

Green Power Markets, Future Energy Policies and Emission Trading
Schemes in Comparison
Steering Group Meeting of EIE Project REALISE-FORUM
Salzburg, 26th September 2005

Feed-in or Certificate Markets
Perspective of Italian Stakeholders

Results from the REALISE-FORUM Desk in Italy

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RES-E Support System in Italy

The main support system has been shifting from CIP 6/92 feed-in prices to RES-E Mandatory Quota with Tradable Green Certificates (TGC)

- **CIP 6/92 feed-in prices** have been guaranteed to RES-E plants over the first 8 years. Prices depending on source and year (e.g. for wind 12.75 c€/kWh in 2004)

Lists of entitled CIP 6/92 projects have long been closed and last CIP 6/92 plants start up in 2005.

CIP 6/92 capacity will peak in 2006, then go down to zero in 2013

“RES assimilated” plants have got much of CIP 6/92 funding

- **The Quota/TGC system**, set up by Legislative Decree 79/1999 and regulated by Decree of 11.11.1999 etc., is the main RES-E support currently available to new undertakers.

In force since 2001 (first RES-E production obligation in 2002)

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The Italian Quota/TGC System

- Producers or importers of non-RES electricity exceeding 100 GWh/yr must feed the Italian grid with a RES-E quota of at least 2% of their non-RES energy the following year (increase of 0.35%/yr in 2004-06)
- Compliance must be shown by submitting TGC to **GRTN** (Italian Transmission System Operator).
- TGC are granted by GRTN to **IAFR-qualified RES-E plants** in the first **8 years** of lifetime and are valid for the reference year only
One TGC = 50 MWh (formerly 100 MWh)
- Only new or re-powered RES-E plants that have gone in operation after 1st April 1999 are qualified to get TGC (IAFR)
- Obligated subjects can either hand in their own TGC or buy TGC from RES-E producers on market run by **GME** (Electricity Market Operator)
- Also feeding certified imported RES-E into the Italian grid is allowed (conditional upon reciprocity)

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The TGC Market in Italy

- The market price of TGC should result from demand by obliged subjects versus supply by qualified RES-E producers
- TGC due to IAFR-qualified plants that also get CIP 6/92 feed-in prices are retained by GRTN, which must sell them at a price fixed every year according to Decree of 11.11.1999 (9.739 c€/kWh in 2004)
- GRTN's TGC currently outnumber those offered by RES-E producers and would be enough to meet demand. Steady decrease after 2006
- Leg. Decree 387/2003 transposing Directive 2001/77/EC defines RES-E in accordance with the Directive, but Art. 17 entitles also some non-biodegradable fraction of waste to get TGC
- Law 239 of 23 Aug. 2004 grants TGC to electricity from H₂ and fuel cells, and thermal energy from CHP plants for district heating

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Other Features of RES-E Market

- RES-E plants can take part in the free electricity market if programmable and with capacity of at least 10 MVA (5-6 c€/kWh)
- If not programmable or below 10 MVA, the grid operator must buy their output at a price set by AEEG (4-5 c€/kWh)
- Energy from RES-E plants below 20 kW is paid to producer only on a net-metering basis
- Come-back of feed-in prices for solar PV plants. Decree is to be issued shortly (45 to 50 c€/kWh)
- Capital cost subsidies available from Regions (e.g. for wind farms) or state programmes (e.g. PV Rooftops Programme)
- Voluntary-based RES-E labelling systems (RECS, Guarantee of Origin, “100% energia verde” brand)

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REALISE-Forum Enquiry among Stakeholders

- For the Italian Desk, a questionnaire was drawn up and sent to about 300 RES-E Stakeholders by **CESI** with the assistance of **APER** (Association of RES-E Producers). **82 questionnaires** were filled in.
- Question 1: State main area of activity and owned RES-E capacity

RES-E producers and their associations	42
Other electricity producers and associations	4
Manufacturers of RES-E plant components	2
Public authorities and grid operators	6
Research and certification institutes	5
Banks and other financial institutions	6
Consumer and environment associations	2
Others (multiple roles, including electricity traders)	15

