

# SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Italy's energy policy is currently driven by market liberalisation, transfer of relevant political and administrative decision-making powers to the regional authorities, diversification of supply sources, energy security, efficiency improvements and environmental protection.

Since the last IEA in-depth review (1999), Italy has made significant progress in implementing electricity and gas market reforms and in restructuring its energy industry. The European Commission directives for electricity and gas market liberalisation have been transposed into legislation. Large state-owned energy companies began to be privatised and the government reduced its shares in both ENEL (electricity) and Eni (oil and gas). New institutions, including an energy sector regulator, are now fully operational, which will ensure a much more market-oriented energy economy, in line with the IEA Shared Goals (see Annex B). Italy ratified the Kyoto Protocol in June 2002 and on 19 December 2002 released the first national action plan for the reduction of greenhouse gas (GHG) emissions, the Revised Guidelines for National Policies and Measures Regarding the Reduction of Greenhouse Gas Emissions.

In Italy, as in other IEA member countries, the simultaneous achievement of energy security, market liberalisation and climate change mitigation is not easy given the sometimes contradictory nature of these objectives. Diversification of energy sources is particularly challenging in this respect. Italy's energy mix is shifting from oil to more use of gas, with little probability of rapidly diversifying much further owing to the limited growth of renewable energy, local resistance to coal and the fact that the nuclear option was abandoned in 1987. Significant reliance on oil and gas, including from external supply sources, raises concerns about security of supply and the risk of high energy costs.

Timely investment in energy production, transportation and interconnection is essential to secure energy supply and more active competition. Italy's high level of local resistance to new infrastructure is becoming increasingly serious in the context of the transfer of power to local authorities. Uncertainties regarding responsibilities for clearing new energy projects and complexity in the authorisation procedures are consequences of the legal changes initiated to enable decentralisation. From April 2002, the government introduced a fast track procedure for new electricity generating plants (Sblocca Centrali), thereby streamlining the decision-making process.

Despite Italy's target to reduce GHG emissions by 6.5% between 1990 and 2008-12, energy-related CO<sub>2</sub> emissions have been constantly growing and in

2000 were already 6.5% above the 1990 level. Italy's carbon intensity measured as CO<sub>2</sub> emissions per unit of gross domestic product (GDP) is relatively low, owing to high energy prices, a low energy-intensive industry structure and a mild climate. Lower energy prices potentially resulting from market liberalisation and growing energy demand in the transport sector could erode this advance. Italy faces the challenge to define coal's role in the electricity sector, striking a balance between climate change mitigation, energy security and the urgent need to reduce power generation costs. The domestic measures considered in the scenarios of the Inter-Ministerial Committee for Economic Planning (CIPE) deliberation of 19 December 2002, together with the full utilisation of sinks and the Kyoto flexible mechanisms will allow Italy to achieve its GHG emissions reduction target, provided the corresponding projects and funding are clarified and implemented without delay.

Italy's energy intensity measured as total primary energy supply (TPES) per unit of GDP remains low. This is commendable, but it is imperative to identify to what extent it has been achieved as a result of effective energy efficiency policy efforts or because of structural changes induced by the economic environment and high electricity prices in Italy, and to ensure that all possible measures are implemented to maintain Italy's advance. In 2001, in addition to the existing efficiency standards, the government introduced and defined for each year up to 2006 tradable energy saving obligations to be applied to both electricity and natural gas distributors. Details still need to be finalised before this new scheme becomes fully operational.

Italy is moving away from using fixed feed-in tariffs for renewable energy to a more market-oriented minimum quota obligation scheme with tradable green certificates. This should increase the amount of renewable energy in a country where, despite its significant potential, renewable energy represented only 5.4% of TPES in 2000. While this is a positive step in promoting renewable energy in a compatible manner with market liberalisation, several challenges and uncertainties need to be addressed to secure its effectiveness. The government's intention to monitor this new mechanism is wise.

