



# Tariff structure and profitability



# Different Systems

- Feed-in tariffs
- Quotas and Tenders
- Green Certificates



# Feed-in Tariffs

- Financial security
- Revenue predictability



- **Avoided costs of utilities**





- **Production Costs of Producers**



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- **Global Warming**
- **Energy crisis**

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- **Profitability index method**
- **Internal rate of return**

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- **Cost of Capital**
  - **Consumer Price Index / Inflation**



- **The even distribution of Profitability**



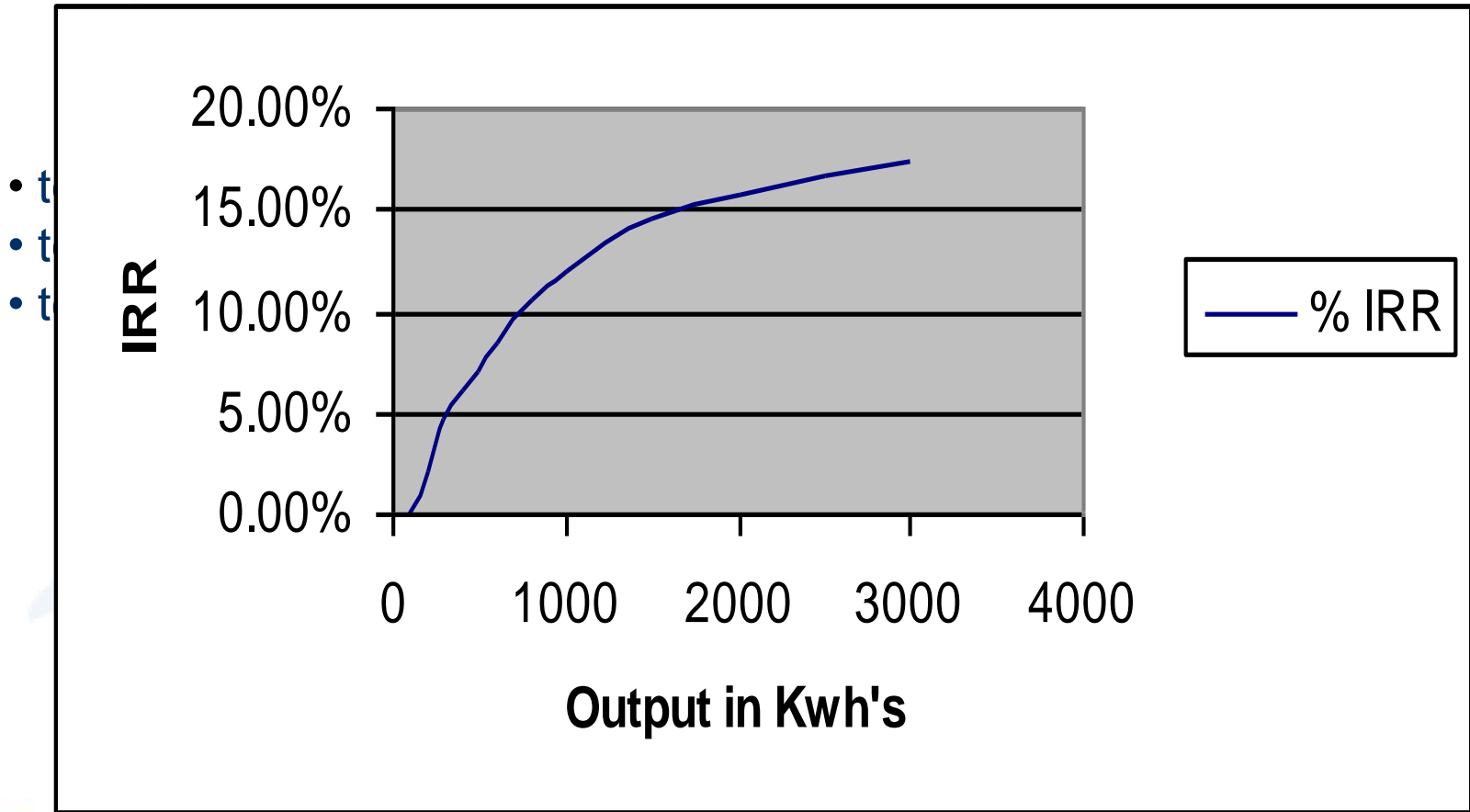
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# IRR at Flat rate of 10 cents/kwh Without step over 20 years