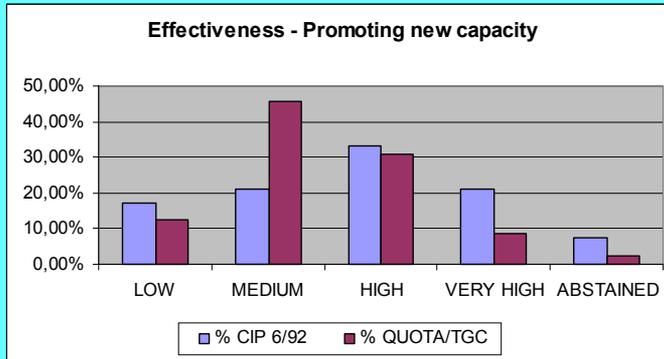
RES-E producers from hydro, geothermal, wind, biomass, solar PV plants
31 respondents have RES-E capacity <10 MW, 8 10-100 MW, 6 >100 MW

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Question 2 - a

State the degree of effectiveness you perceive of the **CIP 6/92 feed-in** and the **Quota/TGC** system, respectively, as regards

a) promoting the deployment of new RES-E capacity



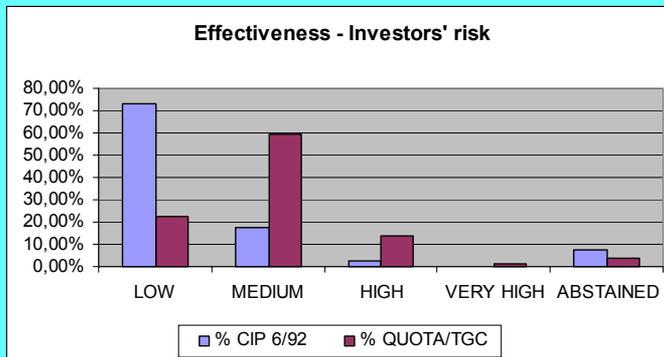
Even though ranking is rather widely scattered, both systems get fairly good average rating. CIP 6/92 feed-in is however better placed than Quota/TGC

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Question 2 - b

State the degree of effectiveness you perceive of the **CIP 6/92 feed-in** and the **Quota/TGC** system, respectively, as regards

b) risk incurred by investors



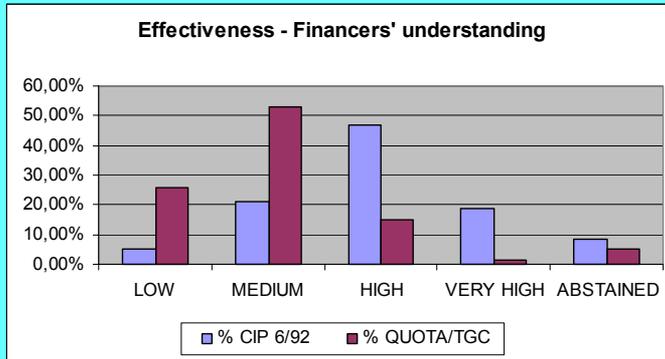
Neither system is felt as very risky. However, the risk of CIP 6/92 feed-in is mostly deemed low, whereas the risk of Quota/TGC is perceived to be higher

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Question 2 - c

State the degree of effectiveness you perceive of the **CIP 6/92 feed-in** and the **Quota/TGC** system, respectively, as regards

c) degree of understanding and acceptance by financing institutions



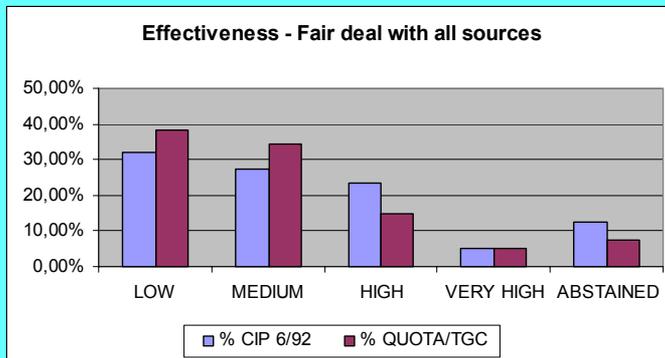
On average, the degree of understanding is pretty high for CIP 6/92 feed-in, but rather lower for Quota/TGC

