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"NATIONAL COUNCIL OF ENGINEERS"
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march 2014

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preliminary notes

This Charter of Ethics drawn up by the National Council of Engineers currently in office complements the Charter of Eco-Ethics for the Italian engineering sector previously drawn up in October 2011 on initiative by the Board in office for the five year period 2005-2010. In the last biennium, the preparation of the aforementioned Charter of Eco-Ethics has been animated by the widespread conviction that it is now more than ever necessary to go beyond the sphere of "ordinary" engineering and deal with the unavoidable need in this day and age to combine the widespread consent and sharing with other professions and other public and private entities involved in initiatives and activities in the framework of inter-generational responsibility and sustainable development. This is why it has been decided to draw up a preliminary version of a series of propositions (Undertakings and Principles) deemed to be of significant importance in outlining an ethical and cultural platform to provide a common ground for certain fundamentals which, if shared, could be of use in orienting collective living and public affairs.

The Charter of Eco-Ethics (to be considered a start and not an end point) is aimed at representing the closure of a cycle which over the course of twenty years has seen the C.N.I. – and the Provincial Orders – involved in the construction of an ethical and cultural pathway based on the themes of inter-generational responsibility and sustainable development. This has been done through publications, conferences, seminars, National Congresses and, from the viewpoint of institutional repercussions, the start of the first courses in Italy on Environmental Ethics at various Engineering Faculties, including those of Pavia and Bologna

It also represents the founding presupposition for the C.N.I. (and the system of orders in general) for the opening of a new cycle which, oriented by the contents of the Charter itself, involves the implementation of a series of initiatives. The most important of these concerns the intention of promoting the setting up a National Eco-Ethics Committee within the Prime Minister's Office to complement the existing National Bioethics Committee.

This Charter has been drawn up in the light of the wide-ranging literature and consistent body of documents (Charters of Ethics, Charters of values, Codes of conduct, Codes of environmental ethics) drawn up at a national and international level by academics, institutions, public and private bodies and knowledgeable professional associations. The aim of this is to enhance the growth of a commitment towards the redefinition of models of thought and action from the viewpoint of inter-generational responsibility and sustainable development.

The C.N.I. has proposed the organisation of a series of consultative meetings with exponents of public and private bodies and exponents in different professions which intend to favour the diffusion of this Charter by adhering to it, in order to expand its scope nationally and internationally. The CNI has also proposed the assessment of the opportunity of setting up a scientific Council to evaluate initiatives for the awareness, distribution and sharing of the Charter and its subsequent amendment. This is due to the conviction that where cultural debate, widespread participation and dialogue flourish, there can only be growth.

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"We cannot solve problems
using the same lines of thought
with which we crated them"
Albert Einstein, 1951

"Human spirit has created new situations
which man's disposition is not yet ready
to deal with (...)
What will become of the human race?
We cannot predict this.
But what does happen will depend
on processes that occur
exclusively within man himself"
Konrad Lorenz, 1983

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contents:

undertakings

1. Human condition and bio-spherical context

The inter-dependence of ecosystems, biodiversity, material, physical and energy resources together constitute the basic components of the biosphere, in other words the bio-natural context in which our existence is intrinsic at all levels: social, economic and cultural. Each of these basic components, characterised by its own resilience and levels of regeneration, is involved in configuring a complex threshold of sustainability of the biosphere in relation to the service and resources in which human action is involved.

2. Obvious discontinuity in human development: its unusual bio-spherical interference

During the last century, the human race has managed to significantly overcome the levels of regeneration of many material and energy resources and cause significant interference on the equilibrium of various basic components of the biosphere, causing significant stress on the services providing them. At the dawn of the third millennium, this has led to obvious discontinuities between before and after in the context of human development.

3. Unusual dilation of human "responsibility"

The disruptive dilation of knowledge and the range of human applications in the last century has been accompanied by a significant and increasingly unpredictable spatial and temporal dilation of the desired and/or undesired effects of human action. In truth, this has implied a corresponding dilation of the sphere of human responsibility, and we are now called upon to safeguard the biosphere (in other words the various basic components of our existence) and the rights of current and future generations.

4. Necessary affirmation of a culture of sustainability

In our times, the reasoning concerning human development requires that both orientations which merely contemplate economic aspects and those based on thinking in terms of mere limitations for development must be overcome. Contrarily, they presuppose the affirmation of a culture of sustainability, in other words a cultural framework aimed at focusing attention on the essentiality of a widespread awareness and understanding of the dynamics which regulate life in the biosphere, and also aimed at focusing attention on our responsibility to operate in the world and for the world in order to ensure

a balanced development of the various communities. This can be achieved by optimising the use of material and energy resources and avoiding the overloading of the ecosystems and irreversible alterations to their dynamics. From this viewpoint, the affirmation of a culture of sustainability presupposes the need for it to be taught, communicated and perceived as something achievable and desirable, as something advantageous and indispensable.

