

Science Europe Press Release: *for immediate release*

A Common Scale for our Common Future: Exergy as the Measure to Assess and Compare Energy-efficiency Technologies

(Brussels, 21 September 2015) *“The most secure, most affordable and most sustainable energy is that which is never used”* says a newly released Opinion Paper by a Science Europe Scientific Committee. Exergy – which is the actual energy available for a certain use – rather than energy per se, however, is the quantity to be used as a real measure of the energy efficiency.

The new Opinion Paper by Science Europe Scientific Committee for Physical, Chemical and Mathematical Sciences, entitled ‘A Common Scale for Our Common Future: Exergy, a Thermodynamic Metric for Energy’ is released on the day that the Luxembourg Presidency of the EU is holding the European Strategic Energy Technology Plan (SET-Plan) Conference on European energy policy, research and innovation (<http://www.setplan2015.lu/>).

In its paper, the Committee focuses on the current debate on energy efficiency and argues that *“there is no coherence, no common scale and no agreed metric for energy efficiency. It is often erratically defined in economic, environmental, physical and even political terms”*. The solution for the Committee’s members lies in choosing ‘exergy’ and not ‘energy’ with which to measure energy efficiency, because until now *“we have been comparing apples and oranges”*.

Energy is never consumed, only transformed, whereas exergy is the actual energy that you get for a certain use and is consumed after that use. As the paper notes, the application of exergy analysis for sustainable technologies is a well-established technological field and the challenge is now to persuade decision-makers to use it as a basis for establishing policies on energy use.

After illustrating the benefits of the exergy analysis, the Paper recommends that policy-makers establish an International Exergy Panel, which would introduce and promote the exergy concept and the more systematic use of it where appropriate, as well as drive further research, including on the causes of exergy destruction.

The Science Europe Committee for Physical, Chemical and Mathematical Sciences considers exergy as the appropriate scale to guide any future judgements on sustainability.

The Opinion Paper can be found at: <http://bit.ly/1Fo2KyX>

Science Europe is an association of major European research funding and research performing organisations in 27 countries, established in 2011 to promote the collective interest of its members and to foster collaboration between them. For more information, see www.scienceeurope.org.

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