The government presents the new National Energy Strategy – the public consultation is under way

Energy costs and environment are the focus of the new strategy

Reducing energy costs, attaining and surpassing all of the European environmental targets, greater security of supply and industrial development in the energy sector.

These are the objectives set out in the national energy strategy document which the Minister for Economic Development, Infrastructure and Transport, Corrado Passera, submitted to the Council of Ministers on the 16th of October. The modernisation of the energy sector is a key element in the government's Sustainable Growth Agenda. More than 20 years on since the adoption of the last National Energy Plan, the industry had been eagerly awaiting this programme and policy document.

Over the coming weeks, the government will be embarking on a wide-ranging public debate to openly address these decisions with all the stakeholders involved (an online consultation has been published on the ministry website). The aim, within two months or so, is to define objectives, fundamental policies and priority measures that achieve the fullest possible consensus, in the general interests of the country.

The measures proposed in the energy strategy, which extends, essentially, to 2020, are intended to ensure that energy ceases to be a structural disadvantage for our country and a factor that weighs increasingly on household budgets. The lines set out in the strategy will at the same time make it possible to maintain and improve our already high environmental, security and safety standards, thanks to the substantial investment expected in the sector.

Once the proposed strategy has been implemented, it will enable the system to evolve, gradually but significantly, and to surpass the 20-20-20 European targets. The results expected by 2020 (assuming economic growth to be in line with the latest European Commission forecasts) are as follows:

- The wholesale prices of all energy sources – electricity, gas and fuels – will be aligned with European price levels.
- Expenditure on energy imports will be reduced by about €14 billion/year (from the present €62 billion), and dependency on foreign supplies from 84% to 67%, thanks to energy efficiency, increased production from renewables, lower electricity imports and increased production from national resources.

- €180 billion will be invested between now and 2020 in the green and the white economies (renewables and energy efficiency) and in traditional sectors (electricity and gas networks, re-gasification plants, storage, hydrocarbon development). These will be private investments, partly supported by incentives, and are expected to generate positive economic returns for the country.
- Greenhouse gas emissions will fall by about 19%, exceeding the European targets for Italy, set at 18% below the 2005 emission levels.
- Renewable energy sources will account for 20% of gross final consumption (compared with about 10% in 2010). This is equivalent to 23% of primary energy consumption, while fossil fuel use will fall from 86% to 76%. Furthermore, it is expected that renewables will become the primary source in the electricity sector, equivalent to, or slightly overtaking, gas, to account for about 36-38% of consumption (compared with 23% in 2010).
- Primary consumption will fall by about 24% by 2020 compared with the reference scenario (an estimated 4% below 2010 levels); this exceeds the European objectives of -20%, thanks mainly to energy efficiency measures.

These results will be accompanied by benefits, whose overall impact is difficult to quantify, in terms of economic growth and employment. These gains will be produced, primarily, by increased competitiveness in the most electricity- and gas-intensive sectors; savings of resources currently being used to import fuels; substantial investments in the energy sector and in the associated supply industries; and a revitalisation of research and innovation in the sector.

To attain these results, the strategy has been broken down into seven priorities, each with specific supporting measures that have already been set in motion or are currently being defined:

1. Fostering Energy Efficiency, which is expected to exceed the European targets, as the most appropriate means of pursuing all the aforementioned objectives.
2. Promoting a competitive gas market, integrated with and with prices aligned to the European markets, and with the possibility of becoming the main Southern European Hub.
3. Sustainably developing renewables, in order to exceed the European targets ("20-20-20"), while at the same time keeping energy bills down.
4. Developing an electricity market fully integrated with the European market; the market should be efficient (with prices competitive with the rest of Europe) and see the gradual integration of renewable power production.

5. Restructuring the refining industry and the fuel distribution network, to achieve a more sustainable system with European levels of competitiveness and service quality.
6. Sustainably raising national hydrocarbons production, which will bring major economic and employment benefits, while observing the highest international standards in terms of security and environmental protection.
7. Modernising the system of governance of the sector, with the aim of making decision-making processes more effective and more efficient.

