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for Research and Innovation  
in Building and Construction



International Commission on  
Technology and Accessibility  
(ICTA)

## 2016 Dublin Code of Ethics

### Design, Engineering, Construction & Operation of a Safe, Resilient & Sustainable Built Environment for All

#### A CONTENTS

- I. CODE APPLICATION & PURPOSE
- II. TERMS & DEFINITIONS
- III. ULTIMATE GOAL & OVERALL AIM
- IV. ETHICS OF INITIATION & PRACTICE
- V. ETHICS OF SUSTAINABLE HUMAN & SOCIAL DEVELOPMENT

#### B INTERPRETATION

Many years have passed since the 1972 UN Stockholm Declaration on the Human Environment and the 1992 Rio Declaration on Environment and Development. In 2016, Sustainable Development remains an intricate, open, dynamic and continually evolving concept. The guide and driver for frontline practitioners, policy and decision makers must be a personal Code of Ethics ... an integrated and inter-related whole which cannot be reduced to fixed rules inviting game playing and 'trade-offs'. After working with this Code, it may be necessary to expand on and discuss its principles and/or some of the issues raised ... not to narrow its focus, but to broaden interpretation.

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#### A I. CODE APPLICATION & PURPOSE

The realization of a Safe, Inclusive, Resilient & Sustainable Built Environment demands a concerted, collaborative, very creative and widely trans-disciplinary effort at national, local, regional and international levels across the whole planet - **Our Common Home**. The informed operation of appropriate legislation, administrative procedures, performance monitoring and targeting, and incentives/disincentives, at all of these levels, will facilitate initial progress towards this objective ... but not the quantity, quality or speed of progress necessary. Our time is running out !

This **Code of Ethics** applies ... for those who subscribe to its values ... to policy and decision makers, and the many different individuals and organizations directly and indirectly involved in the design, engineering, construction, and operation (management and maintenance) of a Safe, Resilient & Sustainable Built Environment for All.

The **Purpose** of this Code of Ethics is to guide the work of competent individuals and organizations in a context where incomplete or inadequate legislation, administrative procedures and incentives/disincentives exist ... but, more importantly, where they do not exist at all ... and, amid much confusion and obfuscation of the terms, to ensure that implementation is authentically 'sustainable', and reliably 'safe' and 'resilient' for every person in the receiving community, society or culture ... before it is too late !

## A II. TERMS & DEFINITIONS

**Accessibility, Building:** Ease of independent approach, entry, use of a building's facilities, services and information, egress during normal conditions and removal from the building's vicinity, or evacuation during emergency conditions to a place of safety remote from the building ... by all of the building's potential users, with an assurance of their health, safety, welfare and security during the course of those activities.

**Activity Limitation:** A difficulty in the performance, accomplishment or completion of an activity at the level of an individual person. [WHO]

*Commentary 1:* Difficulty encompasses all of the ways in which the performance of the activity may be affected: doing something with pain or discomfort ; doing it too slowly or quickly, or not at the right time and place ; or doing it awkwardly or otherwise not in a manner expected ; or not being able to do it at all. An activity limitation may range from a slight to a severe deviation, in terms of quality or quantity, in performing the activity to the extent or in a manner which is expected.

*Commentary 2:* This Term replaces 'disability' in the obsolete 1980 United Nations World Health Organization (WHO) International Classification of Impairment, Disability and Handicap (ICIDH).

**Adaptability, Building:** The extent to which a building is designed when new, or is capable of being easily modified at any later stage, to meet the changing life and living needs of the broad range of potential users, who may or may not have activity limitations or develop a health condition during the life cycle of that building.

**Anosognosia:** A neurological disorder marked by the inability of a person to recognize that he/she has an activity limitation or a health condition.

**Built Environment:** Anywhere there is, or has been, a man-made or wrought (worked) intervention in the Natural Environment, e.g. cities, towns, villages, rural settlements, service utilities, transport systems, roads, bridges, tunnels, and cultivated lands, lakes, rivers, coasts, and seas, etc ... including the Virtual Environment.