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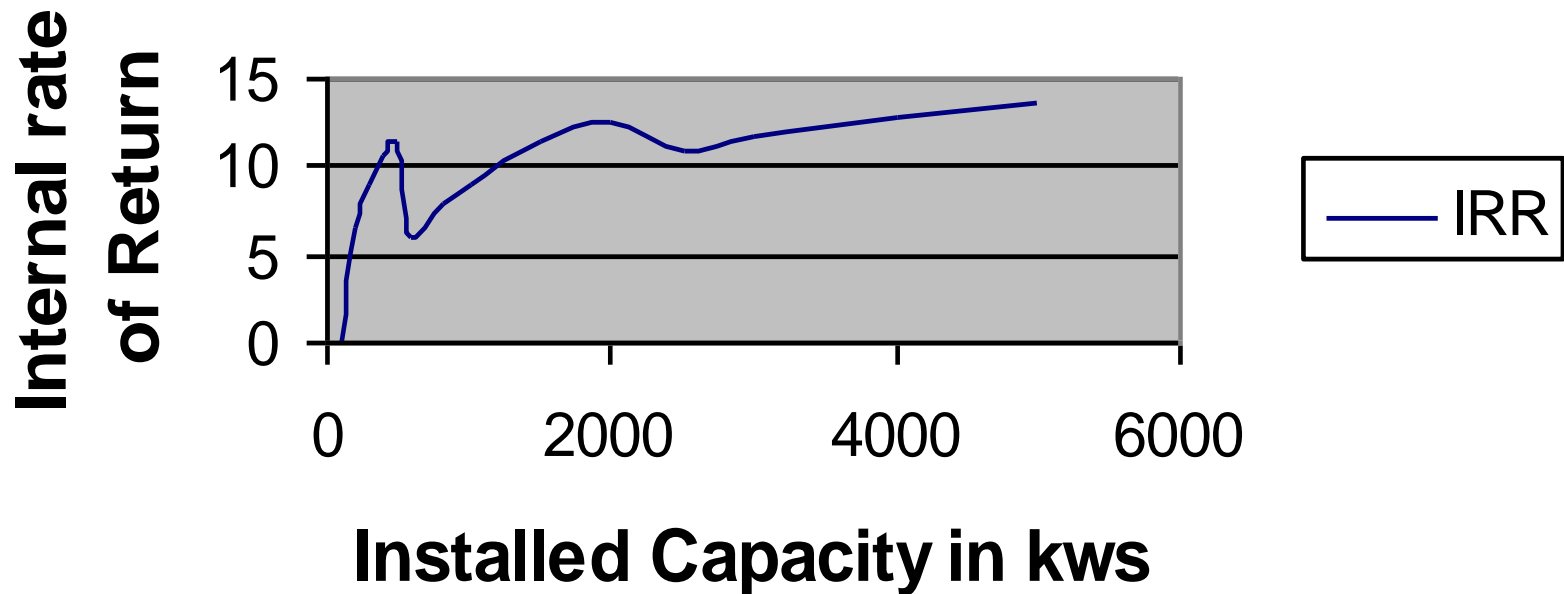
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# Internal rate of Return for a stepped rate Over 20 years

<500 kw @12.67... 500kw-2mw @8.65  
2mw-5mw @ 7.65



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# With a Modular Tariff

- **Yes. We can.**

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# Modular Tariff for Small Hydro

