# STIAEM — Open Educational Resource (OER) Repository for AI

Metadata Sheet — WP2 / Erasmus+ KA220-SCH, ref. 2025-1-IT02-KA220-SCH-000365213

## OER 5.3.2

*Digital Civic Education Modules for Conscious and Sustainable Use of Computational Resources*

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| **Identifier** | OER 5.3.2 |
| **Title** | Digital Civic Education Modules for Conscious and Sustainable Use of Computational Resources |
| **Creator** | Konak Science and Art Center (BILSEM) - Türkiye |
| **Description** | Complementing OER 5.3.1, the resource translates the environmental footprint of AI into digital civic education modules in which the sustainability of technologies becomes an object of study, discussion and action. It links the activities to the DigComp 3.0 competences and Area 4 and presents four modules for the classroom. The practical focus is on guiding the class from analysis of a problem to documented concrete action, including criteria for evaluating a civic module. |
| **Keywords** | digital civic education; sustainability; DigComp 3.0; Area 4; computational resources; responsible use; project-based learning; evaluation criteria |
| **Language** | EN (English) |
| **Affiliation** | Konak Science and Art Center (BILSEM) - Türkiye |
| **Contributor** | STIAEM Transnational Scientific Board (peer review, Rhodes validation protocol) |
| **Media Format** | Text; Infographics |
| **Genre** | Training Manual; Educational Guide |
| **URL** | https://www.stiaemproject.eu/?oer_download=OER-5.3.2 |
| **Citation** | Konak Science and Art Center (BILSEM). (2026). *Digital Civic Education Modules for Conscious and Sustainable Use of Computational Resources* [Educational guide]. Slow Tech Innovation: AI, Ethics, and New Teaching Methods (STIAEM), 2025-1-IT02-KA220-SCH-000365213. |
| **References** | Cosgrove, J., & Cachia, R. (2025). DigComp 3.0: European digital competence framework (Fifth edition) [Quadro europeo delle competenze digitali, trad. it. 2025]. Publications Office of the European Union. https://data.europa.eu/doi/10.2760/0001149<br>Luccioni, A. S., Viguier, S., & Ligozat, A.-L. (2022). Estimating the carbon footprint of BLOOM, a 176B parameter language model. Journal of Machine Learning Research, 24, 1-15. https://arxiv.org/abs/2211.02001<br>OECD. (2022). Measuring the environmental impacts of artificial intelligence compute and applications. OECD Publishing. https://www.oecd.org/en/publications/measuring-the-environmental-impacts-of-artificial-intelligence-compute-and-applications_7babf571-en.htm<br>Patrignani, N., & Whitehouse, D. (2019). Slow tech: The bridge between computer ethics and business ethics. In This changes everything - ICT and climate change (pp. 265-280). Springer.<br>Schwartz, R., Dodge, J., Smith, N. A., & Etzioni, O. (2020). Green AI. Communications of the ACM, 63(12), 54-63. |

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| | https://arxiv.org/abs/1907.10597<br>Strubell, E., Ganesh, A., & McCallum, A. (2019). Energy and policy considerations for deep learning in NLP. In Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (pp. 3645-3650). https://aclanthology.org/P19-1355/ |
| **Educational Level** | Secondary School |
| **Associated Module / MOOC Video Lesson** | Module 5 - Safety, Privacy and Sustainability / Video 5.3 - Ecological Footprint & Civic Education |
| **Learning Objectives** | Design digital civic education modules centred on the sustainability of technologies; link the activities to the DigComp 3.0 competences and to the scientific evidence on the AI footprint; guide the class from the analysis of a problem to the choice of concrete, documented actions. |
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| **Date Available** | 14/09/2026 |
| **Date Modified** | |