*Commentary:* The Human Environment comprises the Social, Built, Virtual, Economic and Institutional Environments.

**City:** A geographical region, with open and flexible boundaries, consisting of:

- (a) An interwoven, densely constructed core (built environment) ;
  - (b) A large resident population of more than 500,000 people (social environment) ;
  - (c) A supporting hinterland of lands, waters and other natural resources (cultivated landscape) ; together functioning as ...
- a complex living system (analogous to, yet different from, other living systems such as ecosystems and organisms) ; and
  - a synergetic community capable of providing a high level of individual welfare and social wellbeing for all of its inhabitants.

**Climate Change Adaptation:** Reliably implementing policies, practices, projects and institutional reforms with the aim of reducing the adverse environmental impacts and/or realizing the benefits directly/indirectly associated with climate change, including variability and extremes – in a manner which is compatible with Sustainable Human and Social Development.

**Economic Environment:** The intricate web of real and virtual human commercial activity – operating at micro and macro-economic levels – which facilitates, supports, but sometimes hampers or disrupts, human interaction in the Social Environment.

**Energy Cycle:** The entire energy chain, including activities related to prospecting for, exploration, production, conversion, storage, transport, distribution and consumption of the various forms of energy, and the treatment and disposal of wastes, as well as the decommissioning, cessation or closure of these activities, minimizing harmful environmental impacts.

**Environmental Impact:** Any effect caused by a given activity on the environment, including human health, safety and welfare, flora, fauna, soil, air, water, and especially representative samples of natural ecosystems, climate, landscape and historical monuments or other physical structures, or the interactions among these factors ; it also includes effects on accessibility, cultural heritage or socio-economic conditions resulting from alterations to those factors.

**Ethics (singular):** The philosophical study of the moral value of human conduct and of the principles and rules by which it is, and/or should be, governed.

**Ethics (plural):** (i) A code of behaviour considered appropriate or correct, especially one subscribed to by an individual person or a particular group of people ; and (ii) the moral fitness of human decisions and/or courses of action.

**Flexibility, Building:** The extent to which a building interior is designed, when new, to be capable of being easily modified at any later stage during the life cycle of that building - with minimal cost and user inconvenience - because of a person's changing life, living or work needs.

**Health Condition:** An alteration or attribute of the health status of a person which may lead to distress, interference with daily activities, or contact with health services ; it may be a disease, disorder, injury or trauma, or reflect other health related states such as pregnancy, ageing, stress, congenital anomaly or genetic predisposition. [WHO]

**Human Health:** A state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity. [WHO]

**Life Cycle:** Consecutive and interlinked stages of a product (and/or service) system from raw material acquisition or generation of natural resources to the final disposal.

**People with Activity Limitations (E) / Personnes à Performances Réduites (F):** Those people, of all ages, who are unable to perform, independently and without aid, basic human activities or tasks - because of a health condition or physical / mental / cognitive / psychological impairment of a permanent or temporary nature.

**Commentary:** The above Term, in English and French, includes ...

- people who experience difficulty in walking, with or without a facilitation aid, e.g. stick, crutch, calliper or walking frame ;
- wheelchair users ;
- the very young (people under the age of 5 years), frail older people and women in the later stages of pregnancy ;
- people who are visually and/or hearing impaired ;
- people who suffer from arthritis, asthma, or a heart condition ... or any partial or complete loss of language related abilities, i.e. aphasia ... or who have a cognitive impairment disorder, including dementia, amnesia, brain injury, or delirium ;
- people impaired after the use of alcohol, other 'social' drugs e.g. cocaine and heroin, and some medicines ... or following exposure to environmental pollution and/or other irresponsible human activity, e.g. war or terrorism ;
- people who experience a panic attack in a real fire situation or other emergency ;

and ...

- people, including firefighters, who suffer incapacitation as a result of exposure, during a real fire, to smoke and poisonous/toxic substances and/or elevated temperatures.

**Person-Centred Design:** That design process which places real people at the centre of creative endeavours and gives due consideration to their responsible needs, and their health, safety, welfare and security in the Human Environment.