Italy is highly dependent on external sources for its oil supply. It does have the potential to increase its domestic oil production; however, demand far exceeds potential supply. The complex administrative procedure required to conduct exploration and production investments has led to delays and additional costs for the expansion of domestic production. Italy has an important role as a refining centre, the first in Europe, selling a large part of its products to other countries in Europe. The oil market is free and the government is to be commended for its continued efforts to stimulate competition in the markets. After several years' non-compliance with the International Energy Program (IEP) obligation to hold sufficient strategic oil stocks, the government is correcting the situation. Italy has been satisfying the obligation of 90-day net imports equivalent in stocks during the first half of 2003. It now has to ensure a continuous compliance.

The Italian gas market has developed rapidly, mainly because of the increased use of gas in power generation. Given that this additional gas must be imported, diversification of gas supplies has been an important policy objective. Italy's potential as a growing gas market is huge. The reform of the gas market is moving in the right direction. The 2000 Italian decree implementing the European Commission (EC) directive on the single market for natural gas goes far beyond the minimum requirements established by the EC gas directive. The Energy Authority (Autorità per l'Energia Elettrica e il Gas, AEEG) has compiled rules for market opening and established tariffs for transportation, regasification, storage and distribution. The Energy Authority promotes the development of gas trading hubs. This development would provide Italy with the opportunity to improve security of supply and the option to become a key trading centre for the Mediterranean region. From a legal viewpoint, the Italian market is now fully opened; however, Eni remains in a dominant position and barriers still exist for new entrants. Access to external supply is difficult for small companies unlike large or international companies. Saturation of the existing import pipelines creates an additional entry barrier. Only competitors with capacities to establish their own import facilities, such as liquefied natural gas (LNG) terminals, will be able to compete on an equal basis with Eni. The government needs to encourage investment in LNG terminals and cross-border gas pipelines delivering gas to Italy to secure success of gas market liberalisation and security of supply. Given the potential for domestic gas extraction and the current decline in domestic production, the national strategy for gas exploration and production needs to be intensified. However, local authorities strongly oppose the realisation of this objective.

Since the 1999 in-depth review, Italy has continued to liberalise the electricity market. ENEL was partially privatised and part of its generating capacity was divested to reduce its share in electricity supply to less than 50%, which enabled new participants to enter the market. In May 2003, the retail electricity market was liberalised up to 50%, with full liberalisation planned for 2007. Production and importation activities were fully liberalised from the beginning of the reform process in 1999. Transmission networks were legally unbundled and a transmission system operator (TSO) was established. A market operator was created to facilitate the development of the wholesale electricity market. These arrangements have led to Italy being considered one of the European Union countries with the most rigorous conditions for network unbundling. Despite recent progress, current developments in the generating capacity may hinder the achievement of public objectives, such as electricity mix diversification, unit production cost reduction and sufficient electricity supply. This could occur either because the investment plans do not materialise, making it difficult to secure sufficient supply at a lower unit cost, or because they increase the dependency of an even larger portion of the generating capacity on natural gas. While the market is developing with new participants, there are still challenges to avoid abuse of dominant position by the incumbent.

It is commendable that in 2000 the government, largely in line with the conclusions of the 1998 National Conference on Environment and Energy, shaped a new energy R&D policy under the National Research Programme (PNR). This resulted in new research priorities and focus on the public R&D budget and prepared the way for a reform of the National Agency for New Technology, Energy and Environment (ENEA).