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Question 2 - d

State the degree of effectiveness you perceive of the **CIP 6/92 feed-in** and the **Quota/TGC** system, respectively, as regards

d) fair dealing with all the various energy sources



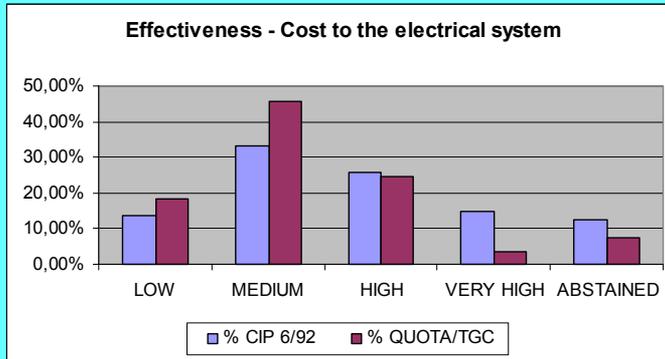
The capability of giving all sources a fair deal has mostly been found medium or low for both CIP 6/92 feed-in and Quota/TGC

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Question 2 - e

State the degree of effectiveness you perceive of the **CIP 6/92 feed-in** and the **Quota/TGC** system, respectively, as regards

e) cost to be borne by the whole electrical system



On average, cost is deemed medium to high for both systems, but somewhat higher for CIP 6/92 feed-in. Difference between 2 stakeholder groups

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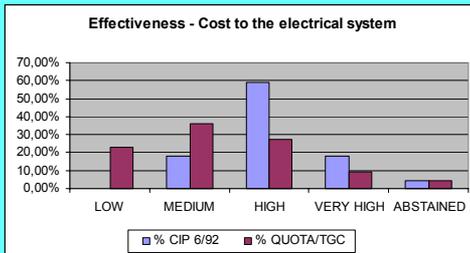
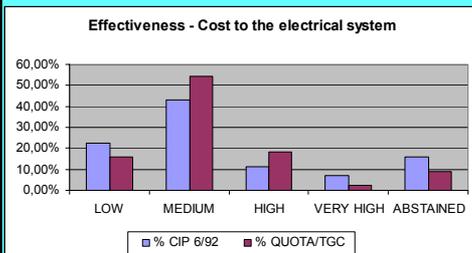
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RES-E Producers & Manufacturers

Outside World

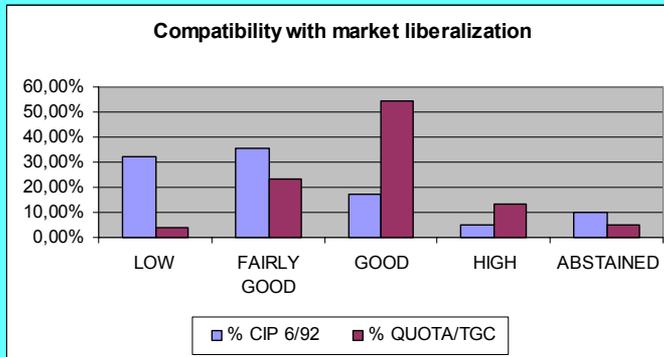


Cost of CIP 6/92 feed-in system is judged far more severely by Outside World, i.e. stakeholders who are not in business as RES-E Producers or Manufacturers. The same have more scattered opinions on Quota/TGC

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Question 3

State the degree of compatibility of the **CIP 6/92 feed-in** and the **Quota/TGC** system, respectively, with the recent liberalisation of the electricity market

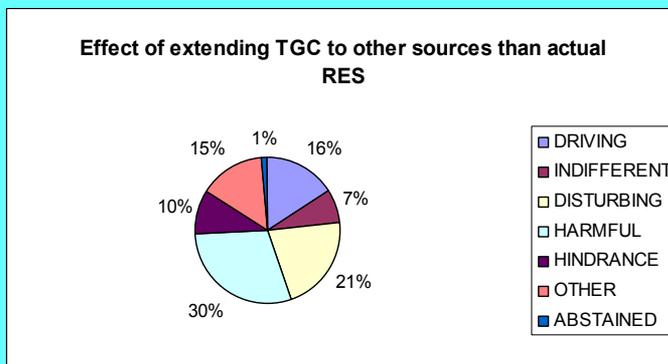


The Quota/TGC system is mostly perceived as well compatible with the liberalised market, definitely better than the CIP 6/92 feed-in system

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Question 4

How do you see the effect of the recent extension of TGC to other, non-strictly-renewable sources (non-biodegradable waste, H₂, fuel cells, CHP for district heating) in respect of RES development ?

