



# SERVE

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

Achieving Sustainable Energy in a  
Rural Context

**Pauline Ryan**

Programme Specialist, Tipperary Institute

REGEA, 13<sup>th</sup> June 2008



# Context – EU/National

## ■ European

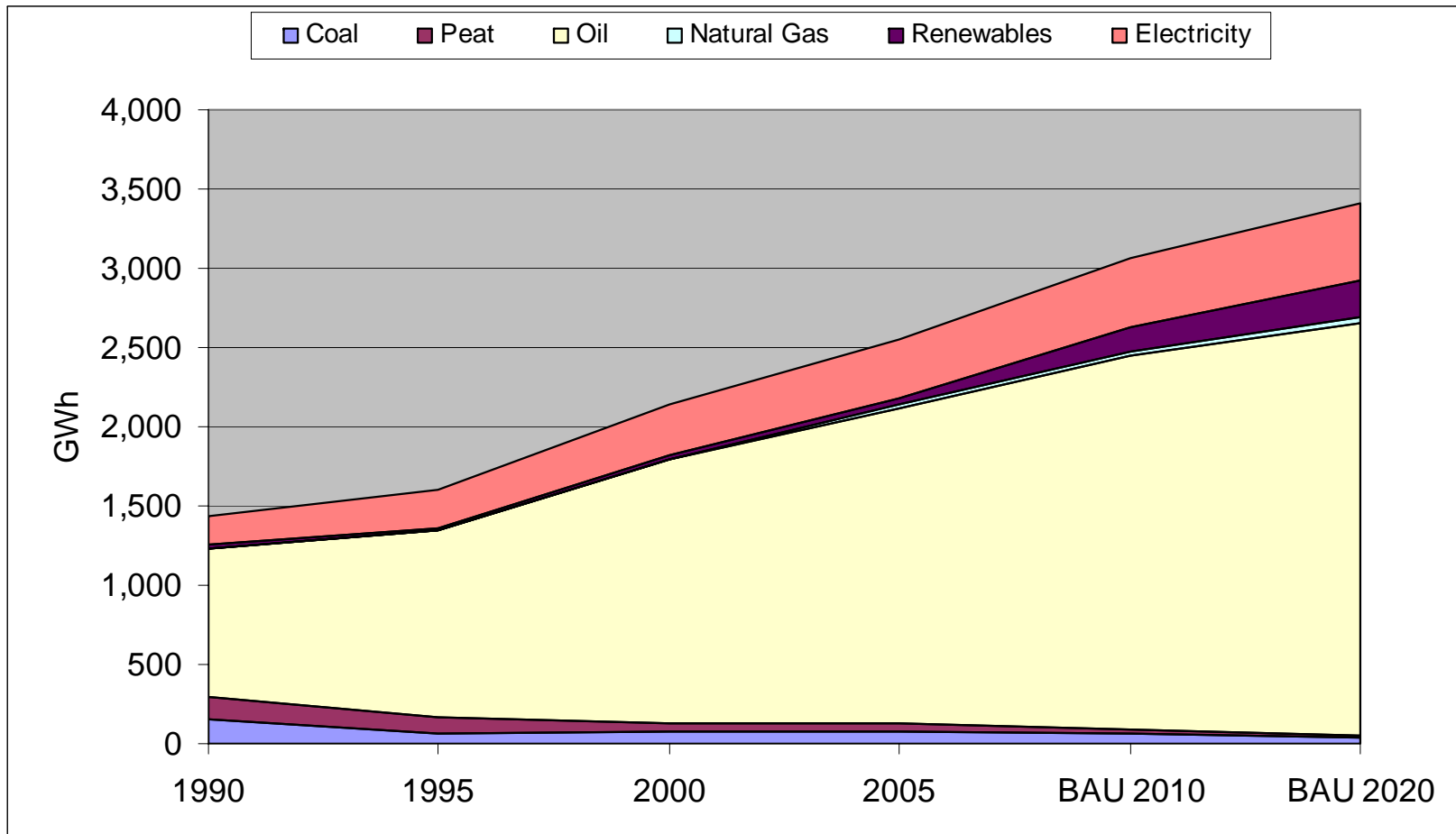
- At an EU level the issue of reducing energy consumption and increasing the use of renewables is a key policy driver
- A range of political, legislative and financial initiatives taken

## ■ National

- National policies evolving (Climate Change Strategy; Energy White Paper)
- Need for local/regional action and demonstration

