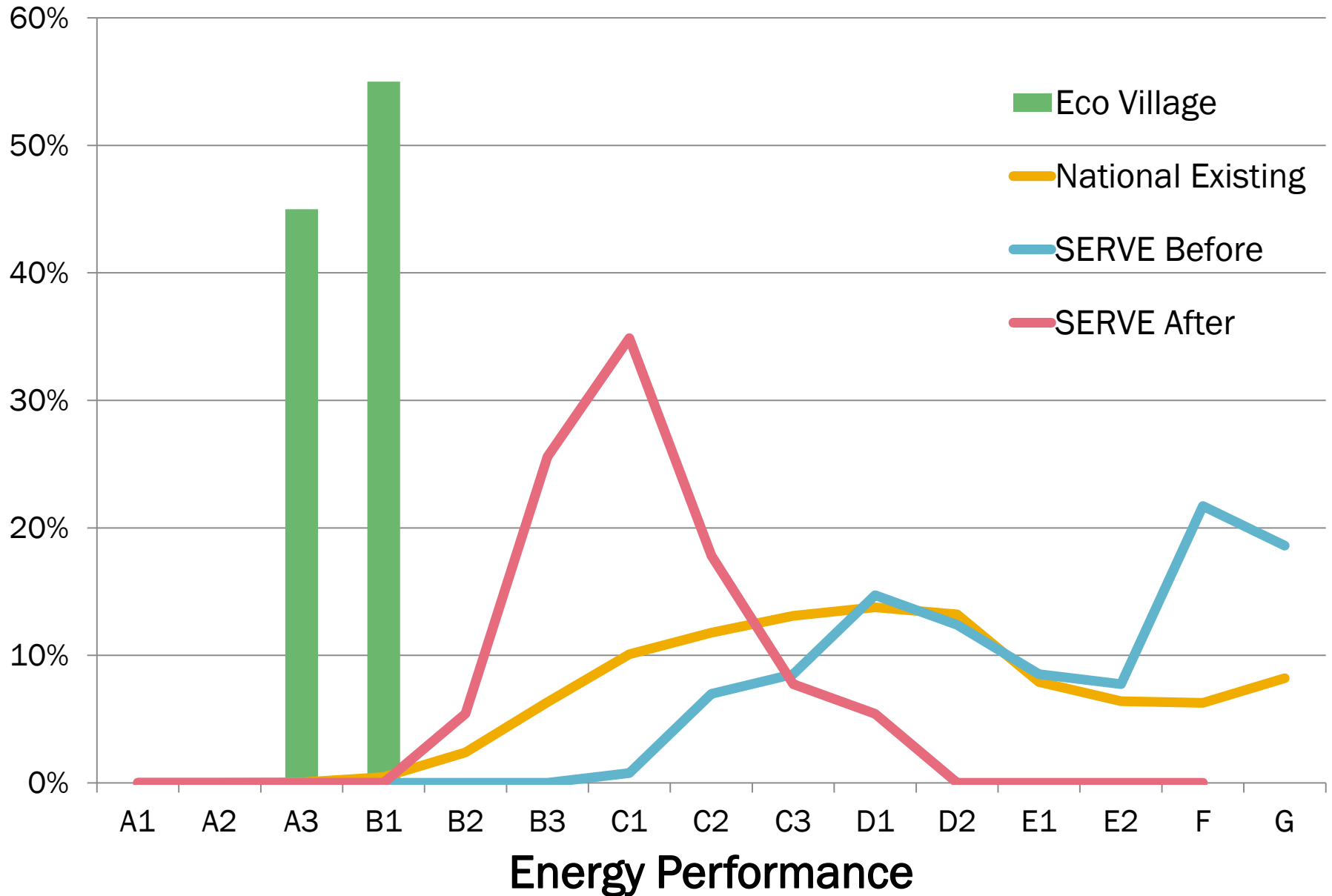
## Energy Savings



## RES Production

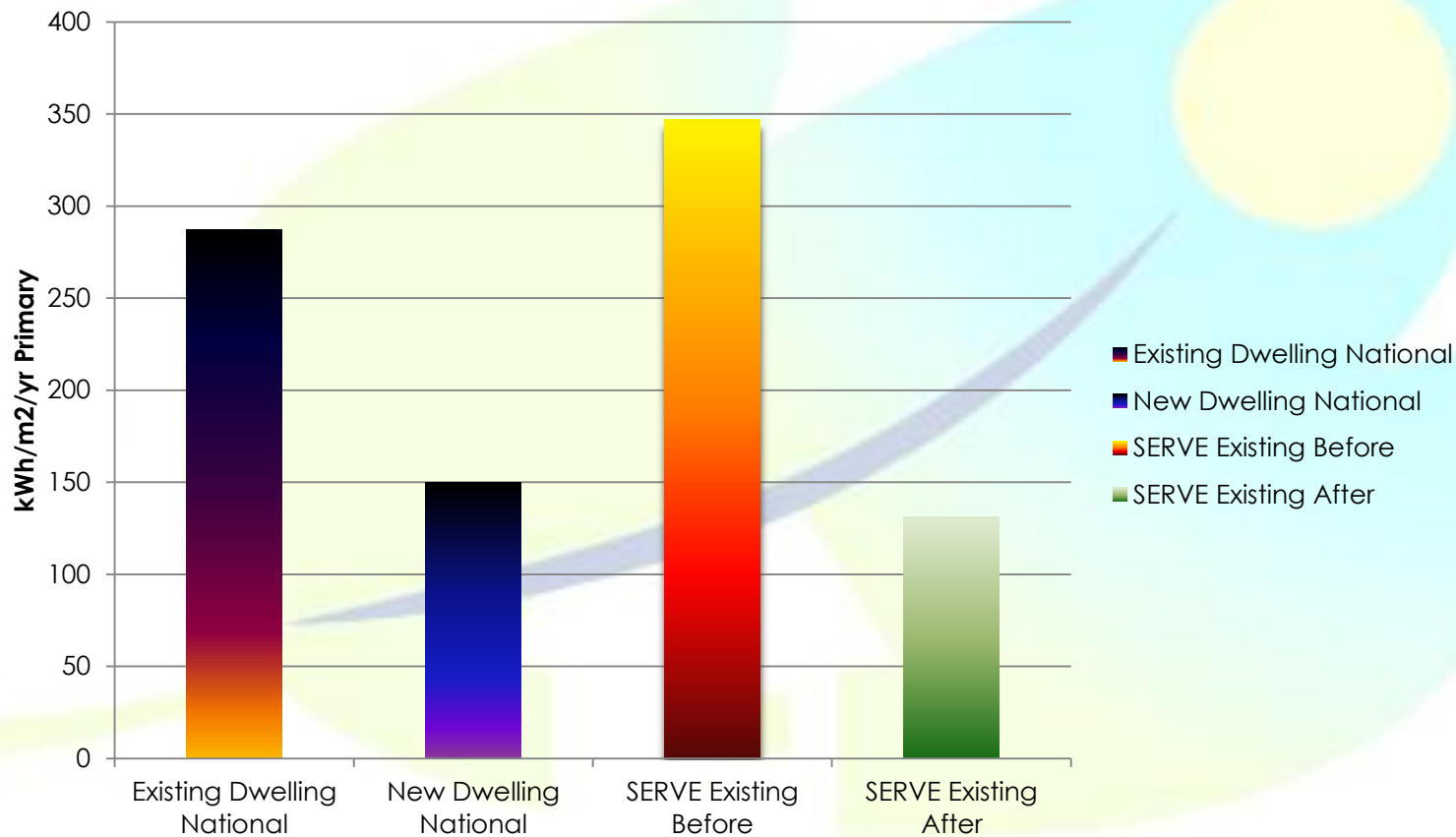
Assuming full  
output of installs

# SERVE Impacts - Residential



# SERVE ENERGY