## RECOMMENDATIONS

*The government of Italy should:*

### **General Energy Policy**

- ▶ *Strengthen the national energy strategy on the basis of energy supply and demand scenarios, integrating in a balanced and consistent way the main policy objectives, namely security of supply, reform of the gas and electricity markets and climate change mitigation.*
- ▶ *Enhance the visibility of the national energy strategy and the dissemination of energy information on the national energy situation and future challenges to the general public.*
- ▶ *Co-ordinate with the Ministry of Productive Activities the actions of relevant ministries in the implementation of energy policy.*
- ▶ *Put more emphasis on achieving energy diversification, especially in the electricity sector in order to improve security of supply and reduce electricity generation cost.*
- ▶ *Clarify the respective roles and competences of the regional authorities and the government in implementing energy policy. Encourage the regional authorities to develop regional energy plans consistent with the national energy strategy.*
- ▶ *Keep the necessary tools to guarantee that investments needed in energy production, transportation and particularly interconnections with European and world markets are achieved in a timely manner and are not subjected to excessive bureaucratic procedural delays.*
- ▶ *Continue the liberalisation process of the electricity and gas markets. Ensure that newcomers compete on a fair and equal basis with the gas and electricity incumbents. Evaluate the progress of the liberalisation process through benchmarking.*
- ▶ *Confirm the independence of the Energy Authority.*

- ▶ *Increase transparency of information on the energy market by circulating non-confidential market information to all energy stakeholders.*

## **Energy and the Environment**

- ▶ *Implement the national action plan to reduce GHG emissions with least cost measures in order to fill the remaining gap to achieve the Kyoto target. Monitor the progress in reaching this target. Strengthen co-ordinated efforts for CO<sub>2</sub> emissions mitigation.*
- ▶ *Reassess the contribution of voluntary agreements (VAs) to emissions reduction, taking into account the forthcoming EU emissions trading system.*
- ▶ *Monitor and analyse the effects on emissions of the planned increase in coal use for electricity generation, the changes in carbon tax design/structure and the projected end-use energy price changes.*
- ▶ *Strengthen the strategy to disseminate energy efficiency technologies and measures to small and medium-sized enterprises.*

## **Energy Efficiency**

- ▶ *Monitor and evaluate the impact and cost-effectiveness of existing and new energy efficiency policies with a view to maintaining low energy intensity in the changing energy market environment.*
- ▶ *Promote effective co-ordination between the regional authorities and the government in all areas of energy efficiency. Facilitate sharing of best practices among the regional authorities and the government through information dissemination by ENEA.*
- ▶ *Integrate energy efficiency objectives in pursuing the transport policy, in areas such as modal shift and transport infrastructure development, through enhanced co-ordination among relevant ministries (energy, environment, finance and transport).*
- ▶ *Accelerate the elimination of old vehicles and promote more efficient low-emission vehicles, in particular trucks, buses and two-wheelers through regulatory (e.g. periodic inspection) and economic measures (e.g. tax incentives, review of tax exemptions on fuel for commercial transport).*
- ▶ *Decrease the share of individual road transport in urban areas through efforts to boost the quantity and quality of collective transport.*
- ▶ *Finalise details of, and implement, the energy efficiency certificate scheme as soon as possible, implement it and review it periodically. Publish information on the results and impacts of the scheme as early as possible to keep energy policy stakeholders, both inside and outside Italy, informed about the unfolding of this policy experiment.*

- ▶ *Actively participate in co-operation at EU level in setting efficiency performance requirements for energy labelling and energy performance standards for appliances, equipment and buildings.*

## **Renewable Energy**

- ▶ *Increase the share of renewable energy in domestic production to improve energy security and CO<sub>2</sub> mitigation. Increase the renewable energy obligation above the current level.*
- ▶ *Facilitate access to the capital market for renewable energy projects and green certificates that will eventually increase the profitability of renewable energy projects.*
- ▶ *Streamline authorisation procedures for setting up renewable energy projects.*
- ▶ *Ensure an effective and balanced contribution from all the regional authorities to achieve the national renewable energy target, particularly with regard to informing the general public about the possible use of renewables and access to stimulation programmes.*
- ▶ *Ensure that ENEA provides sufficient information and expertise to the regional authorities and the general public about funding possibilities and support mechanisms.*