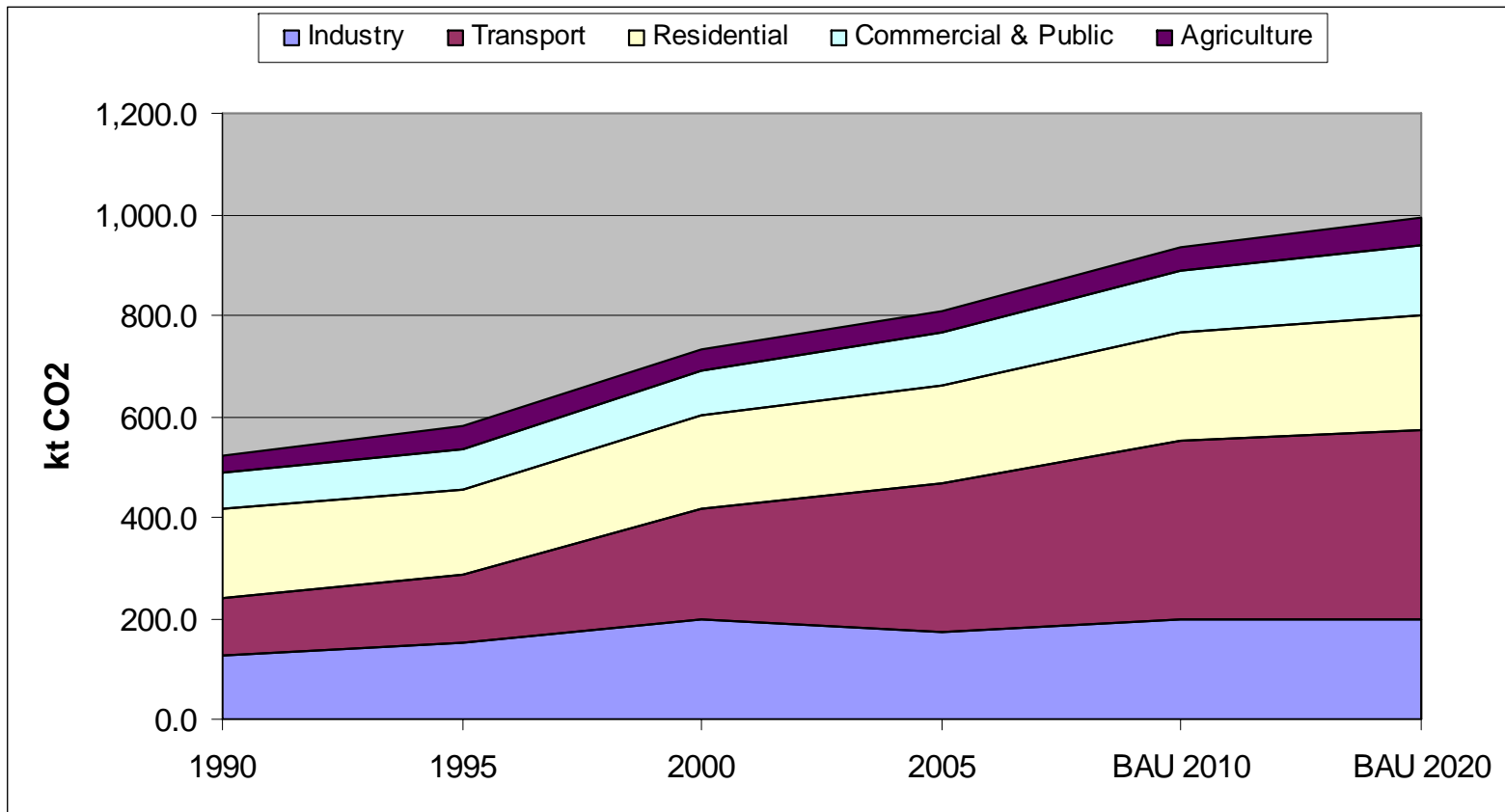
# Context - Local

## Energy Use by Fuel in North Tipperary



# Context - Local

## CO<sub>2</sub> Emissions by Sector in North Tipperary



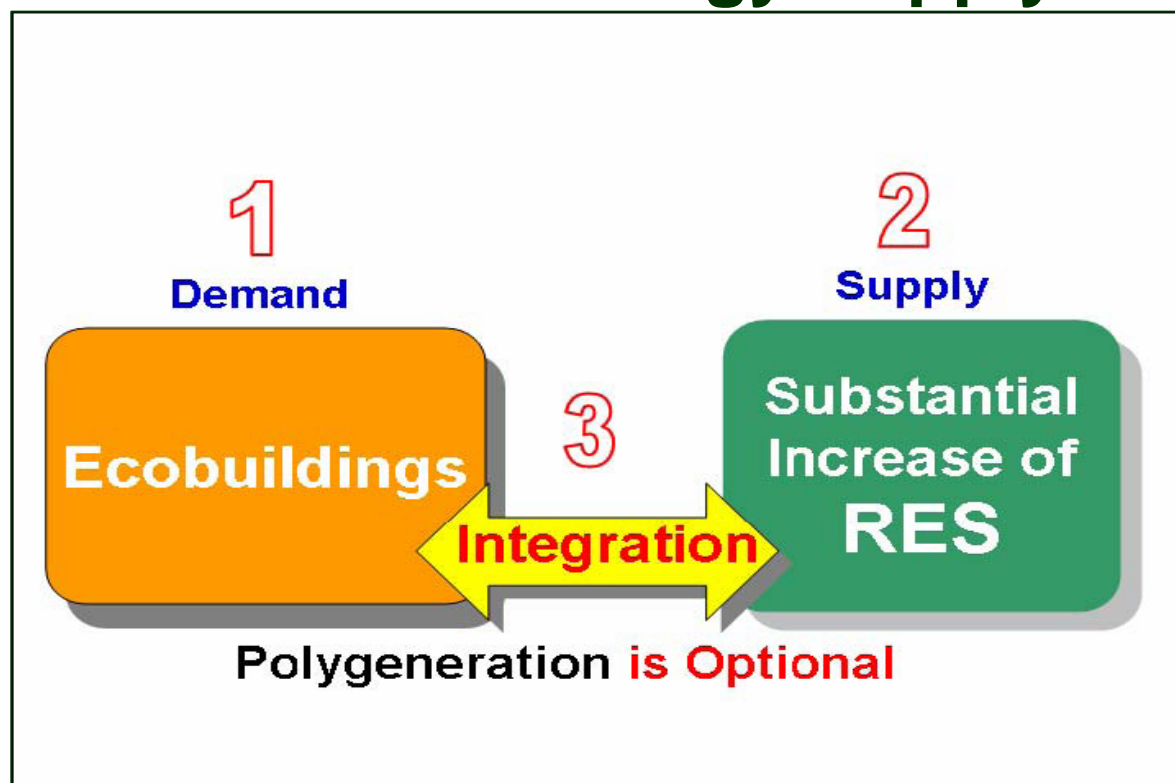
# Context – Local

---

- Eco-village site identified & purchased in CloghJordan
- How could this innovative development influence sustainable energy in the wide community?
  - Show best practice
  - Create a ripple effect
  - Act as an Education and Training base
- Can we show that a rural area can achieve high sustainable energy standards?

# CONCERTO II

## CONCERTO Funding– Integration of Energy Use and Renewable Energy Supply



# SERVE Region

- Total area: ~ 600 square kilometres
- Total Pop: ~ 10,000 people
- Pop of Villages: ~ 4,770 people
- Eco-Village Location: CloghJordan
- Energy Data (2005 figures)
  - Largest energy consumer : Transport (37%)
  - Main Fuel : Oil (75%)
  - % renewable energy: 1% Total Energy; 6% Heat Energy
  - Typical Dwelling Building Energy Rating (BER): 210 to 300 kWh/m<sup>2</sup>/yr
- No. of Wind Farms (2006): 1 (5.2MW)
- Total No. of Dwelling (2006): 4,000 (60% constructed pre 1981)



# Partners

1	Tipperary Rural and Business Development Institute Ltd	TI	IRELAND
2	North Tipperary County Council	NTCC	IRELAND
3	Sustainable Projects Ireland Ltd	SPIL	IRELAND
4	Tipperary Energy Agency Ltd	TEA	IRELAND
5	Renewable Energy Management Services Ltd	REMS	IRELAND
6	Energy Consulting Network	ECNET	DENMARK
7	Econnect Ltd	ECONNECT	UNITED KINGDOM
8	CIRCA Group Europe Ltd	CIRCA	IRELAND