5. Technical scientific innovation and professions

From the viewpoint of sustainable development, innovation has a key role, and is destined to do so even more in the future, in consideration of the significant potential contributions that may be made by production systems and the use of goods, services, and energy, and also by the reduction at source of “waste” and the processing and/or conditioning and/or confinement of this “waste”. From this viewpoint, technical and scientific professional activities will play the role of primary transmission body between the knowledge and application acquired in research and innovation and the knowledge and applications widely used in social, economic and productive terms. On this basis, technical and scientific professional activities play a key role, and will do so increasingly, in the processes for the

orientation of national and supranational policies in this direction aimed at favouring the quick and effective diffusion of applicative processes and solutions based on sustainability, improving the condition of collective welfare and mitigating the unfortunate effects of natural disasters.

principles/foundations

1. On the principle of "responsible freedom"
As things currently stand, the right to freedom of action for current generations must be strictly commensurate to their unusual responsibility to safeguard the biosphere and the rights of future generations, with inseparable destinies.

2. On the sustainability of development models
Current generations are responsible for favouring the affirmation of development models based on the respect of the regenerative capacities of the biosphere and safeguarding the welfare of current and future communities. Current generations are therefore responsible for (not exhaustively):

Avoiding that the rate of consumption of renewable resources (material and energy) exceeds the rate of reconstitution provided by natural systems;

Avoiding that the rate of consumption of non-renewable resources (materialand energy) exceeds the capacity of the human race to ensure their replacement, through technical and scientific progress, by other resources capable of ensuring other equivalent assets and services for futuregenerations;

Avoiding that the rate of emission of pollutants exceeds the capacity of the atmosphere, water and soil to absorb and transform these substances;

Favouring the reduction of carbon dioxide and other greenhouse gases in order to achieve the objective of stabilising their concentrations in the atmosphere in the medium-long term and therefore limiting the probability of the ongoing climate change worsening;

Favouring the progress of research and innovation in terms of enhancing the eco-efficiency of works, assets, processes and services and also from the viewpoint of using renewable energy;

Favouring the reuse and recycling of devices and materials used in production and consumption processes;

Favouring the differentiated collection of ordinary and industrial “waste”, with specific reference to toxic and hazardous “waste” and that deriving from electrical and electronic equipment;

Favouring the reduction of “waste” from the planning phase, and the adoption of measures for the treatment, conditioning and limitation of “waste” with a view to offering the best possible guarantees for the protection of public health and the environment;

Promoting planetary cooperation aimed at favouring the widespread application of the most advanced technical and scientific acquisitions obtained from the viewpoint of sustainability.
This would be done by promoting and valorising the active role of developing countries especially and also those with economies in transition.

3. On individual and collective lifestyles

Current generations are responsible for taking action in order to:

Promote widespread information and education oriented towards the respect of the biosphere;

Encourage lifestyles which highlight the quality of our existence and the material sufficiency of a world with finite resources;

Incentivise initiatives aimed at critical, aware and unanimous consumption;
This must be done by favouring the possibility of enabling consumers to better explain the “right of critical choice” in purchasing and/or using goods and services.

4. On governance processes

Current generations are responsible for favouring governance processes based on an extensive involvement of social parties in all cases in which public and/or private bodies and individuals are in a position to undertake initiatives which cause significant worries for the communities involved, due to the significance of their impact.

5. On anthropic and non-anthropic areas

Current generations are responsible for taking action in order to promote and pursue:

The rehabilitation of anthropic areas when they are subject to significant degradation and, in particular, when this degradation has occurred because of human action. This with explicit reference to suburban, urban and metropolitan areas and also rural territories and areas with landscape value, forests, humid areas and hydrological and marine basins;

The safeguarding of those areas of the planet that are not yet anthropised which, due to their aesthetic value and/or uniqueness and/or the uniqueness of their ecological services, provide factors of extraordinary protective value because of their usability by current and future generations. This is to be achieved by promoting and pursuing, in particular, the prohibition of anthropic activities of an economic and productive nature and not those implying significant alterations to these areas.

6. On building heritage and the landscape

Current generations are responsible for promoting design concepts and solutions based, from a cultural, media and legislative viewpoint, on the safeguarding of natural equilibriums and the quality of life of the end users.

This is to be achieved by promoting design orientations and solutions aimed at favouring the following, for example (although not exhaustively):

Territorial transformations which take into account the landscape value, the nature of the scenic conditions and the artistic, historical, archaeological and architectural heritage of built-up and/or natural environments.