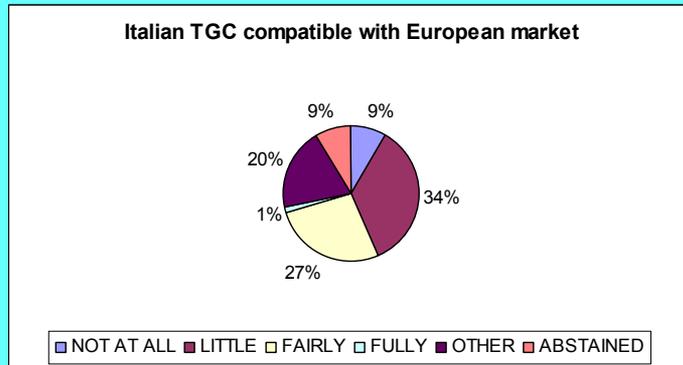


Over 60% of stakeholders have a clearly negative view of the extension. About the same trend in the group of RES-E Producers & Manufacturers and that of Outside World.

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Question 5

Is the Quota/TGC system currently in force in Italy compatible with the trade of Green Certificates on the European market ?

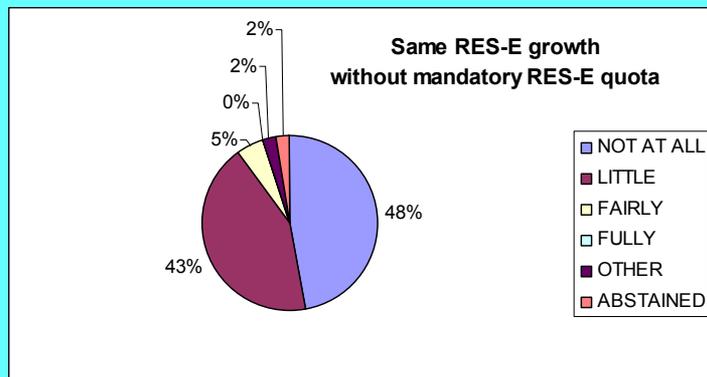


In the opinion of most stakeholders, the compatibility with the European TGC market is, on the whole, rather poor

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Question 6

Without a mandatory RES-E quota, would voluntary-based labelling systems (RECS, Italian Guarantee of Origin, 100% energia verde brand) alone be able to bring about the same RES-E plant deployment in Italy?

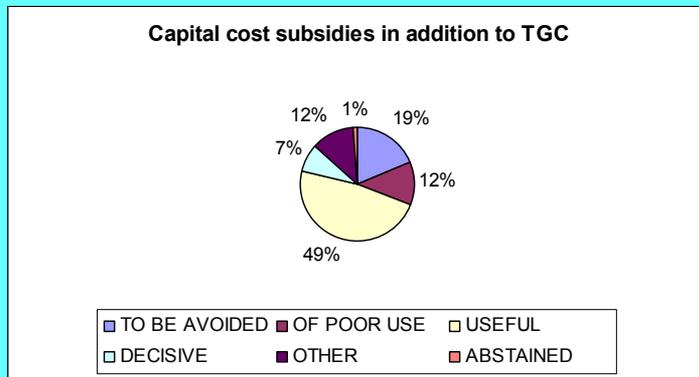


There is a widely-shared opinion that a mandatory RES-E quota is quite needed to maintain RES-E plant deployment

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Question 7

How do you see the availability of capital cost subsidies from local governments as a means to promote the setting-up of competitive RES-E plants in addition to the Quota/TGC system ?