IMPACTS

## Energy Performance Comparison





# CO. TIPPERARY TARGETS

# ENERGY PLANNING

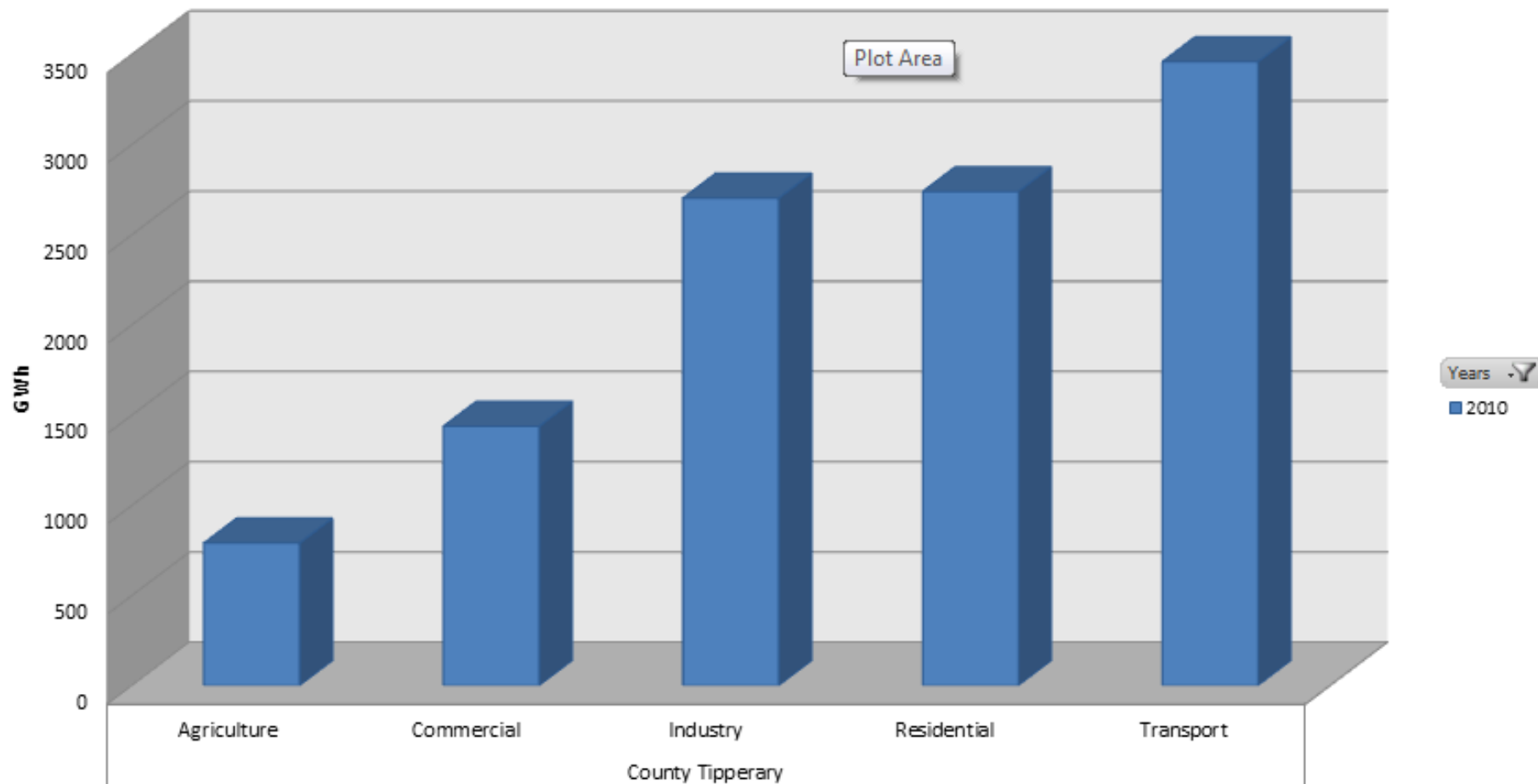
- Tipperary Energy Agency have developed an Energy Balance
- Based on National data with conversion data applied
  - E.g. No of houses in County vs National for residential sector
- 1990 to 2020 data
  - Business as Usual
  - White Paper Scenario
  - Test Scenario's being developed