The priorities assigned to energy efficiency, renewables and the sustainable use of fossil fuels require research into and the development of state-of-the-art technologies.

1. Energy efficiency

Energy efficiency is one of the top priorities of the new energy strategy. The centrepiece of these policies is the launching of a wide-ranging programme that makes it possible to surpass European objectives by 2020 and achieve a position of industrial leadership to capture the strong international growth forecast for the sector. More specifically, the aim is to save a further 20 Mtep of primary energy by 2020, which is equivalent to a saving of almost 25% with respect to the European benchmark (thereby exceeding the 20% target). A further aim is to prevent the emission of about 55 million tonnes of CO2 annually, and imports of fossil fuels for about €8 billion each year.

The potential of the efficiency-improvement measures in Italy, many of which have positive economic returns, is considerable. However, there are numerous barriers to adopting them, which are specific to each sphere of application and prevent them from being fully achieved. The efforts to attain the energy savings targets will therefore be designed to overcome the barriers to the adoption of efficiency-enhancing technologies, by rationalising and strengthening instruments and actions dedicated to each segment and sector. In particular:

- Minimum and normative standards will be strengthened, especially as regards the construction industry and transport.
- Tax deductions, mainly dedicated to civil restructuring activities, will be extended in time and adjusted to increase their effectiveness and efficiency in cost/benefit terms.
- Direct incentives will be introduced for initiatives by the government and civil service, which cannot use the tax deduction mechanism, and which we intend should act as an example and guide for the rest of the economy.

- The White Certificates objectives and mechanisms will be strengthened. These apply mainly to industrial sectors and services, but are also of importance in the transport and residential sectors, which will play a fundamental role, given the potential of the sphere of intervention and the cost efficiencies which a market instrument of this kind should guarantee.

In addition to these instruments, a number of other positive factors will also be decisive, such as enhancing the ESCO model, monitoring and enforcing the measures, communications and awareness-raising initiatives (to make the end consumer more active and better informed), improving the system of monitoring and accounting for the results, and supporting research and innovation.

Another factor that will help attain the energy efficiency objectives is a trend, already evident, for consumption to play an increasingly more important role with respect to the electricity vector. This includes the more widespread use of applications such as heat pumps for heating and cooling, electricity-powered cars and trains, and improvements in the distribution network with the growing use of smart grids.

Lastly, waste recovery and use is a major opportunity to pursue sustainable development goals. Rather than waste disposal in landfill sites, which is still widely used today, recycling and, where that is not possible, waste-to-energy generation, are the primary objectives in this field.

Taken as a whole, these measures are estimated to reach €15 billion in public support by 2020. This could stimulate €50-€60 billion of aggregate investment, with major spin-offs in an industrial sector where the aim is to achieve international leadership, and savings of about €8 billion in annual fuel imports.

2. A competitive gas market and the southern European Hub

The development of a competitive and efficient gas market and the opportunity to become the main southern European hub are two key elements that will enable Italy to recover competitiveness and improve its security profile. The underlying choices are based on the need to align Italian prices with those in the main European countries, guarantee the security and diversification of energy sources, and create a fluid and competitive market that is fully integrated with the European market and network. This will enable Italy to become an energy trading hub for the whole of Europe (also offering value-added services) and a transit country for South/South-East sources of supply.

The main objectives are therefore to reduce the price differential – which was €5.7/MWh in 2011 (-20%) – with the Northern European markets, and to increase the system's safety margin in emergency situations.

To attain these objectives, the national legislative and regulatory framework, and the country's infrastructure, will need to develop significantly. The proposed measures include:

