

The Economics of Biomass Crops

Teagasc – DAFF, Technical Training Day

Talbot Hotel Carlow, Tuesday February 16th 2010

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Introduction

- Cash Flow effects of biomass investment
- Miscanthus – factors affecting profitability
- Willow – factors affecting profitability
- Example farm
- Potential extra support measures
- Conclusion

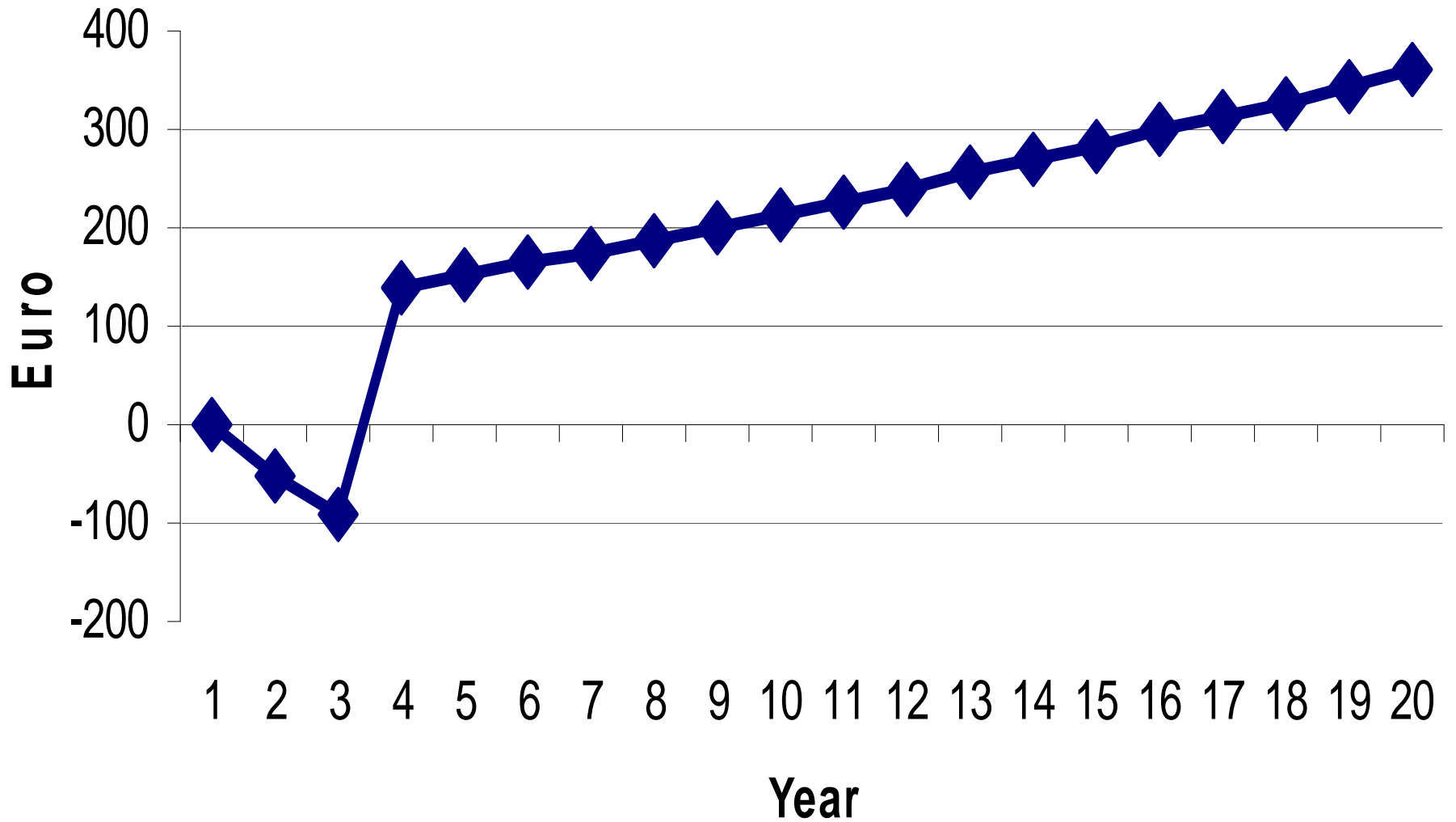
Farmer View Point

- What do I want to get out of it?
- Maximise income / farm profit
- What is the current efficiency of the enterprise to be replaced?
- Average 1/3 high cost producer needed 190 cows to match average 1/3 low cost producer 30 cows in 2008