# KEY DATA – CO. TIPPERARY

- Approximately 4% of National Energy Consumption
  - 5,940 GWh Final Energy Consumption in 2010
  - 23% in the residential sector (1,369 GWh)
  - Transport the fastest growing sector
- 
- 58,000 houses
  - 71,000 vehicles
  - 300,000 hectares farmed land
  - 158,000 people

# ENERGY USE BY SECTOR

Final Energy Consumption per Annum

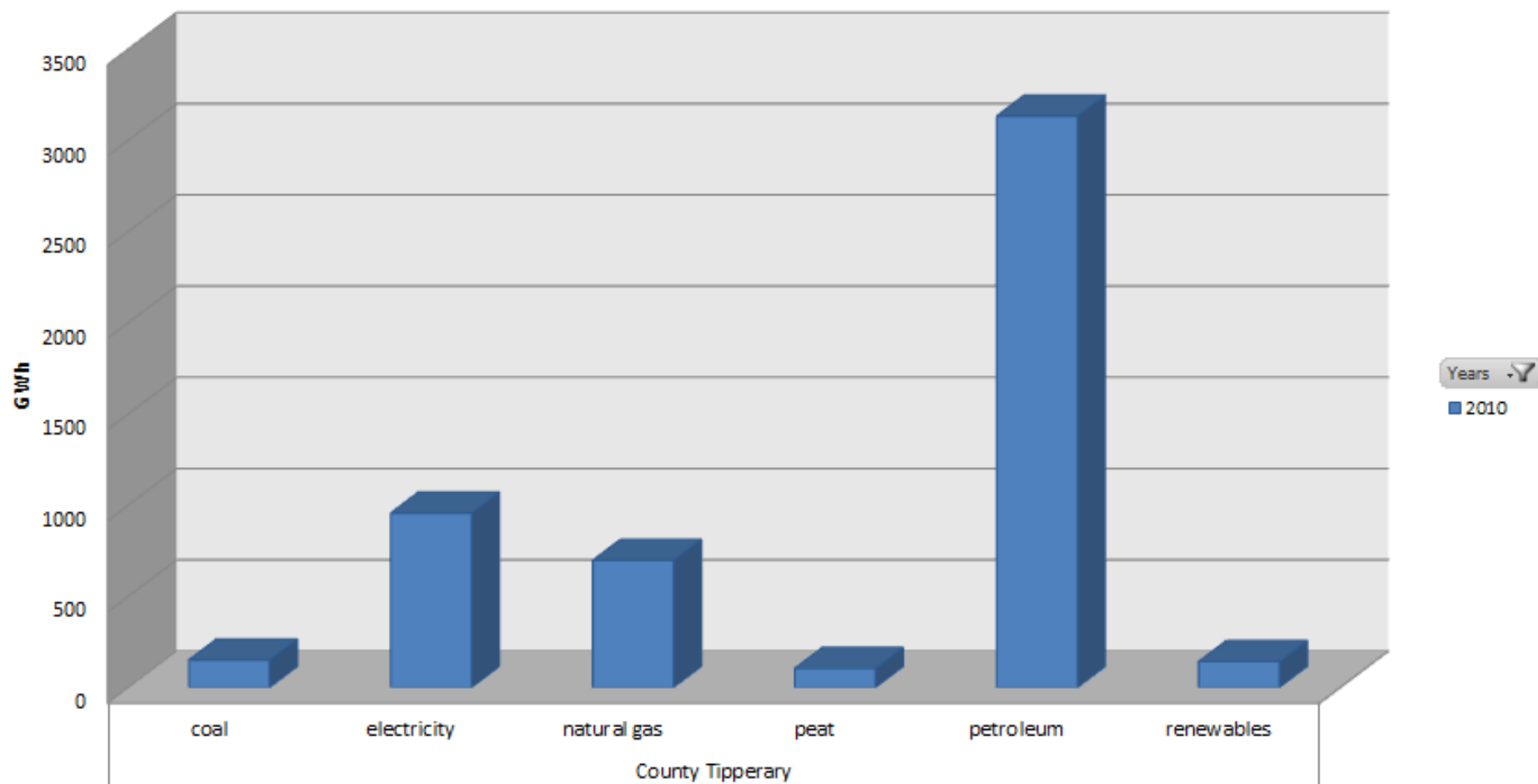


Location  Sector 



# ENERGY USE BY FUEL

Final Energy Consumption per Annum



# KEY TARGETS

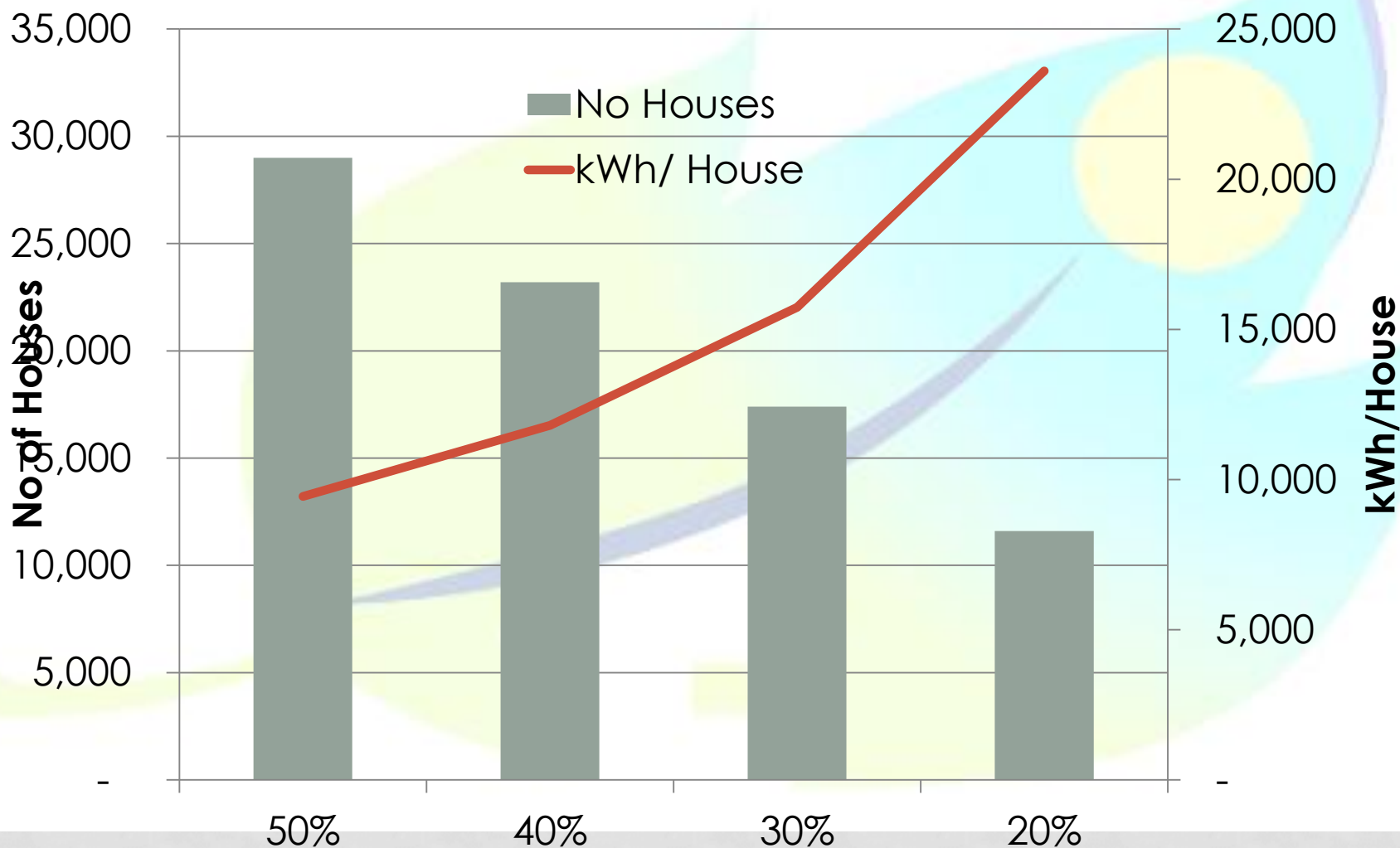
- 40% electricity from renewables
- 12% of heat from renewables
- 20% energy savings
- 10% transport fuels from renewables
- What do these mean for Tipperary