- Promoting the full use of the existing transport capacity from Europe to Italy by rapidly and rigorously implementing the rules laid down at the European level to manage congestion and allocate cross-border capacity. In particular the initiative encourages the full use of the Transitgas gas pipeline capacity.
- Fostering cooperation between member states' Regulators, TSOs and governments in order to prevent tariff or other types of barriers to the full integration of the single gas market.
- Building strategic import infrastructure (particularly LNG) and storage facilities. This can be done with a guaranteed cover of investment costs from the system itself, the aim being to ensure sufficient import and storage capacity in the medium term, including for spot transactions. These will also benefit from faster procedures for issuing permits and will be selected through public tenders based on transparent cost/benefit criteria for the system. As a result, the improvements in terms of price competitiveness and security of supply will be considerably higher than any costs to the system. In this respect, new infrastructure requirements are expected to be low (a study is currently being conducted to define exactly which additional needs will be created).
- Supporting the construction of other import and storage infrastructure not deemed strategic, also by exempting them from third party access, without any guarantee of revenue and public grants (particularly the TAP gas pipeline). These infrastructure facilities can play a key role in diversifying sources and supply routes.
- Promoting the availability of virtual and physical counter-flow capacity towards the markets of Northern and Central Europe, to fully exploit our geographic position as a link between Europe and the Mediterranean.
- Defining the regulatory framework for the futures market. The aim here is the effective development of the Italian gas exchange, an essential pre-requisite for an efficient and fluid market.
- Revising the arrangements for allocating and accessing storage capacity in a non-discriminatory manner for all operators.
- The ownership unbundling of SNAM (which is now almost complete), to create a strong, independent and stable actor that can develop new investments both in Italy and abroad, and guarantee full third-party access.
- Promoting public tenders for the gas distribution service, in order to establish a more efficient and less costly system.

3. Sustainable development of renewable energy

Renewables are a core element of the Energy Strategy. The basic decisions are: to exceed the European 2020 targets for renewables output, striking a better balance between different energy sources; to achieve economically sustainable development in the sector, with incentive costs aligned with European levels; and to give preference to technologies with greater spin-offs for the sector and the Italian economy.

In terms of quantitative targets, the intention is for renewables to account for 20% of gross final consumption by 2020 (compared with the European objective of 17%), or some annual 25 Mtep of final energy. This target can be broken down as 36-38% of final consumption in the electricity sector, 20% in the heating sector, and 10% in the transport sector.

- To achieve these targets, the following measures are proposed:

  For the electricity sector, which has already almost achieved the 2020 targets, to continue supporting development by containing system costs and increasing the capacity to govern volume and mix. In this regard, the government recently issued two Ministerial Decrees, allocating a further €3.5 billion in annual incentives, bringing the total to around €12.5 billion per year, with an overall commitment in the course of the 20 years of a further €70 billion in addition to the €170 billion already earmarked. The individual incentives are reduced as Italy draws closer to the European levels, while still remaining higher than those of other countries. The mix will be shifted towards technologies with a greater knock-on effect for the sector and the national economy, and greater innovation. Particular care will be devoted to waste recovery and use, which is a major opportunity for driving sustainable development.

  In the medium-long term, it is expected that incentives will gradually be reduced (and eventually cease, particularly in the case of photovoltaic), the eventual aim being full integration with the electricity market and grid. Attaining grid parity does not entail giving up support policies, but will involve a change of direction towards instruments that do not increase charges to electricity consumers. Thanks to the incentives provided and the expected attainment of grid parity for photovoltaic energy, an aggregate €50-€60 billion in investment by 2020 is forecast for renewables, including plant up-grades and renovation.

- For the heating sector, the development strategy is based on a series of specific mechanisms for the various use categories. To encourage small-scale renewables installations, the aim is to introduce a "Heating Account" by the end of the year to encourage the most virtuous technologies. This will cover a part of the initial investment costs. The

expected cost of the system, once it is fully up and running, is about €900 million annually, with cover coming from gas charges. For initiatives on a larger scale, the White Certificates support mechanism, which should lead to a maximising of efficiency and effectiveness, remains in force.
Particular care will also be devoted to the potential of tele-heating and -cooling, by setting up a guarantee fund. The system of incentives put in place is expected to bring an aggregate €15-€20 billion in investment by 2020, in an industrial sector in which Italy already has a significant presence.