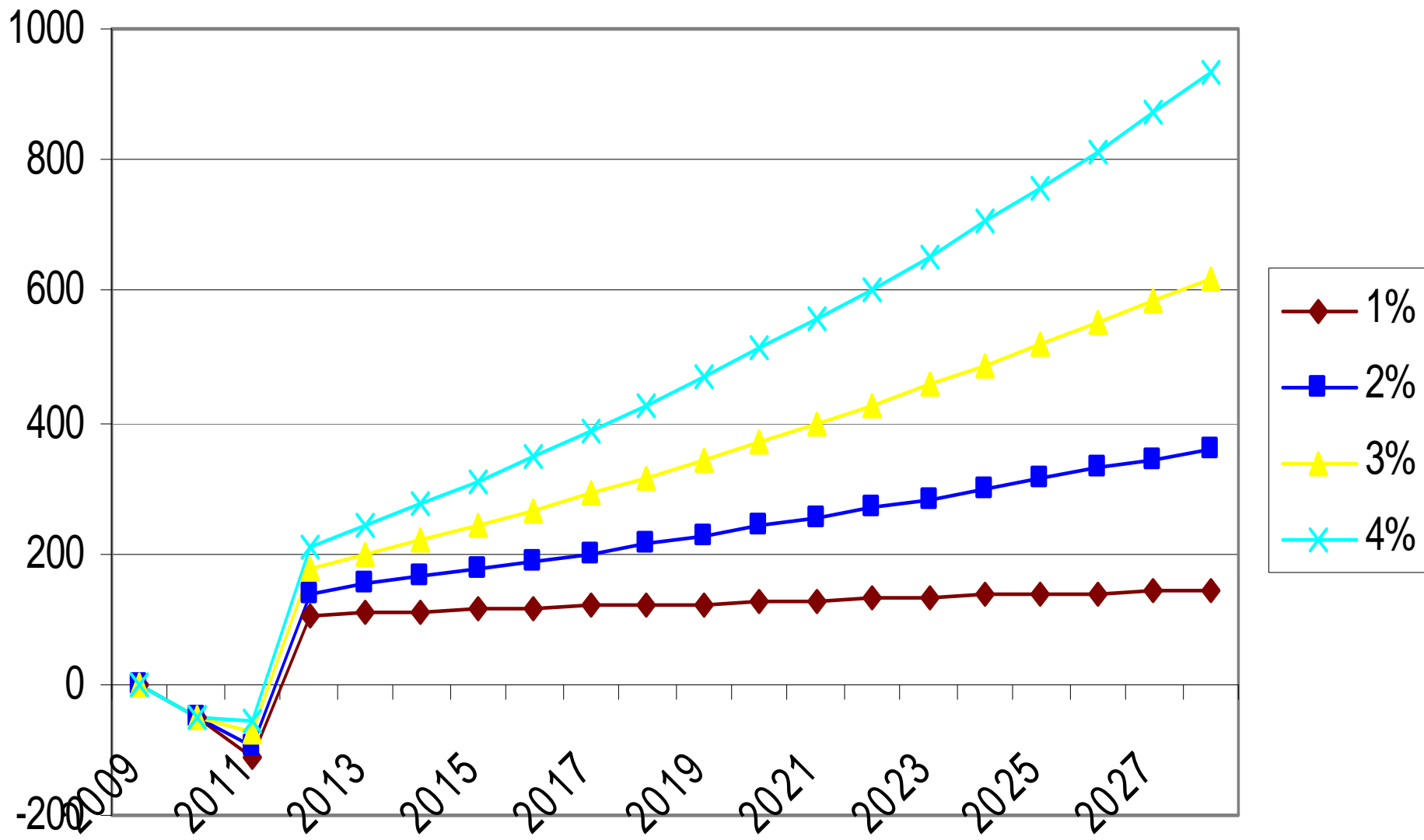
Miscanthus

- Energy Inflation
- Opportunity cost for land used
- Yield from the crop
 - Soil type
 - Topography
 - Management
- Price per tonne