*Commentary:* This term includes such specific performance criteria as a sensory rich, social-oriented and accessible (independent travel mobility and usability of buildings and electronic/information/communication technologies) built environment ; fire safety ; air, light and visual quality ; thermal comfort (ISO 7730) ; protection from unwanted or nuisance noise and ionizing/electromagnetic radiation, etc.

**Resilience:** The ability to function reliably during normal conditions, to withstand, adapt to or absorb unusual disturbance, disruption or damage, and thereafter to quickly return to an enhanced state of function.

**Social Environment:** The complex network of real and virtual human interaction - at a communal or larger group level - which operates for reasons of tradition, culture, business, pleasure, information exchange, institutional organization, legal procedure, governance, human betterment, social progress and spiritual enlightenment, etc.

**Social Participation:** A person's involvement in life and living situations, particularly in relation to health conditions, body functions, activities and contextual factors. [WHO]

*Commentary:* This term refers to all areas of human life, including the full experience of being involved in a practice, custom or social activity. Domains of participation - personal maintenance, mobility, exchange of information, social relationships, education, employment, economic worth, civil status - are 'social' in the sense that the character of these complex experiences is shaped by society and the socio-economic environment.

**Social Rights:** Rights to which an individual person is legally entitled, e.g. the right to free elementary education (Art.26(1), UDHR), but which are only exercised in a social context with other people, and with the active support of a competent legal authority, e.g. a Nation State.

*Commentary:* In contrast to **Human Rights**, it is not protection from the State which is desired or achieved, but freedom with the State's help.

**Social Solidarity:** Unity of purpose, e.g. social wellbeing for all, and cohesion of interests, sympathies, tolerances, etc., among members of the same community, society or culture.

**Social Wellbeing for All:** A general condition – for every person in a community, society or culture - of health, happiness, creativity, responsible fulfilment, and sustainable development.

**Sustainable Design:** The creative, person-centred and ethical design response - in resilient built or wrought form, and using smart systems - to the intricate, open, dynamic and continually evolving concept of Sustainable Human & Social Development.

**Sustainable Human & Social Development:** Development which meets the responsible needs of this generation - without stealing the life and living resources from future generations, especially our children, their children, and the next five generations of children.  
.../...

*Commentary:* Responsible needs are defined and elaborated in the 1948 Universal Declaration of Human Rights, subsequent International Rights Legislation, and the United Nations 2015-2030 Sustainable Development Agenda.

**Sustainability Impact Assessment (SIA):** A continual evaluation and optimization process - informing initial decision-making, design, shaping activity/product/service realization, useful life, and termination or final disposal - of the interrelated positive and negative social, environmental, economic, institutional, political and legal impacts on balanced and equitable implementation of Sustainable Human & Social Development.

**Virtual Environment:** A designed environment, electronically generated from within the built environment, which has the appearance, form, functionality and impact - to the person perceiving and actually experiencing it - of a real, imagined and/or utopian world.

*Commentary:* The Virtual Environment also includes all of the many types and formats of Electronic, Information and Communication Technologies (EICT's).

**Welfare, Individual:** A person's general feeling of health, happiness and fulfilment.

### **A III. ULTIMATE GOAL & OVERALL AIM**

***Transforming Social Organization ... the Ultimate Goal is to arrive, quickly, at a dynamic and harmonious balance between a Sustainable Human Environment and a flourishing, not just a surviving, Natural Environment ... with the Overall Aim of achieving Social Wellbeing for All !***

Some of the many different factors, individuals and organizations which, together, will facilitate the realization of a Safe, Inclusive, Resilient & Sustainable Built Environment include:

- Social Solidarity ;
- A Robust Legal Base mandating the provision of a Safe, Resilient & Sustainable Built Environment for All ;
- Determined Political Will ;
- Sufficient, Life Cycle Financial Resources ;
- An understanding and compassionate Bureaucracy – at all levels in society ;
- Competent (i.e. having the necessary education, training and experience) spatial planners, architects, engineers, quantity surveyors, landscape and industrial designers, etc ... members of construction organizations, etc ... managers, service and maintenance personnel, etc ... and producers, manufacturers, etc ;
- Innovative, well-designed Products and Systems which can be shown to be 'fit for their intended use, in the location of use' ; and
- Efficient Performance Targeting, monitoring, verification and reporting.