The recovery of the existing building heritage and urban areas degraded by new urbanisation;

The minimisation of the use of land solely for the expansion of roads and infrastructural networks;

The appropriate and congruent use of the vegetation in built-up environments, in consideration of its significant influence on the quality of life.

7. On sustainable mobility

Current generations are responsible for promoting design concepts and solutions from a cultural, media and legislative viewpoint aimed at routing the highest possible quota of individual and freight movements towards means of public transport.
This is to be achieved by promoting design orientations and solutions aimed at favouring the following, for example (although not exhaustively):

Increasing the consistency of railway transport infrastructures nationwide and the enhancement of the efficiency of existing ones (from the viewpoint of both usage and functioning);

In the specific case of freight, the preferential use of railway and maritime transport;

Increasing the consistency of the infrastructures and services for managing public transport in urban, suburban and metropolitan areas and enhancing the efficiency of the existing infrastructures and services (from the viewpoint of both usage and functioning);

Increasing the consistency of the interchange infrastructures and services functional to the downsizing of the use of private vehicles and privileging the use of public transport in inter-urban, inter-provincial and inter-regional travel.

8. On planning and production

Current generations are responsible for promoting the minimisation of the environmental and energy impact of the complete lifecycle of works, assets, processes and services from a cultural, media and legislative viewpoint, starting from the design phase.
This is to be achieved by promoting design orientations and solutions aimed at the following, for example (although not exhaustively):

Ensuring enhanced performance from the viewpoint of safety, environmental sustainability and eco-efficiency during each phase of this cycle (in other words the phases of conception, realisation, utilisation, maintenance and/or repair, modernisation, withdrawal from use and/or demolition and/or recycling), minimising the use of fossil fuels and maximising the use of renewable energy sources;

Taking into account the know-how and examples of best practices that are being implemented and/or consolidated nationally and internationally;

Favouring the divulgation and widespread application of the innovations and results achieved during research and experimentation;

Favouring the certification and usage of inert substances originating from the disposal of civil engineering works (in order to achieve the limitation of land consumption and disposal sites).

9. On younger generations

Current generations are responsible for supporting and valorising youngsters, who must be considered as the main primary resource of every country, and, as such, must be considered as the main primary framework in which each country is called upon to invest to widen the horizons of its very own future. This must ensure that favourable conditions are in place for their intellectual and spiritual development and their cultural and professional education, and also for them to have realistic prospects of economic and social stability. Finally, current generations are responsible for interpreting and performing their own role to the best of their abilities, with a view to ensuring that the fundamental interests of current and future generations are safeguarded.

10. On the inheritance of future generations

Current generations are responsible of passing on their inheritance to future generations; values, traditions, cultures and institutions aimed at favouring development on the basis of harmony between peoples in a context of peace and an equilibrium with the basic components of the biosphere in the Global Village of the third millennium.

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A great project for Italy
WHAT, WHO, HOW, WHY

WHAT

With the expected setting-up within the Prime Minister's Office of a National Eco-ethics Committee, it will be possible to perform useful consultancies with the government and institutions, similarly to what the National Bioethics Committee already does from a bio-scientific viewpoint. This will involve providing opinions, motions and publications prepared on the basis of lines of thought which, projected in the medium and long term, may be of use in terms of favouring the affirmation of visions, logics and actions dictated by sustainability, with a view to a necessary harmonic interpretation and composition of the economic, energy, environmental and social context.

WHO

As protagonists in the industry, construction, infrastructures, IT and environment sectors, Italian engineers feel the need to be actively involved. However, they are well aware of the fact that an institutional reform of the sort that is intended to be achieved can only derive from the synergy of all the individuals who are currently involved in all sectors of economic, political and social life in the country, together with technical professions, in terms of inter-generational responsibility and sustainable development.
They are asking that all these individuals adhere to the proposal and actively contribute towards achieving the proposed goal.

HOW

The proposed creation of the National Bio-ethics Committee derives from adhesion to the proposal by all the individuals involved and the certainty that the Italian authorities will understand the importance of having opinions and orientations prepared by an impartial, multi-disciplinary and top level panel for future socio-economic and legislative interventions concerning innovation.

WHY

Because the challenge of economic, energy, ecological and social sustainability laid down by the ongoing reforms is causing such vast and complex problems as to require a radical change of direction with respect to the current socio-economic models, currently highly energy consuming lifestyles and the governance strategies currently used by the various institutional, economic and social parties.
It is no coincidence that, given the profile of the political and legislative responses suggested so far in terms of sustainability, this is still largely penalised by interpretations and implementation plans that are mainly developed on the basis of the traditional sector logics (economic, environmental, energy, etc.) and orientations that are essentially projected in the short-term.

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