Over 50% of stakeholders find capital cost subsidies useful, but another 30% have an opposite mind. Difference of mind between stakeholder groups

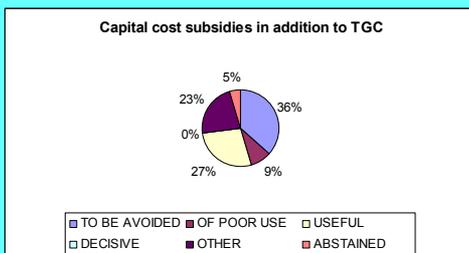
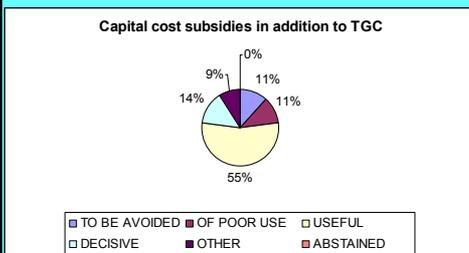
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RES-E Producers & Manufacturers

Outside World

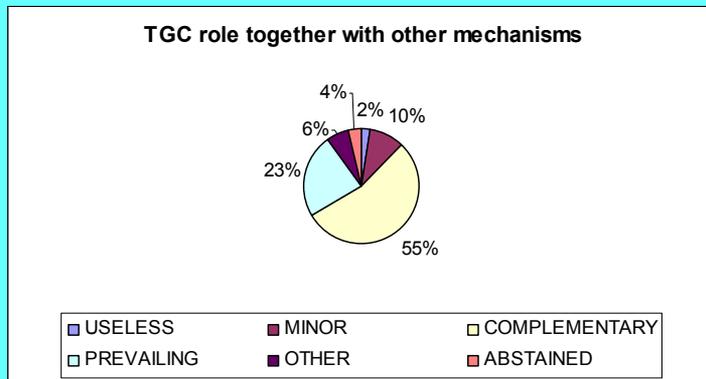


RES-E Producers & Manufacturers have a much better opinion (nearly 70% useful, 22% not) than Outside World (27% useful, 45% not, 23% other various views)

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Question 8

What will be the role of the Quota/TGC system in Italy after the incoming of White Certificates for efficient end-use and the Emission Trading, JI and CDM of the Kyoto Protocol (Directive 2003/87/EC) ?

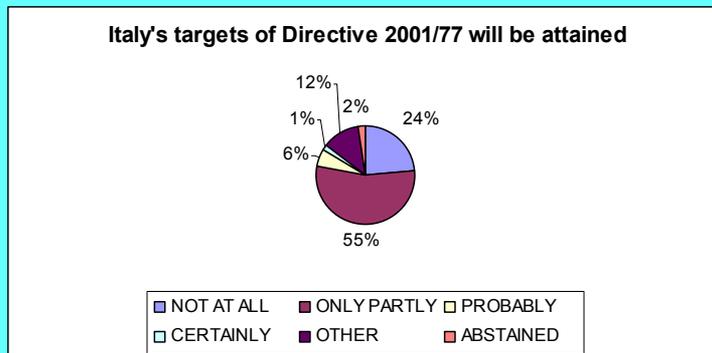


More than half of answers foresee a complementary role.
23% however think that the role of Quota/TGC will still be prevailing

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Question 9

With the current RES-E support system, will Italy be able to achieve the RES-E target set by Directive 2001/77/EC (22-25% of domestic electrical energy demand by 2010 up from 16% in 1997) ?



There is a widely-shared opinion that the target will be achieved only partly with the current tools. Nearly 25% say not at all.
Some difference between stakeholder groups

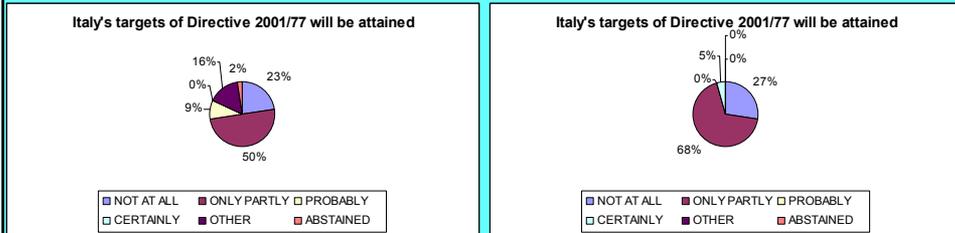
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RES-E Producers & Manufacturers