## **Oil**

- ▶ *Given the potential for extraction of domestic oil resources and the current decline in domestic production, enhance and improve the national strategy for oil exploration and production.*
- ▶ *Given the ongoing process of devolution of power and the security of supply constraints, ensure that the granting of upstream licences for exploration and production does not meet unnecessary obstacles.*
- ▶ *Continue to engage in international co-operation with producing and transiting countries through different global and regional forums to reinforce security of supply.*
- ▶ *Considering the importance of the IEA emergency preparedness mechanism, ensure that the recent improvements to meet the 90-day IEA stock obligation are sufficient to guarantee permanent compliance.*

## **Natural Gas**

- ▶ *Continue the unbundling of the transportation and supply businesses to ensure equality of treatment.*

- ▶ *Proceed with gas market liberalisation by defining rapidly clear rules, especially for access to storage (Storage Code), LNG terminals (LNG Code) and distribution (Distribution Code).*
- ▶ *Encourage the development of the virtual gas hub (National Balancing Point) to facilitate the exchange of gas between shippers and to foster competition.*
- ▶ *Enforce a strict regulatory control to prevent abuse of a dominant market position. Preserve the independence of the Energy Authority and streamline the decision process inside the Energy Authority to ensure that it produces the missing codes in the shortest possible time.*
- ▶ *Continue to encourage geographical diversification of gas supply.*
- ▶ *In the new framework of market liberalisation, update and develop a policy of gas supply security, defining minimum criteria and the responsibilities of individual players.*
- ▶ *Given the potential for extraction of domestic gas resources and the current decline in domestic production, enhance and improve the national strategy for gas exploration and production.*
- ▶ *As a prerequisite for the success of gas market liberalisation and security of supply, encourage investments in LNG terminals and cross-border gas pipelines delivering gas to Italy. Streamline authorisation procedures for LNG terminals and pipelines. Encourage investments in storage by providing the appropriate tariff incentives.*
- ▶ *Assess the costs and benefits of the strategic storage reserve obligation for shippers importing gas from non-EU countries and consider if the portfolio of flexible tools could be expanded to allow the same level of security of supply at a lower cost.*

## **Electricity**

- ▶ *Consider the possibility of reopening a public debate on the nuclear energy option in light of current and future energy policy challenges.*
- ▶ *Monitor and publish regularly information on the electricity sector reserve margin and consider additional investment incentives to avoid blackouts in the coming years. Expand the role of the transmission system operator (GRTN) and of the Energy Authority to support the government in this respect.*
- ▶ *Analyse options to provide incentives in the transmission and distribution tariff to ensure investment in new transmission capacity.*
- ▶ *Further streamline authorisation procedures for building electricity infrastructure.*
- ▶ *Expand interconnection for electricity imports.*

- ▶ *Encourage dissemination of information to local authorities and communities on electricity projects.*
- ▶ *Continue the electricity market liberalisation process, enforcing strict regulatory control to prevent abuse of dominant market position and maintaining the independence of the Energy Authority.*
- ▶ *Enable the power exchange to begin its operations as rapidly as possible, facilitate measures that aim to increase its liquidity and create a surveillance structure to avoid abuse of market power.*
- ▶ *Ensure independence of the power exchange (GME) and the single buyer (AU) from the transmission system operator (GRTN) and monitor the latter's market power once it has been privatised and GME and AU are fully operational.*
- ▶ *Organise the sale of ENEL's transmission assets to GRTN.*
- ▶ *Increase international co-operation in the decommissioning of nuclear power plants.*

### **Research, Development and Demonstration**

- ▶ *Continue to provide sustainable budgetary support to energy research and development (R&D).*
- ▶ *Consider making clear priorities in public R&D. Provide special attention to clean coal technology and the improved efficiency of coal combustion.*
- ▶ *Improve the co-ordination of research and development projects and the dissemination of its results to the regional authorities.*
- ▶ *Urge ENEA to join the IEA Implementing Agreement on solar concentration.*