- Turning to the transport sector, biofuel development is the subject of a wide-ranging international debate, in view of doubts regarding the real sustainability of "traditional" biofuels. This is why the European directive on the subject will be reviewed in 2014. The key decision here is a transition to the second and third generations, but at the moment these are not able to completely replace traditional sources. It will also be important to carefully evaluate the development prospects for domestically produced bio-methane for transport use.
  Italy has confirmed the 2020 target of 10% for biofuels which, in terms of the costs to the system, could reach about €1 billion annually (extra-cost estimate compared with the use of fossil fuels). At the same time, Italy intends play an active part in reviewing the European directive with a view to promoting second and third generation fuels. The review should leave open the possibility for a European assessment of whether to postpone the target in the event that more time is needed to adequately develop these technologies.
  In the short run, the Government has already adopted a number of "tactical" measures to steer the sector towards second-generation biofuel production (where Italy has reached levels of excellence). These measures are also designed to foster the development of the domestic and EU system throughout the production sector.

4. Developing the electricity market and infrastructure

The Italian electricity market is undergoing far-reaching changes. The strategy being pursued in this industry has three main objectives: to align electricity prices and costs with European standards; to ensure Italy's full integration with the European market; and to maintain and develop a free market fully integrated with energy produced from renewable sources, gradually removing all distortions and absorbing current surplus production capacity.

To eliminate the cost differential, in addition to the initiatives described for aligning gas prices and incentives for renewables at the European level, the government will:

- Develop the electricity grid, to reduce congestions and bottlenecks between market zones and constraints on the full exploitation of the most efficient production capacity.
- Limit market inefficiencies and distortions. More specifically, the "other system charges" in electricity bills (other than the A3 component), which account for about 4% of the cost of electric power, will be carefully reviewed. This task has already begun, with a revision of the CIP6 incentives [incentives approved by the Interministerial Price Committee – CIP] and the measures to speed up the nuclear decommissioning process. A further reduction of the system's inefficiencies also appears to be possible by driving forwards a greater rationalisation of the electricity distribution system.
- Review the special conditions granted to specific categories of users. The present system places some categories, particularly high energy-consuming small and medium-sized businesses, at a disadvantage.

To seize the opportunities deriving from European integration, it will be necessary to harmonise our current system and ensure that all future policy decisions converge with the European rules. The following, in particular, will require careful strategic attention:

- Drawing up European grid and market governance codes, particularly new guidelines for allocating transport capacity and managing cross-border congestion, including with Switzerland.
- Harmonising operating procedures to encourage efficient market coupling. Of these, the question of whether or not to keep the Single National Price (Italian initials: PUN), which is one element that sets Italy apart from the other European markets, is particularly important.
- Increasing cross-border interconnection capacity.

We expect that integration with the Single Market will provide a major opportunity for the Italian generation pool – particularly if the measures to align gas costs take full effect – to be able to export more (or import less) energy, and provide despatching services to the European markets. This would ease the problem of the system's production overcapacity.

To integrate the country's growing distributed renewable generation capacity to best effect, it will be necessary to address both the issues caused by overproduction and those related to the security of the system in a market where the thermoelectric stock is gradually being "crowded out". In particular, potential overproduction at the local or national level will be managed as follows:

- Pre-emptively, with effects on new plant, by identifying critical areas, restricting the power that can be incentivised in those areas

and adopting specific prescriptive measures in terms of service delivery.

- In the short-term, by rationalising interruptions in imports and/or in renewable production, in the event of overflows.
- In the medium term, upgrading the transport and distribution lines between different areas.
- In the long-term, faced with an ever-increasing rise in distributed renewable production, by boosting the development of advanced distribution control systems (smart grids) and accumulation capacity, by greater recourse to pumping systems and the adoption of battery systems.

With regard to guaranteeing the adequacy and security of the service, against a background of poor production programmability and rapid production changes:

- In the present situation of overcapacity, the network operator will be able to guarantee continuity with existing mechanisms for the remuneration of services (in particular, the Despatching Services Market). In this context, as already mentioned, exporting despatching services for the interconnected European electricity grids also appears to be an opportunity.
- In the medium-long term, a well-calibrated and stable capacity remuneration mechanism might become appropriate to guarantee the necessary reserve margins. In the event that the overcapacity situation is resolved, this mechanism will be based on auctions designed to minimise the total costs of the system. It will also need to be brought into line with the European guidelines currently being drawn up.