Outside World

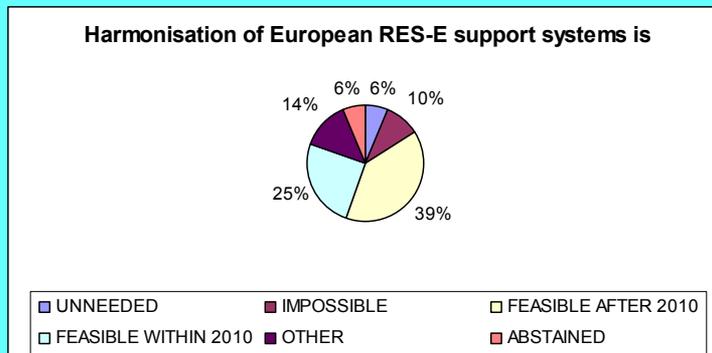


Outside World are more pessimist than RES-E Producers & Manufacturers. But several answers of RES-E Producers & Man. classed under "Other" complain of permitting and acceptance issues as hindrances

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Question 10

How do you see a possible harmonisation of national RES-E support systems throughout the European Union in accordance with the principles of the EU electricity market (Directive 2001/77/EC) ?



Only 25% of answers say harmonisation is feasible within 2010. Nearly 40% say feasible after 2010. Some difference between stakeholder groups

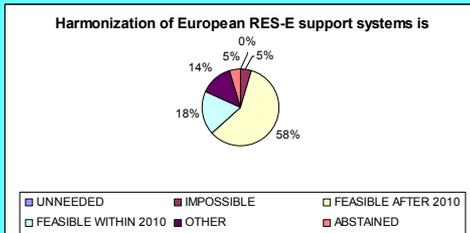
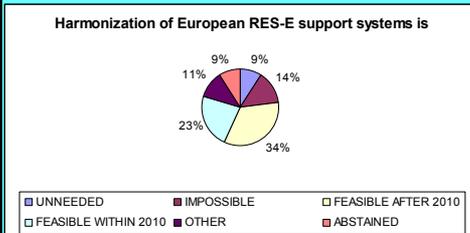
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RES-E Producers & Manufacturers

Outside World

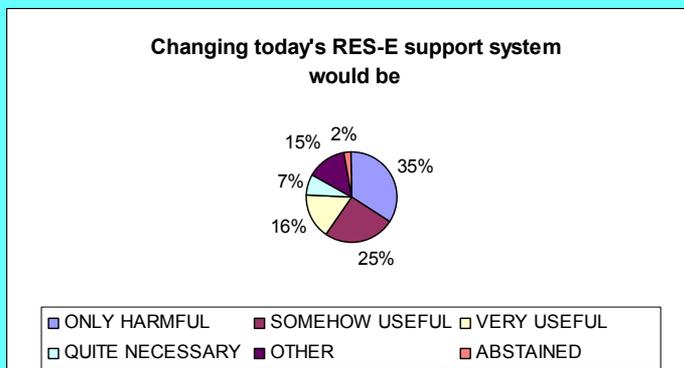


**Outside World are a little more optimistic than RES-E Producers & Manufacturers.
None of them says harmonisation is not needed**

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Question 11

What do you think about a possible change in Italy's current Quota/TGC system in the next 5 years ?
How would it affect the deployment of RES-E plants ?



**Splitting between those in favour (48%) and those openly against (35%).
Similar trends in the group of RES-E Producers & Manufacturers and that of Outside World**

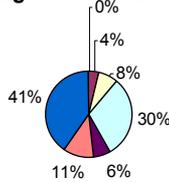
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Question 12

If you however had to change today's Quota/TGC system in the next 5 years, which of these changes would you suggest ?