Some essential prerequisites for the above include:

- Effective International Law ; and
- Lasting Peace.

The issues of climate change mitigation and adaptation, social solidarity, and protection of the natural environment, for example, know no geographical boundaries. Policy and decision makers, and the many different practitioners, acting alone or in collaboration with others, must each have a belief in, a deep respect for, and a harmonized understanding of the Ethics of Sustainable Human & Social Development ... broadly interpreting the essence of this Code's principles in a manner which is sensitive both to local context and the real needs of local communities.

#### **A IV. ETHICS OF INITIATION & PRACTICE**

##### **Policy and Decision Makers ... and Practitioners ... shall:**

- hold paramount the safety, health and wellbeing of the public (particularly people with activity limitations, indigenous peoples and other vulnerable groups in society), the protection of the natural environment and natural ecosystems within the built environment ... in accordance with the values of Sustainable Human & Social Development ;
- promote individual health, safety, welfare and security, and group wellbeing, in every human life and living situation - not only in places of work ;
- offer services, advise on, or undertake assignments and commissions only in areas within their competence, and practice in a creative, careful and diligent manner ;
- act as faithful and objective agents of society, clients and/or employers, maintain confidentially and disclose conflicts of interest ;
- keep themselves informed in order to maintain their competence, strive to advance the body of knowledge within which they practice, and provide opportunities for the development of colleagues and subordinates ;
- conduct themselves with fairness and good faith towards society, clients, employers, colleagues and others, give credit where it is due and accept, as well as give, honest and fair criticism ;
- ensure that society, clients and/or employers are made fully aware of any harmful environmental and socio-economic consequences of their actions, proposals, projects, or lack of action ... and endeavour to interpret technical issues to the public in an unbiased and truthful manner ;
- present clearly to society, clients and/or employers the possible negative consequences of overruling or disregarding technical decisions or judgments ;
- report (i.e. protected disclosure) to their organization/association/institute and appropriate authorities having jurisdiction any illegal or unethical decisions, actions or lack of action by colleagues and/or others.

#### **A V. ETHICS OF SUSTAINABLE HUMAN & SOCIAL DEVELOPMENT**

##### ***Reality Reliability Redundancy Resilience !***

1. Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature. Movement towards a 'person-centred' and 'socially inclusive' approach in the design, engineering, construction, and operation (i.e. management and maintenance) of the built environment, i.e. placing real people and their responsible needs at the centre of creative endeavours, shall be encouraged and fostered by every sector in society.
2. Women have a vital role in environmental management and development. Their full participation is essential to achieve sustainable development. The experience and wisdom of the elderly shall be valued ; the abilities of every person shall be cherished ; and the creativity, ideals and courage of youth shall be mobilized to forge a social partnership in order to ensure a better future for all.
3. Local communities, and especially indigenous peoples and their communities, have a vital role in environmental management and development because of their knowledge and traditional practices. Practitioners, as well as policy and decision makers, shall recognize, duly support and celebrate their separate identities, cultures and interests, and enable their effective participation in the achievement of sustainable development.