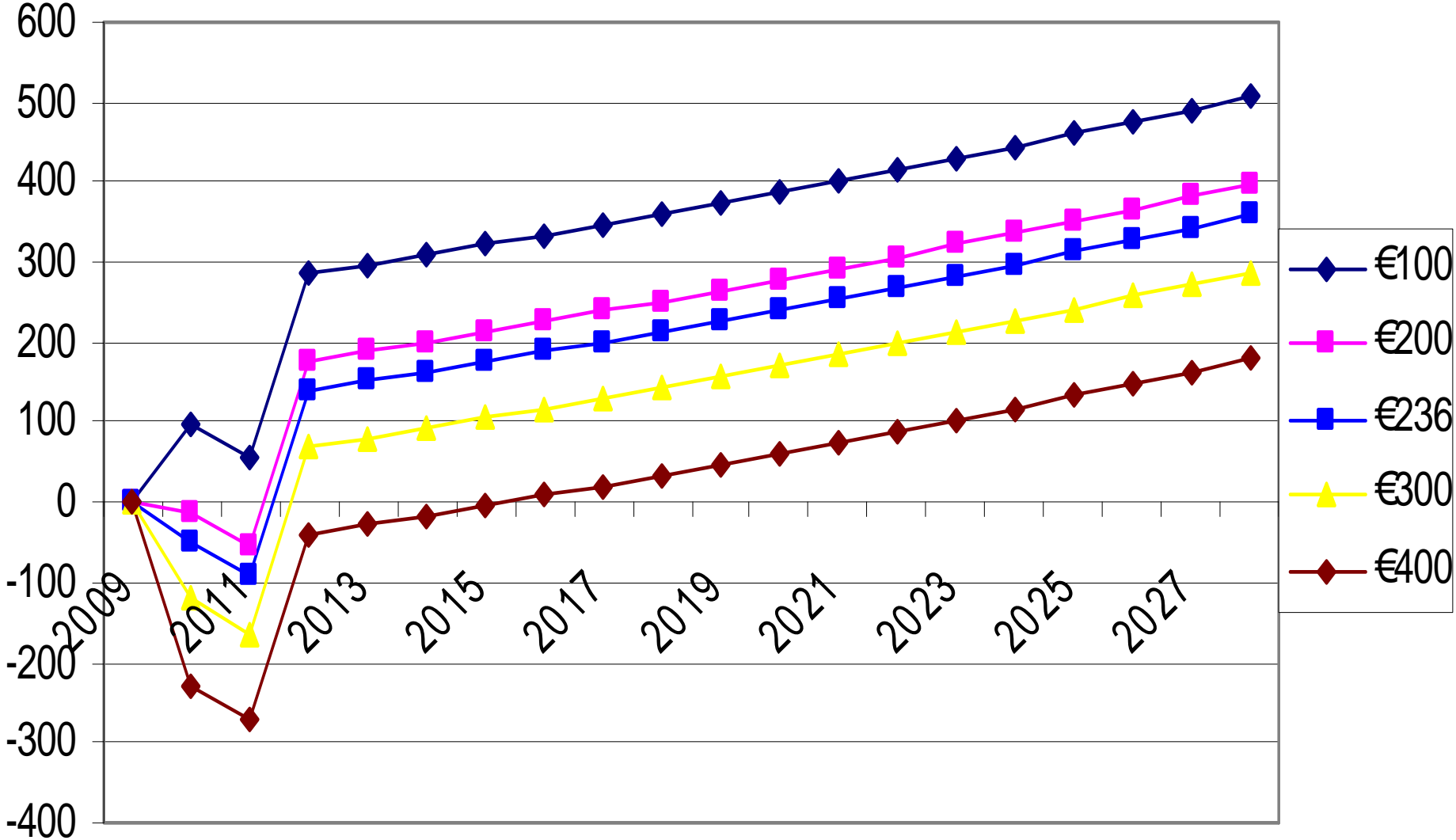
Mischantus Cash Flow / Hectare