## IRR of 11.5% over 20 Years

Output	Flat rate	Modular tariff	Yield from	IRR
Kwh	Cents /kwh	1st M, 2nd M etc	Mod trf	
1 m	15.09	15.09	15.09	11.50%
2 m	12.55	10.01	12.55	11.50%
3 m	10.63	6.85	10.65	11.53%
4 m	9.74	6.78	9.68	11.37%
5 m	9.07	6.72	9.09	11.55%
6 m	8.62	6.66	8.69	11.65%
7 m	8.37	6.55	8.38	11.52%
8 m	8.17	6.49	8.14	11.42%
9 m	7.97	6.40	7.95	11.44%
10 m	7.81	6.37	7.79	11.45%



- The small producer will get a high rate.
- The big producer will get a larger proportion of his revenue in the early part of the year.
- Everybody will use the same tariff

# In constructing a Modular Tariff National Governments must agree upon or accept

- An appropriate level of profitability
- Local or national levels of  
Investment and Operating costs

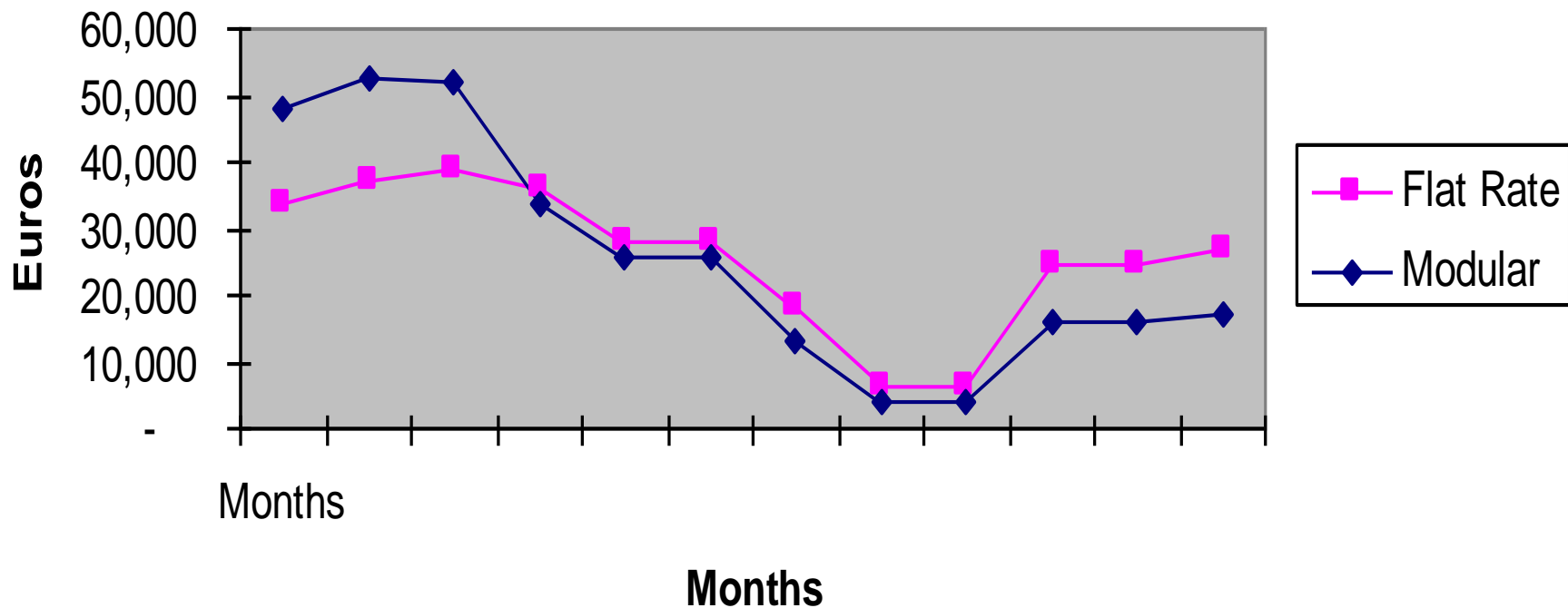
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# Revenue flow for Flat rate and Modular Tariffs

## 3 million Kwh giving €308,000



# Aggression ?

- Small Hydro is a well developed technology
- Cost of Replacement and Refurbishment will follow inflation
- Once the cost basis for a Modular Tariff has been established the tariff must also follow inflation