9	<b>North West Croatian Energy Agency</b>	<b>REGEA</b>	<b>CROATIA</b>
10	European Federation of Regional Energy & Environment Agencies	FEDARENE	BELGIUM
11	Surface Power Technologies	SPT	IRELAND
12	Ayuntamiento de El Franco (Observer Community)	Ayto. El Franco	SPAIN

# Core Project Activities

- **Eco-Buildings – Energy Efficiency**
  - Reduce consumption in existing houses
  - Build new efficient houses
- **Renewable Energy Demonstration**
  - Increase use of renewables in existing houses
  - Have 100% supply in eco-village
- **Monitoring energy consumption in eco-village and existing buildings**
  - Measure what we do and prove results
- **Research**
  - Plan for the future and check non-energy impacts
- **Training**

# Eco-Buildings

## ■ Retrofitting

- Retrofitting 500 buildings
  - (90% of them dwellings)
- Grants supports to upgrade
  - Insulation (roofs, walls)
  - heating controls
- Reduce energy consumption to 2006 building regulations levels



## ■ Eco – Village

- Construction of 132 units with energy performance 30-40% below 2006 building regulations
  - Therefore the Eco-village houses will be ahead of the Building Regulations which are being introduced in 2008.
- Range of house units, designs and materials
- Best practise design and construction methods



# Renewables

## ■ Existing Buildings

- Improving the use of renewables in existing buildings
- Installation of 400 systems will be supported
  - Wood stoves
  - Wood boilers
  - Solar panels
  - Wind/PV Systems
- Will have to meet energy efficient standards first!!