# RESIDENTIAL ENERGY EFFICIENCY

- 1,369 GWh/Year – 20% savings = 273.8 GWh
- Will require significant action now.
- 20% of houses to be upgraded = 11,600 homes
  - 1,500 per year
- It took us 2.5 years to get 400 people to respond in SERVE Region!!

Jobs, Investment, Savings

# NO OF HOUSES VS KWH/HOUSE





# HEAT - RES

- National Heat Market (2006) 64,000 GWh
- Co. Tipperary Heat Market 2288 GWh
- 12% is equivalent to
  - 270 GWh
  - 144 MW installed biomass capacity
- SERVE has installed 5MW in 2 years!
- Approx. 2MW in other locations and 19MW in Panel Bandon mill

# ELECTRICITY - RES

- 956 GWh Final Energy Consumption across all sectors in 2010.
  - Equivalent to 2,500 GWh Primary Energy
- 40% RES production implies 382 GWh per annum
- A 1 MW wind turbine produces 2.7GWh per annum Primary Energy
- 380MW to be installed by 2020
- 75MW installed with ~200MW planned

# CHALLENGES

- Mobilising the different sectors
- Understanding the drivers
  - Comfort
  - Monetary Savings
  - Security of Supply
- Installers, Service Providers
- Fuel Supply
- Quality Control
- Maximising Return and Jobs for Co. Tipperary
- Finance

# BEYOND SERVE

- Workshops on 2<sup>nd</sup> and 15<sup>th</sup> December to explore this data further
- More analysis from SERVE Socio Economic and Energy Data
- Mobilising Investment and Finance
  - Clustered Approaches
  - Pay as You Save
  - Alternative Financing – ESCO, EPC, Third Party Financing



# SERVE LESSONS

## ✕ Awareness vs Information

- + People have a lot of information via many sources
- + Path from Information to Awareness to Action can be a long one

## ✕ People trust people they know

- + Generating a critical mass of projects is vital
- + Touching, feeling, seeing is important