4. The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority.
5. Protecting human rights, eradicating poverty, and removing social inequality are indispensable and necessary prerequisite steps to achieving sustainable development, in order to decrease disparities in standards of living, better meet the responsible needs of people, and achieve social wellbeing for all.
6. Practitioners, as well as policy and decision makers, shall co-operate in a spirit of partnership to conserve, protect, heal and restore the health and integrity of the Earth's ecosystem. Understanding the fragility of the natural environment, and observing the vast expanse of existing development and waste already generated in the built environment, every alternative shall be exhausted before intruding further into the natural environment. All opportunities shall be taken to heal previous injury to the natural environment ; initial damage repair by human intervention, sufficient only to promote natural self-healing, is the recommended course of action.
7. A duty is attached to the right of responsible development - it shall be achieved in such a manner as to equitably meet the energy, environment and development requirements of present and future generations. Sustainability of the built environment can only be understood in relation to that of the natural environment ; with precision and accuracy, it shall involve:
  - (i) establishing limits on the capacity of the natural environment to sustain itself ;
  - (ii) stopping short of those limits, by a controlled factor of safety, in any further future modification or extension to the built environment ;
  - (iii) transforming the nature and course of human and social progress to become responsible and environment-conscious, i.e. sustainable development.
8. In order to achieve sustainable development, environmental protection and energy efficiency/conservation shall constitute integral parts of the development process, and shall not be considered in isolation.
9. Practitioners, as well as policy and decision makers, shall co-operate to strengthen capacity-building for sustainable development by improving scientific understanding through research, the exchange of information, and by enhancing the development, adaptation, diffusion and transfer of technologies, including innovative technologies.
10. To achieve sustainable development and a higher quality of life for all peoples, unsustainable patterns of production and consumption shall be reduced and eliminated, and appropriate demographic policies shall be promoted. With concern for the protection of indigenous architecture and methods of building, sustainable patterns of planning, design, construction/de-construction, and operation of the built environment shall be encouraged by means of:
  - (i) concerted programmes of awareness raising and education at all levels of the construction, agriculture, marine, transport and energy industries ;
  - (ii) harmonized financial mechanisms and incentives in every country.
11. Environmental issues are best handled with the participation of interested members of the public, in an open and transparent manner. Individuals shall have access to complete information concerning their local community, including information on hazardous materials and processes. Individuals have the right to participate in decision-making. Public awareness and participation shall be facilitated and encouraged by making information widely available. Where appropriate, effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

12. The environment and natural resources of peoples under oppression, domination and occupation shall be protected.
13. Practitioners, as well as policy and decision makers, shall co-operate effectively to prevent the relocation or transfer outside a region, or the importation into any part of the same region, of an activity or substance which causes environmental degradation or is found to be harmful to human health.
14. Effective energy, environment and sustainable development related legislation shall be properly enacted, operated, monitored and controlled. Standards, codes of good practice, and management objectives, priorities and systems shall reflect the regional context to which they apply. Standards, codes and systems adopted in developed countries may be entirely inappropriate, and of unwarranted economic and social cost in other regions of the world, particularly developing countries. The base concerning human health and safety, environmental protection and consumer protection, shall be set at a high level, and shall take account of any new developments verified by scientific fact.
15. The precautionary approach shall be widely applied by practitioners, as well as policy and decision makers. Where there is a potential for harm to human health, or serious or irreversible damage to the environment, lack of full scientific certainty shall not be used as a reason for postponing practicable prevention measures or countermeasures.
16. A **Sustainability Impact Assessment (SIA)** shall be undertaken for any proposed activity which is likely to have a significantly adverse 'environmental impact' ; such an assessment shall be subject to proper monitoring and control by an independent, competent authority or organization.
17. Detailed **Performance Indicators** for all stages of planning, design, engineering, construction/de-construction, operation (i.e. management and maintenance), and disposal shall be used to target improvements in sustainability performance, verify target attainment, and continually re-adjust targets at appropriate intervals thereafter.
18. Warfare is inherently destructive of sustainable development. Practitioners, as well as policy and decision makers, shall respect international law providing protection for the environment in times of armed conflict, and co-operate in its further elaboration, as necessary and appropriate.
19. Peace, responsible human and social development, environmental protection and energy efficiency/conservation are interdependent and indivisible.
20. Practitioners, as well as policy and decision makers, shall co-operate in a spirit of partnership and good faith to fulfil the principles embodied in this Code ... in pursuit of **Sustainable Energy-efficient Environment-friendly Development (SEED)**.

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This Code of Ethics was drafted by C.J.Walsh, Sustainable Design International Ltd., Ireland, Italy & Turkey. FireOx International is the Fire Engineering Division of SDI. If you would like to comment on this document, or if you have any questions ... please e-mail: [fireox@sustainable-design.ie](mailto:fireox@sustainable-design.ie)

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