## ■ Eco - Village Buildings

- 100% supply of heat from renewables within the Eco-village
- Development of District Heating Network
  - Wood biomass (dual boiler) – 1 MW using wood chip
  - Central Solar System – 500m<sup>2</sup> (largest array in Ireland)
- Pipe network installed

# Socio Economic Research

---

- Important that we check what other benefits are gained for this project
- Analysis of non technical impacts
  - Social impacts
    - Job creation, reduced travel, health etc.
  - Economic impacts
    - Money flows, energy spends, enterprise development etc.
- Coordinated by REGEA

# Budget

---

- Total eligible costs under CONCERTO project:
  - €10.4m
- Total CONCERTO Funding secured:
  - €4.1m

# Challenges and Opportunities

## ■ Challenges

- EU funding programmes – time lines
- Paper work
- Resourcing
- Project management

## ■ Opportunities

- Research (Masters, PhD etc.)
- Future projects
- Setting benchmarks for National programmes & policy

# What we have done so far

- Supports for existing buildings is new in Ireland so we have had to
  - Design the grant support schemes and levels of support
  - Create a register of suppliers for insulation and heating systems
  - Developing a methodology of assessing existing houses
  - Develop an on-line database for management of data and grant supports
- District heating network is installed and planning for power plant applied for
- Begun research on socio-economic aspects
  - Baseline survey to be completed in July 2008
- Worked with CONCERTO Plus on common themes
  - Dissemination
  - Technical and Socio-Economic Indicators

# What we have learned so far

- Insulating existing houses
  - Investing €7,000 would reduce energy consumption by 30-40%
- District Heating
  - Needs integrated approach from the design stage
- Management and Analysis
  - We are creating a new system
  - Lots of lessons to be learned
  - Lack of real data on energy consumption in existing dwellings
  - Things always take longer than you think/want!
- People want to change
  - CONCERTO III

# CONCERTO III

---

- Call for CONCERTO III now open
- The deadline for submitting a proposal has been set for 09 October 2008
- [www.concertoplus.eu](http://www.concertoplus.eu) or
- <http://cordis.europa.eu>

# CONCERTO III

---

## ■ Proposals MUST

- Integrate energy efficiency in buildings with local renewable energy supply
- Be in a clearly defined area (city, town or part of)
- Show commitment from all relevant stake holders
- Show clear targets which are achievable and are sustainable
- Include a minimum of 3 Member States

# CONCERTO III

- **Eco-building Targets**
  - New Buildings: energy consumption 30% below 2010 building codes!
  - Refurbishment: energy consumption equal to 2010 building codes!
  - Preference for Refurbishment Actions
- **Renewable Energy Targets**
  - Local Supply
  - Clearly specify size, type, impact of projects
- **Intelligent integration**
  - Energy Mgt and Monitoring

# CONCERTO III

- SERVE Experience shows
  - Proposal preparation takes significant resources (6 months preparation for SERVE)
  - Need strong partners covering all relevant fields (technical, management, research etc.)
  - Need financial resources in place or planned for to implement project
  - Need to understand the timescales for securing contracts with Commission

# Conclusion

---

- The SERVE is only rural based CONCERTO II project which secured funding
- Ambitious project with targets which will be challenging to achieve
- It is not perfect and doesn't do everything but it is one step on the road.
  - *“CONCERTO Communities: The way of the future”*
- Others can benefit in many ways from its successful implementation

# Thank you.

# Questions?

For more information contact:

Seamus Hoyne

Project Co-ordinator

T: 00 353 504 28114

E: [shoyne@tippinst.ie](mailto:shoyne@tippinst.ie)

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



TIPPERARY  
INSTITUTE

Tipperary Institute



Sustainable Projects Ireland Ltd



North Tipperary County Council



Renewable Energy Management Services



Tipperary Energy Agency Ltd



Surface Power Technologies



THE CIRCA GROUP  
EUROPE

CIRCA Group Europe



Econnect Ventures



FEDARENE  
European Federation of Regional Energy and Environment Agencies

ENERGY CONSULTING NETWORK  
Energy Consulting Network



REGEA



Ayuntamiento de El Franco