5. Restructuring the refining sector and the fuel distribution network

Refining and fuel distribution are sectors of huge importance to Italy, and are currently undergoing major changes and difficulties. The objectives of the National Energy Strategy for these areas are to accompany the refining industry towards a gradual restructuring and modernisation, and to keep oil product prices down while improving the quality of the distribution service for consumers.

With regard to restructuring the refining sector, the following measures have already been introduced or are envisaged:

- Recognition of the strategic character of refineries and large storage facilities, and the introduction of simplified procedures for the reconversion of refining plant.

- Promotion of a restructuring plan for the sector, with investment to rationalise and modernise production cycles and steer the sector towards higher quality products.
- Introduction of a "Green Label" within the Community to align the environmental standards and competitive conditions of non-EU production.
- Adoption, by the end of the year, of a Legislative Decree to transpose the European directive imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products, and to create a Central Storage Organisation. This will also entail creating a logistics exchange platform, to create a market for oil products storage capacity.

As regards fuel distribution, measures are planned to:

- Increase the level of liberalisation in this sector. This will be done, for example, by increasing self-service fuel supply methods, removing constraints on non-oil activities, and improving communication and price transparency.
- Rationalise the fuel network and fuel distribution contracts. This will be done, for example, by implementing measures to: close down incompatible fuel stations; gradually introduce new types of contract for managing distribution facilities and supply arrangements; enable operators to redeem their facility; and provide incentives to encourage the wider use of methane gas for vehicles.
- Establish a wholesale fuel market, with the transposition of the minimum stocks directive.

6. Sustainable development of domestic hydrocarbons production

Italy is heavily dependent on fossil fuel imports, with a negative energy trade balance of €62 billion. At the same time, the country has substantial gas and oil reserves, the largest in Europe after the Nordic countries. We are therefore duty-bound to exploit these resources, given the benefits they offer in terms of employment and economic growth.

That said, we realise the potential environmental impact of extractive activities. It will be essential, therefore, to show the greatest possible care to prevent any potential negative repercussions (while noting that Italy’s extractive industry has one of the best records of any country in the world as far as incidents are concerned). The government does not intend to develop projects in sensitive areas offshore or on land; nor, and in particular, does it intend to pursue shale gas extraction.

As for its objectives, the proposal is to increase current annual output by 2020, to return essentially to the levels of the 1990s (in the past 10 years domestic production has slumped), by using new and safer technologies.

We expect to produce a further 24 million boe/year of gas, and 57 of oil, increasing their contribution to the total energy requirement from ~7% to ~14%. This will make it possible to mobilise investments of about €15 billion and create 25,000 new jobs, with an annual saving in energy expenditure of about €5 billion.

To attain the goals described, it will be necessary to enact legislation or regulations which guarantee compliance with the highest international safety and environmental protection standards and simplify the bureaucratic procedures for issuing permits. Schemes to support the industrial sector and encourage the further development of technological "hubs" will also be needed. The new legislative and regulatory provisions will be specifically designed to:

- Strengthen the safety measures governing operations, particularly by implementing offshore safety measures envisaged by the proposed European directive.
- Bring the procedures for issuing permits into line with European standards, particularly those envisaged by the European Parliament's recent proposal. This could be achieved by, for example, adopting a model for issuing one single permit for both exploration and production, and setting a deadline for local authorities to submit an expression of interest or an opinion.
- Develop the spin-offs on the local economy and on employment. Part of the increased revenue from extracting hydrocarbons will therefore be used to develop infrastructure and employment growth projects in the areas where the production plants are established and in neighbouring regions, as has been recently introduced with the "Liberalisation" decree law.
- Develop production, particularly of natural gas – notwithstanding the offshore protection restrictions in the (recently up-dated) Environment Code – while keeping safety margins at levels equal to or higher than those of other EU countries and maintaining the current security and environmental and landscape protection constraints.
- Lastly, and of great importance: Accompany new legislative and regulatory provisions with initiatives to boost the technological/industrial hubs in Emilia-Romagna, Lombardy, Abruzzo, Basilicata and Sicily.

