

Lugano, 4th September 2019

### Climate emergency

The Ticino Society of Natural Sciences (STSN) is a section of the Swiss Academy of Natural Sciences (SCNAT), which brings together researchers and enthusiasts of the various scientific disciplines, as well as the heads of numerous research institutes of the Canton. In recognition of recent correspondence in the media questioning the validity of anthropogenic factors as major contributors to climate change, the STSN has decided to express a formal position on anthropogenic contribution to climate change given the importance and the priority of the topic.

The STSN considers it essential that this issue be discussed publicly, but calls for the discussion to be based on correct scientific evidence, as has been summarized in the 2014 IPCC report and contextualized for Switzerland in the report "Coup de projecteur sur le climat suisse" published by SCNAT in 2016.

On the basis of current scientific knowledge, the STSN position statement is that it is necessary to adopt effective climate protection measures, as outlined by the Federal Council. In session on August 28 2019, the Council decided to make CO<sub>2</sub> reduction targets more stringent, recognising that "Switzerland is strongly affected by climate change as local temperatures rise twice as much as the world average".<sup>1</sup>

With the aim of contributing to a constructive discussion based on solid scientific foundations, this position statement by the STSN endorses the contents of the open letter and petition of last July 3 'Global warming is of anthropic origin' promoted by the Italian physicist Roberto Buizza, a coordinator of the federated initiative on climatology. To date, more than 21,000 people have subscribed to this letter, including hundreds of scientists and intellectuals.<sup>2</sup>

The open letter was signed by the following Italian associations: Italian Association of Atmospheric Sciences and Meteorology (AISAN), Professionals Weather Association (AMPRO), Italian Glaciological Committee (CGI), Italian Hydrological Society (SII) Italian Society of Climate Sciences (SISC), Group of clean energy scientists, NIMBUS - Italian Meteorological Society, UNI-MET - Coordination table of meteorological associations, CETEMPS Center of Excellence, LaMMA - Environmental Monitoring and Modeling Laboratory for Sustainable Development (public consortium of the Tuscany Region and the National Research Council). STSN has also decided to sign it.

Below is a good part of the original text:

" (...)

*a) Observed data from many sources say that the Earth system is today subjected to measurable climatic variations that are taking place within extremely short time scales;*

*b) Observations clearly indicate that the concentrations of greenhouse gases in the atmosphere – such as carbon dioxide and methane – have been continuously growing, especially since the years*

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<sup>1</sup> 'Stop greenhouse gas emissions by 2050', an article published in the Corriere del Ticino on 28 August 2019.

<sup>2</sup> From 11 July, the letter can be signed on the 'change.org' website: <https://bit.ly/2xMt4SX>



## SOCIETÀ TICINESE DI SCIENZE NATURALI

*following the Second World War, reflecting a dramatic increase in use of fossil fuels and the increasing prevalence of agricultural practices, such as intensive farming;*

*c) Measurements of the increase in greenhouse gas concentrations and aspects of climate change confirm what basic physics tells us and what the models of the Earth system indicate: human activities are the main cause of the climate change on a global scale, which we are witnessing;*

*d) Thousands of scientists studying the Earth's climate system, its evolution and human activities, agree that there is a cause and effect relationship between the increase in anthropogenic greenhouse gases and the increase in terrestrial global temperature, as confirmed by the reports of the Intergovernmental Panel on Climate Change (IPCC), which summarize the results published by the global scientific community;*

*e) The numerical models of the Earth system based on the laws of physics are the most realistic tools we have at our disposal to study the climate, to analyze the causes of observed climate changes and to estimate possible future scenarios. These models have become increasingly reliable thanks to the growth of the network of observations used to validate their quality, to the improvement of our knowledge of the phenomena that influence the climate and to the availability of high-performance computational resources;*

*f) The existence of a climatic variability of natural origin cannot be used as an argument to deny or diminish the existence of global warming due to greenhouse gas emissions; natural variability overlaps with that of anthropic origin, and the scientific community has the tools to analyze both components and study their interactions;*

*g) Future "business as usual" scenarios, predicted by scientifically accredited models of the Earth system, indicate that the effects of climate change on countless sectors of society and on natural ecosystems are likely to endanger the sustainable development of society as we know it today, and therefore the future of the next generations;*

*h) Effective and urgent measures must therefore be taken to limit the emissions of greenhouse gases and maintain global warming and climate changes below the danger level indicated in the 2015 Paris agreement (to maintain the temperature increase global average well below 2 ° C compared to pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5 ° C);*

*These conclusions are based on thousands of studies conducted in all countries of the world by the most accredited scientists working on the subject of climate change. Following these conclusions, important decisions must be made to combat climate change (...).*

*We will conclude by strongly reaffirming that the problem of climate change is extremely important and urgent, for Italy as well as for all the countries of the world. Policies aimed at mitigating and adapting to climate change should be a major priority of the national political debate to ensure a better future."*

On behalf of the Ticino Society of Natural Sciences

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