- Cancel any RES-E support mechanism
- Stir up more competition among all sources and plants
- Let TGC price be set by market only
- Reduce risks to investors e.g. by making TGC available beyond the 8-year term
- Restore feed-in prices only for less competitive RES
- Restore feed-in prices for all RES (different for the various RES)
- Other suggestions (open statement)

Suggested changes to current support system



- NO RES-E SUPPORT
- ONLY MARKET TGC PRICE
- REDUCE RISK (>8 YEARS)
- FEED-IN FOR SOME RES
- FEED-IN FOR ALL RES
- MORE COMPETITION
- OTHER (INCL: MULTIPLE)

Risk reduction prevails, also among multiple answers (Other)

Nobody wants to cancel RES-E support

Different minds between stakeholder groups

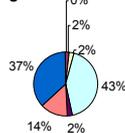
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RES-E Producers & Manufacturers

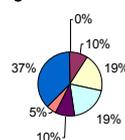
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Outside World

Suggested changes to current support system



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- MORE COMPETITION
- OTHER (INCL: MULTIPLE)

RES-E Producers & Manufacturers aim at getting TGC beyond 8 years and sometimes look back to feed-in prices.

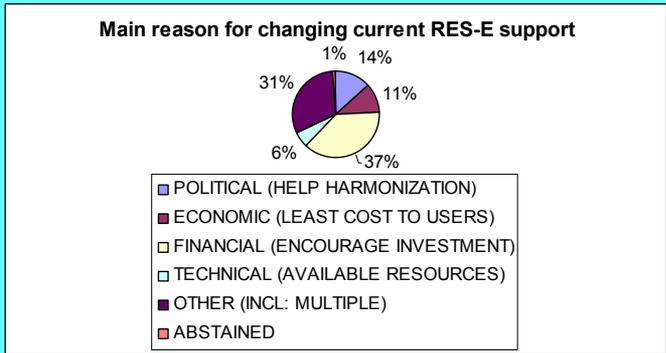
Outside World give more importance to competition and market-based TGC price and would grant feed-in prices to less favoured RES only

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Question 13

The main reason for changing today's Quota/TGC system could be defined as

- *Political: adjust to other countries to facilitate EU-wide harmonisation*
- *Economic: minimise electricity price to users by avoiding costs of TGC and RES-E*
- *Financial: encourage undertakers and banks towards RES-E investments*
- *Technical: bring RES-E quotas and TGC terms in line with exploitable resources*
- *Other suggestions (open statement)*



Financial reasons prevail, also among multiple answers (Other).

Different minds between stakeholder groups

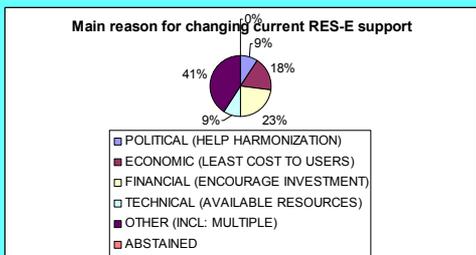
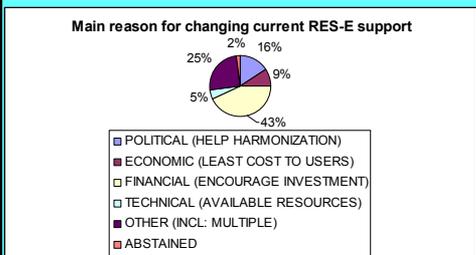
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RES-E Producers & Manufacturers

Outside World



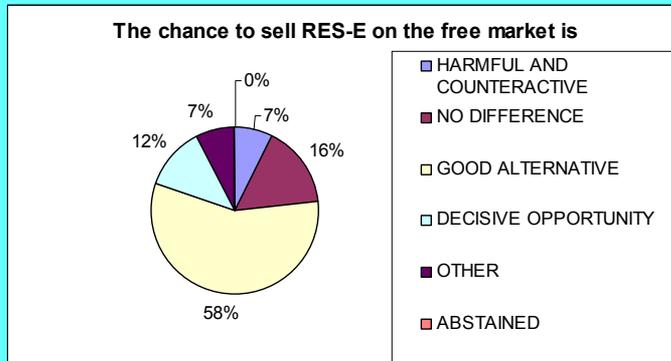
RES-E Producers & Manufacturers stress financial and, to a lesser extent, political and economic reasons

Outside World give less weight to financial and political, and more to economic and technical reasons - Many more multiple answers

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Question 14

Liberalisation of the electricity market has allowed RES-E producers to sell energy to various parties (traders, end-users, exchange etc.). How do you see this chance in respect of RES-E development ?