7. The modernisation of the system of governance in the sector

To implement this Energy Strategy it will be essential to strengthen and coordinate Italy's participation throughout – but especially in the advanced stages of – international decision-making processes (especially within Europe); improve and simplify horizontal coordination at the

national level; and better coordinate the work of central, regional and local government. More specifically:

- As regards the formation of European legislation, the intention is to enhance the quality and incisiveness of the national governments' participation in drafting community laws; strengthen consultation with national stakeholders in order to establish consolidated national positions on the items on the agenda; and improve coordination with representatives in the European Parliament.
- At the national level, it is considered important to strengthen forms of early consultation and prior agreement around objectives and instruments and thus reduce, wherever possible, the need for consultation on secondary legislation.
- With regard to relations between the central, regional and local governments, a change in the Italian Constitution is deemed to be necessary. The government recently submitted a bill on this matter, the aim of which is to give central government powers in energy matters where infrastructure facilities of national importance are concerned. Moreover, local government involvement in decisions relating to energy installations will be strengthened, by instituting "public debate" to collect and disseminate information. Finally, forms of prior coordination with the Regions in order to reduce uncertainties, disputes and litigation will be introduced.
- Turning to permits, the following factors are deemed important: to identify the strategic infrastructure to be defined through the National Energy Strategy and which will have simplified administrative procedures; and to reduce the official formalities for issuing permits by overcoming Regional governments' inertia in reaching and expressing agreement (as envisaged by the "Development" Legislative Decree).

Drafting, agreeing and approving the National Energy Strategy is a first step towards greater transparency and improved effectiveness of the governance mechanisms.

Research and development in the energy sector

Within the framework of Government's new position in respect of energy policy, the priorities allocated to renewable energy sources, efficient energy-use and the sustainable use of fossil fuels will all require research and the development of state-of-the-art technologies.

Italy has important establishments of international excellence in specific fields. An analysis of the aggregate input (investment) and output (scientific and patent production) indicators reveals that research and innovation in the energy field is being held back. This can mainly be explained by the lack of a clear-cut policy establishing research priorities,

the limited resources for research and innovation, and the high level of fragmentation of the parties involved and the areas of research.

The key decisions that will guide research and development decisions in the energy field are intended to overcome the critical areas set out above.

- From the point of view of development priorities, and bearing in mind the European programmes (Strategic Energy Technology (SET) Plan), the following are considered to be of priority interest to Italy:
  - Research into innovative renewable technologies, particularly those in which, as a country, we already start off in a strong position. For example, in concentrated solar power and second-generation biofuels.
  - Research into smart grids, partly to facilitate distributed generation, and into accumulation systems, also in relation to sustainable mobility.
  - Research into energy efficiency materials and solutions, and their technological transfer.
  - The development of projects on CO_2 capture and sequestration methods, mainly from the perspective of Italy's participation in the European action programme around this technology, and possible technological transfer initiatives in non-EU areas.
- In terms of available resources, it will be important to support research and development promoted by private and public sector stakeholders. The amount of resources available under competitive access conditions and for use in creating partnerships between universities and research establishments should be increased. This is being done, for example, through the tax reliefs and benefits recently introduced by the "Development" Decree, the Kyoto Revolving Fund, the Fund for System Research in the Electricity Sector, and the Fund for Technological and Industrial Development in the field of renewable energy sources and energy efficiency.
- From the point of view of organising public intervention, it will be necessary to supersede the present segmentation of measures entrusted to various Entities and Ministries (as initiated by the recent Stability Law). A reorganisation of the Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA) is also planned, with the aim of focusing its activities and organisational structure on priority research fields for the National Energy Strategy, and to rationalise potential overlaps with other public agencies.

The public consultation document is available on the website of the Ministry for Economic Development, with the possibility of submitting

observations and comments until November 30th. At the same time, formal consultations will begin with the main institutions involved (in particular the relevant Parliamentary Committees) and through meetings with the social partners and industry associations. At the end of the consultation, a public conference will be convened to share the results and set out the elements of the implementation process. The final document will then be adopted.