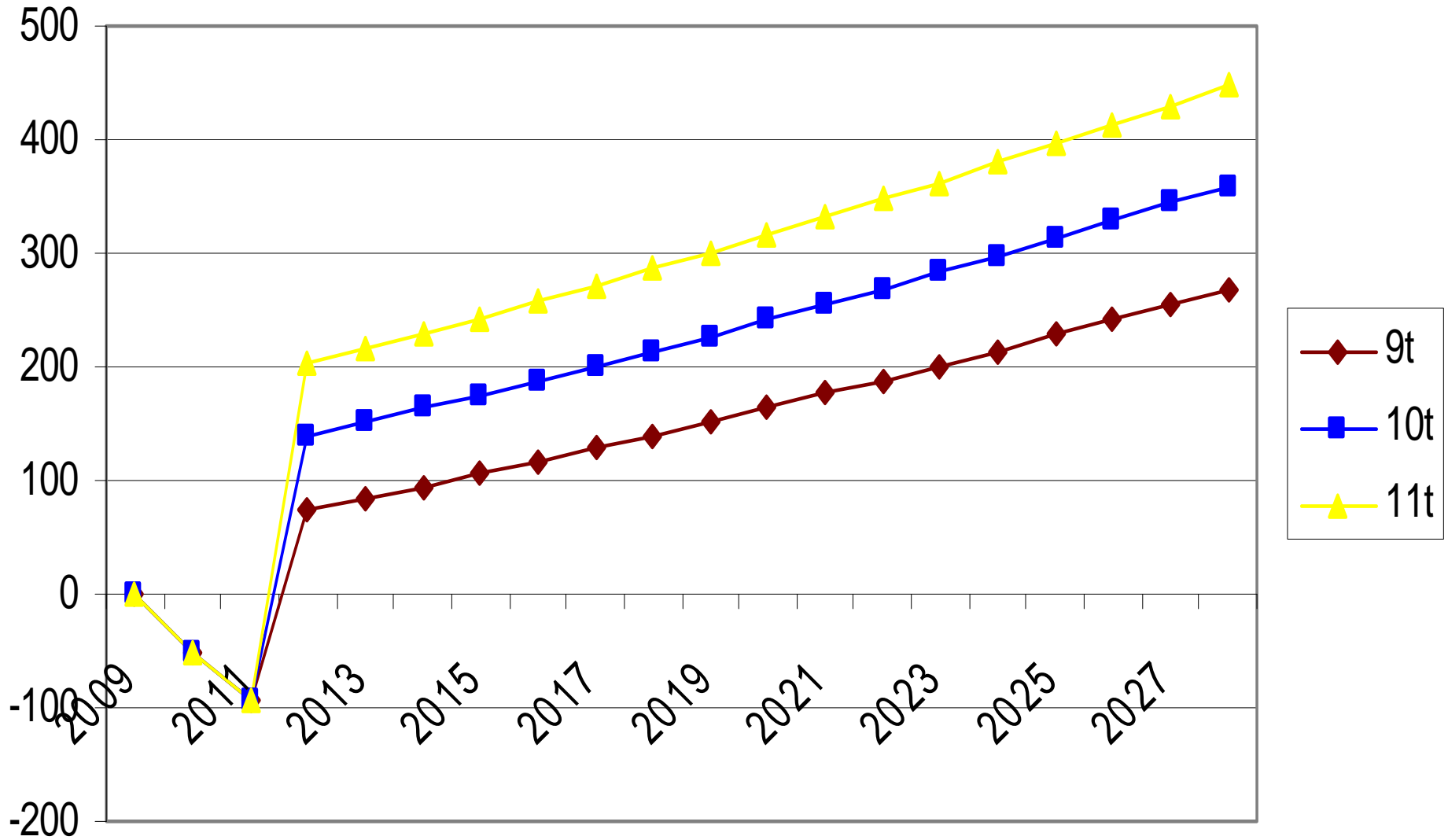
Energy Inflation - cash flow per Hectare



