The French Physical Society encourages the nuclear debate.

Energy and the environment are at the heart of current debates: the threat of climate change and dwindling fossil resources are causing global problems to which physicists cannot remain indifferent. The French Physical Society (La Société Française de Physique or SFP) and the science community in general have a responsibility to shed light on these debates.

SFP's "Energy and Environment" group has historically been a forum for the sharing and dissemination of information; they provide frequent and scientifically-rigorous briefings for societal and political decision-makers.

The SFP and the French Chemical Society have recently called on the French government and Parliament to set up a body for the scientific assessment of energy policy. They stated their position in an online stakeholders' consultation [1] in the context of the public debate on the revision of the Multiannual Energy Program.

Nuclear power cannot be excluded from this debate into energy sources and their future. Whilst each source of energy has its own unique features, it is nuclear technology that has undoubtedly been one of the most controversial scientific and technical fields throughout the second half of the last century and which remains so today. The highly animated and contradictory nature of the debate, even within the SFP, highlights the need to take into account a variety of data in order to draw as accurate and objective a conclusion as possible in what is an extremely complex area.

The aim of this special edition of *Reflets de la Physique* is to adopt a calm editorial approach, presenting the arguments of a contradictory debate in a highly factual manner of a large (albeit limited) number of viewpoints, so that the reader can form his or her own opinion. This editorial approach is typical of the SFP's magazine, which has in the past published several very detailed articles about nuclear power and its future.

The physics community, and scientists in general, are increasingly aware of the political, societal and moral implications of their professional work. This is why the preparation of a reference document intended to be accessible to a very broad audience also needs to include contributions from non-scientists. We have therefore given them the opportunity to bring fresh insight that can sometimes be overlooked by scientists, even when it clearly influences public perception.

A further issue of *Reflets de la Physique*, currently being prepared with the "Energy and Environment" group, will soon be devoted to energy in general to extend and enrich the debate.

In the 1990s, under the presidency of René Turlay, the SFP had already published a study on nuclear waste [2], but this is the first time that we enter the debate on nuclear energy with such an extensive piece of work, including a comprehensive bibliography, and aspiring to reach a wider readership than just science enthusiasts.

With this special issue, which reflects our determination to ensure an informed debate, we hope to provide an explanation of the controversies and the knowledge that the public often lacks in order to form an opinion. Hoping that this goal will be achieved, we wish you an excellent read!

Catherine Langlais
President of the French Physical Society

References

1. https://cpdp.debatpublic.fr/cpdp-ppe/cahier-dacteur-ndeg30-societe-francaise-physique.html
2. Société Française de Physique (sous la direction de R. Turlay), Les déchets nucléaires, un dossier scientifique, EDP Sciences (1997).