## + Many challenges with developing a new industry

- + Standards, knowledge, systems, training
- + A lot more to do

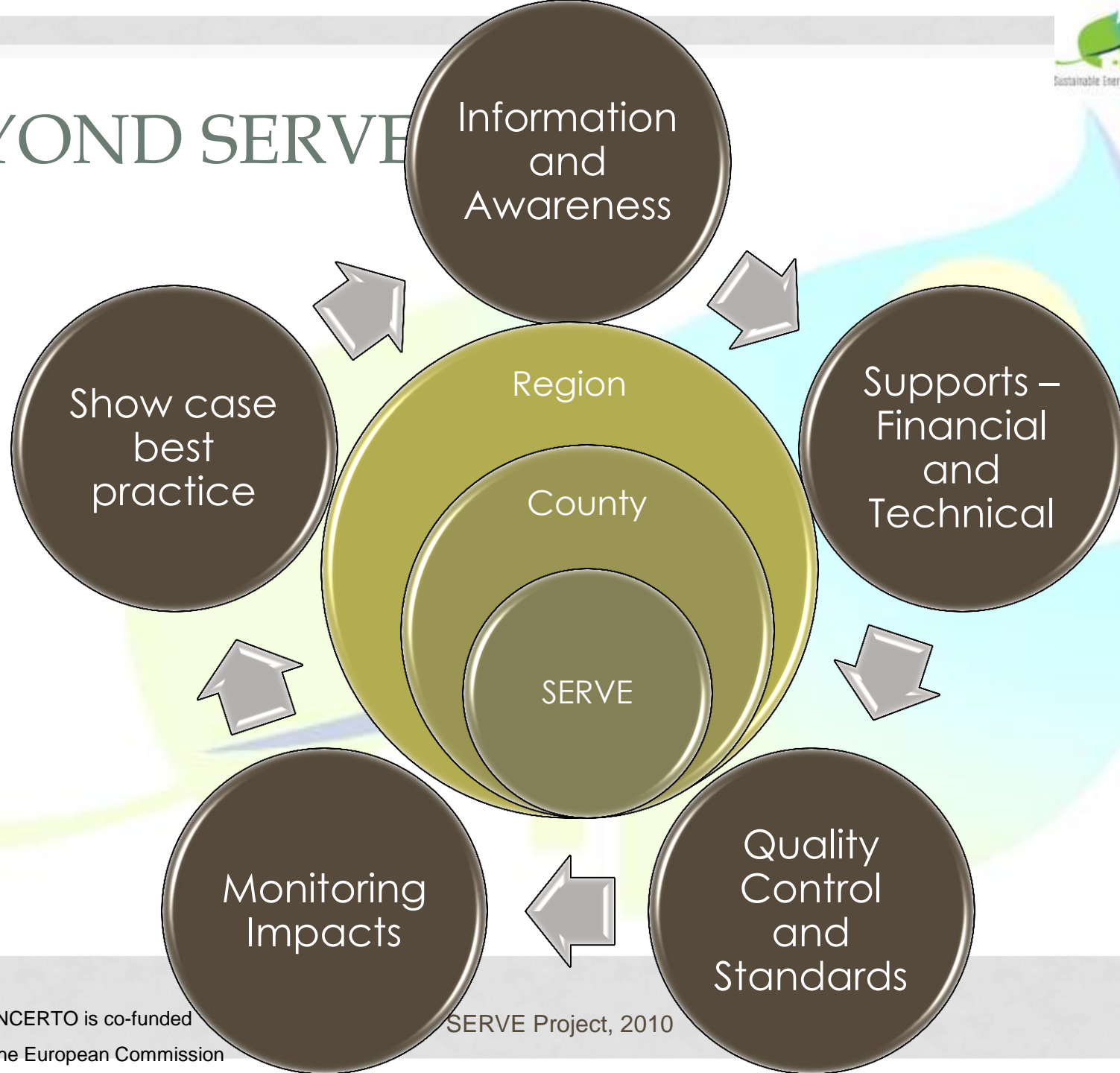
## ✕ Financial Crisis

- + How to get people to see energy efficiency as an investment

## + Train/check/monitor/re-train

- + Train installers/check work/monitor impacts/re-train to improve

# BEYOND SERVE







# Thank you.

Seamus Hoyne  
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Tipperary Institute



North Tipperary County Council



Renewable Energy Management Services



Tipperary Energy Agency Ltd



Surface Power Technologies



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Energy Consulting Network



Ayuntamiento de El Franco