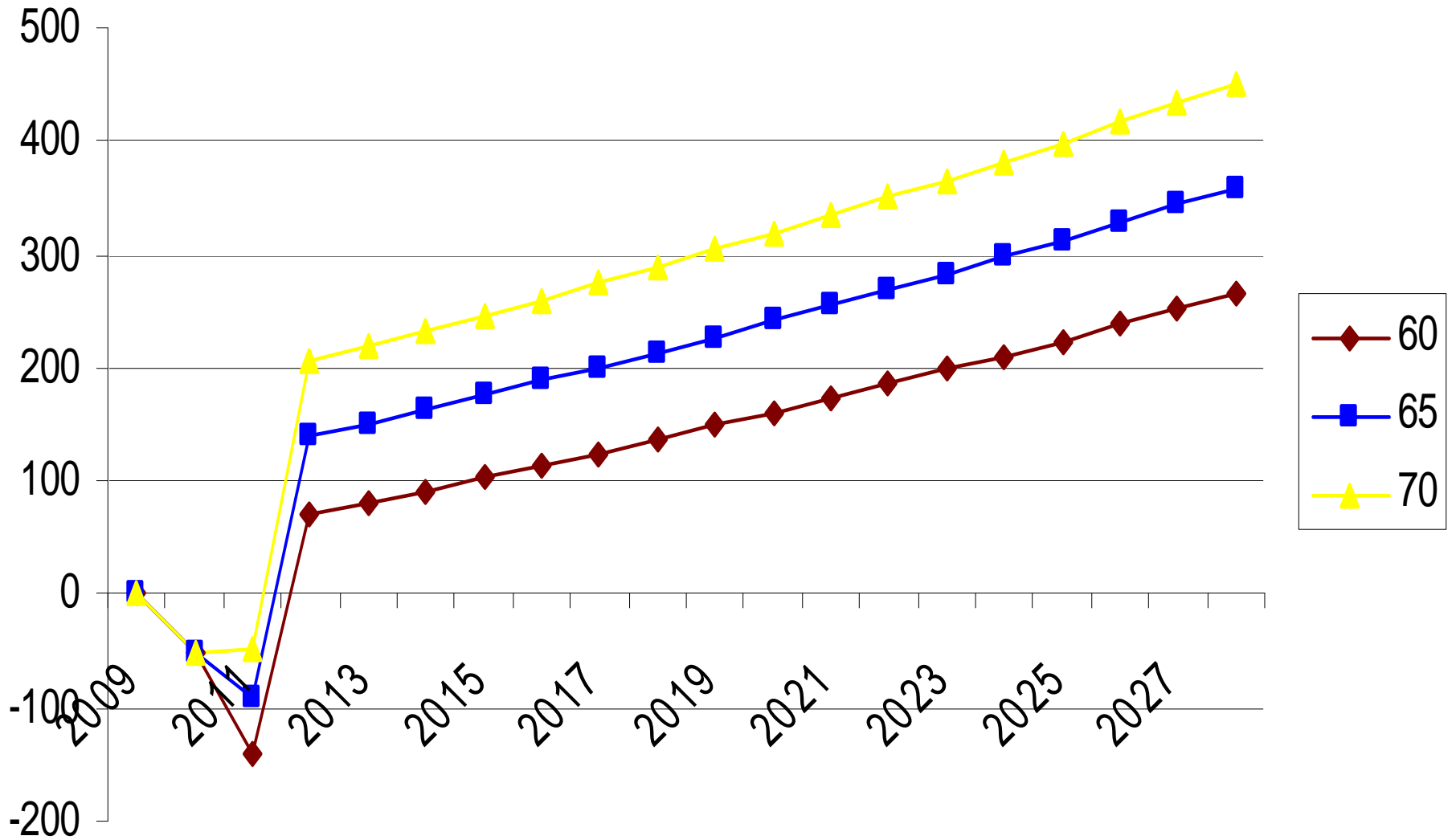
Opportunity Cost per Hectare



Yield per Hectare



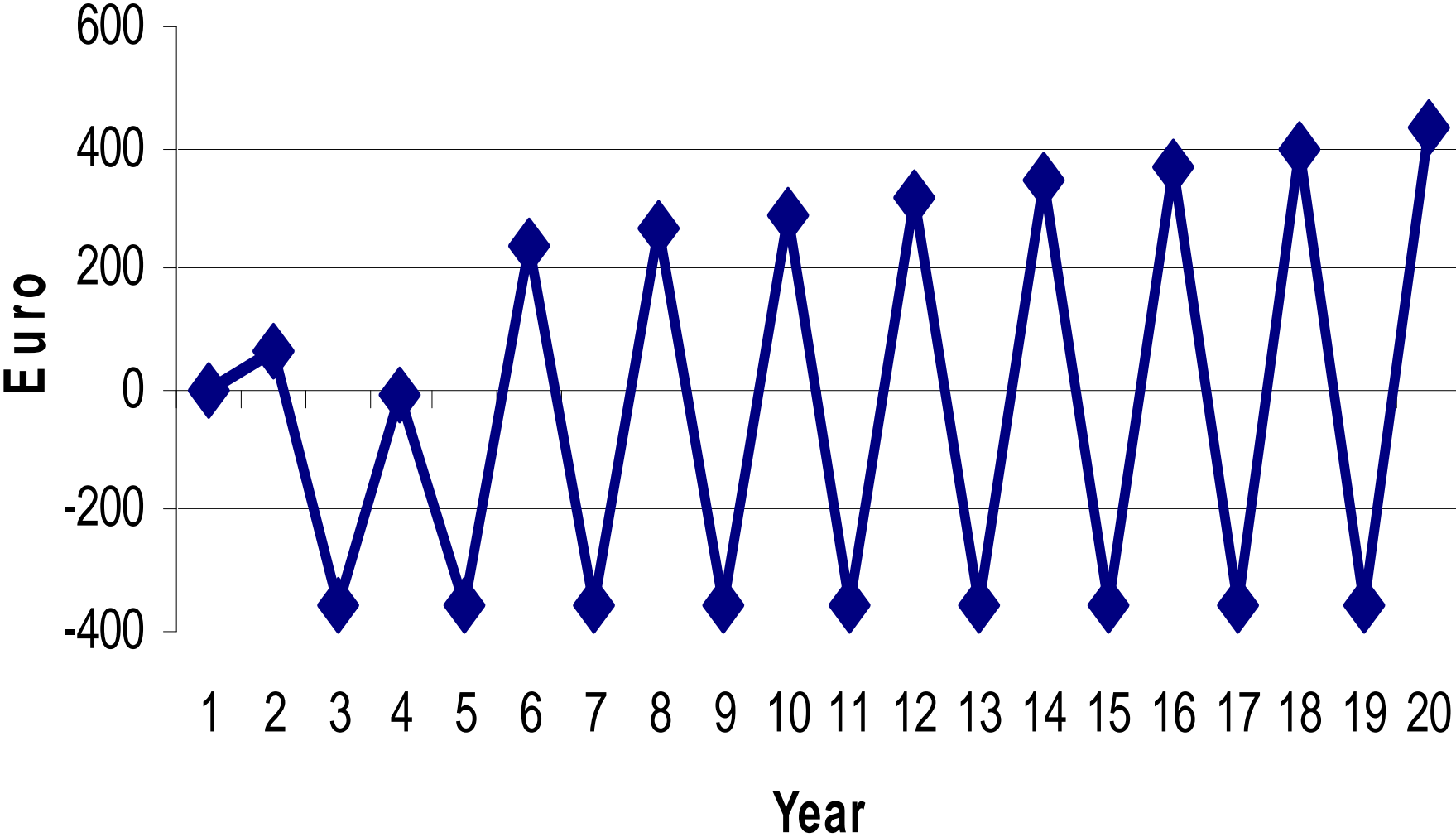
Euro per tonne



Willow

- Energy Inflation
- Opportunity cost for land used
- Yield from the crop
 - Soil type
 - Topography
 - Management
- Price per tonne
- Potential for bioremediation
- Distance to markets

Willow Cash Flow / Hectare



Example Farmer Miscanthus

- 29.7 ha with a cattle rearing enterprise
- Proposes to plant 20% of the farm
- Existing 'fixed' fixed costs €261 / ha that will not change
- Borrow all of the costs less grant over 20 years
- Interest rate 6%
- General and energy inflation 2%

Example farmer continued

- No opportunity cost for land
- Yield of 10 t / Ha
- Wants a positive cash flow after fixed costs of €247 / Ha (€100 / acre)
- Average cash flow required €508
- Requires €70.20 / tonne DM with transport paid
- Must ensure good establishment of the crop
- Risk from volatile farm gate prices is spread over more enterprises

Other Issues

- Opinion of successors
- Reducing future options
 - Critical scale of enterprises
 - Future improvement in existing enterprise?
 - Forestry – tax status
- Limited initial cash flow in this business
- Increased debt exposure
- Poor tax treatment of these crops

Other issues continued

- Quality of land / yield potential
- Reduced labour demand
- Diversification of enterprises – spreading risk
- Distance to markets
- Bioremediation (gate fees)
- Potential for carbon credits
- Outlook for energy inflation

Conclusions

- Know the existing enterprise efficiency
- Examine the yield potential – soil type
- Research distance to market / bioremediation
- Long term investment – return is exposed to market volatility
- Need for greater support / market guarantees to see substantial growth
- Better tax treatment would be helpful
- Further research required to increase confidence in assumptions

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