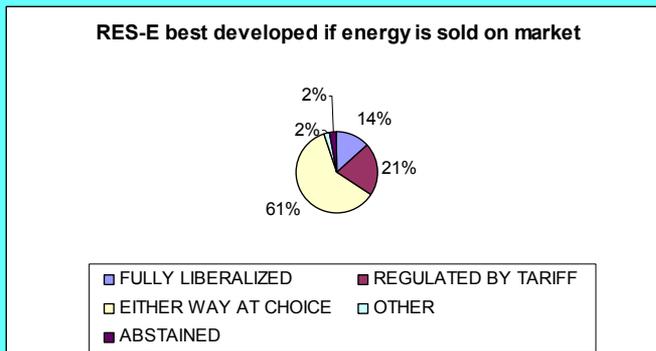
This chance is mostly seen with favour among all stakeholders

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Question 15

Regardless of support mechanisms, which of these ways of selling electrical energy is most effective for developing RES-E plants ?

- In a fully liberalised framework, with energy prices set only by market
- In a regulated framework, with energy prices set by tariff
- In a mixed framework, where either way can be chosen by producers
- Other (open statement)



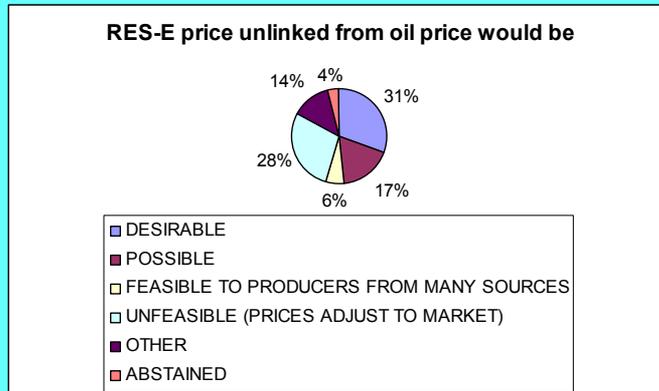
Most stakeholders would prefer a mixed framework.

Same trend in both stakeholder groups

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Question 16

In a market framework with offer largely exceeding demand, the offering price of RES-E might be unlinked from oil price and become another reference as opposed to unsteady fossil fuel prices. How do you see that ?



It is difficult to find a prevailing feeling, as answers are rather scattered. Desirable and unfeasible get higher results

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Some Closing Remarks - 1

- Most questions show some prevailing attitude. Fairly good cohesion between stakeholder groups. Some discrepancy in fewer cases
- The former CIP 6/92 feed-in system got better ratings than Quota/TGC as to capacity deployment, investors' risk, understanding, fair deal with sources, but its cost to the whole system was deemed higher
- Today's Quota/TGC system is deemed more compatible with the liberalised electricity market
- Recent extension of TGC to some actually non-RES-E plants, and poor compatibility of Italian TGC with EU TGC market were often blamed
- A mandatory RES-E quota is felt to be quite needed for maintaining RES-E plant deployment
- Differing views between stakeholder groups about capital cost subsidies
- Quota/TGC will still play a complementary or even prevailing role in boosting RES-E as other systems (Emission Trading etc.) come in

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Some Closing Remarks - 2

- **Many feel Italy is unlikely to achieve its 2010 RES-E target set by EU Directive (complaints of permitting, grid and acceptance issues)**
- **Harmonisation of support systems in the EU is necessary, but mostly deemed feasible only after 2010**
- **Opposite views about changing the current Quota/TGC system in the next 5 years, with nearly the same trend in main stakeholder groups**
- **The preferred change would be to reduce investors' risk by extending TGC beyond 8 years. Fewer want to go back to feed-in systems**
- **The main reason for changing is financial (encourage investment), then (to a lesser extent) political and economic. Technical reasons come last**
- **The chance to sell energy on a liberalised electricity market is seen as a good opportunity for RES-E producers**
- **But the preferred market should leave either way open: liberalised market and market regulated by tariffs**