

Título: Tópicos em ACV aplicada à energia.

Responsáveis: Joaquim Seabra e Thayse Aparecida Dourado Hernandes

Ementa: A Avaliação do Ciclo de Vida (ACV) é uma técnica para avaliação dos aspectos ambientais e dos impactos potenciais associados a um produto, compreendendo as etapas que vão desde a retirada da natureza das matérias-primas elementares que entram no sistema produtivo (berço) até a disposição do produto final (túmulo). Nesta disciplina serão tratados tópicos especiais associados à técnica de ACV, dando atenção especial à sua aplicação ao contexto de sistemas energéticos. Será inicialmente apresentada uma breve revisão sobre os aspectos metodológicos e conceituais básicos relacionados à ACV, com base nas orientações estabelecidas em normas internacionais. Na sequência serão discutidos tópicos mais específicos, incluindo a exploração de ferramentas de análise, contemplando:

- ACV, regulação e certificação de combustíveis/energia
- ACV consequencial e mudança do uso da terra
- ACV dinâmica
- Avaliação do impacto do ciclo de vida
- Fronteiras Planetárias e Absolute Environmental Sustainability Assessment
- GIS e ACV
- Avaliação da Sustentabilidade do Ciclo de Vida.

Bibliografia básica:

- ANL. The Greenhouse gases, Regulated Emissions and Energy in Transportation (GREET) model. Argonne, IL, USAUChicago Argonne, LLC, , 2020.
- ANP. RenovaBio. Disponível em: <<http://www.anp.gov.br/producao-de-biocombustiveis/renovabio>>.
- ARB. Low Carbon Fuel Standard. Disponível em: <<https://www.arb.ca.gov/fuels/lcfs/lcfs.htm>>.
- EPA. Renewable Fuel Standard Program (RFS2) Regulatory Impact Analysis. Washington: Assessment and Standards Division, Office of Transportation and Air Quality, U.S. Environmental Protection Agency, fev. 2010.
- EUROPEAN UNION. Directive (EU) 2018/2001. Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast). . 21 dez. 2018.
- GUINÉE, J. B.; DE KONING, A.; HEIJUNGS, R. Life cycle assessment-based Absolute Environmental Sustainability Assessment is also relative. *Journal of Industrial Ecology*, v. 26, n. 3, p. 673–682, jun. 2022.
- HAUSCHILD, M. Z.; ROSENBAUM, R. K.; OLSEN, S. I. (EDS.). *Life Cycle Assessment: Theory and Practice*. Cham: Springer International Publishing, 2018.
- HOEKSTRA, A. Y. (ED.). *The water footprint assessment manual: setting the global standard*. London ; Washington, DC: Earthscan, 2011.
- ICAO. Carbon Offsetting and Reduction Scheme for International Aviation (CORSA). Disponível em: <<https://www.icao.int/environmental-protection/CORSA/Pages/default.aspx>>.
- ISO. ISO 14044:2006(E), Environmental management — Life cycle assessment — Requirements and guidelines. , 1 jul. 2006a.
- ISO. ISO 14040:2006(E), Environmental management — Life cycle assessment — Principles and framework. , 1 jul. 2006b.
- ISO. ISO/TS 14067:2013, Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification and communication. , 15 maio 2013.
- ISO. ISO 13065:2015, Sustainability criteria for bioenergy. , 2015.
- ISO. ISO 14046:2014, Environmental management - Water footprint - Principles, requirements and guidelines. , 2020.
- JRC. ILCD Handbook: General guide for Life Cycle Assessment - Detailed guidance. 1. ed. [s.l.] European Commission, Joint Research Centre, Institute for Environment and Sustainability, 2010.
- RYBERG, M. W. et al. Development of a life-cycle impact assessment methodology linked to the Planetary Boundaries framework. *Ecological Indicators*, v. 88, p. 250–262, maio 2018.



SOUZA, G. M. et al. Bioenergy & sustainability: bridging the gaps. Paris Cedex: Scientific Committee on Problems of the Environment (SCOPE), 2015.

Doutorado Ambiente e Sociedade 2024
PPG-Planejamento de Sistemas Energéticos 2024

Disciplina: *Sustentabilidade, Mudanças climáticas e Direitos humanos*

PE 182J - Tópicos Especiais em Planejamento de Sistemas Energéticos III

Professora responsável:
Sônia Regina da Cal Seixas

Prof. Convidada:
Ana Maria H de Ávila

Horário: terça feira/ 9.00hs – 12.00hs
Local: Auditório Prof. Daniel Hogan - Nepam/UNICAMP

I. Ementa:

Revisão teórica dos conceitos de sustentabilidade, mudanças climáticas e direitos humanos. Análise das inter-relações dos três conceitos a partir de abordagem interdisciplinar, buscando evidenciar sua importância e perspectivas para a sociedade contemporânea.

II. Tópicos norteadores e referências básicas

(1) *Mapeando conceitos: Sustentabilidade, Mudanças climáticas e Direitos humanos*

Knox, J (2015) Human Rights, Environmental Protection, and the Sustainable Development Goals.. Washington International Law Journal, 24 (3): 517-536, Wake Forest Univ. Legal Studies Paper. Available at SSRN: Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2660392

Piovesan, F (1998). A constituição brasileira de 1988 e os tratados internacionais de proteção dos direitos humanos. In: Marcílio, M L; Pussoli, L (Coords.). Cultura dos direitos humanos. São Paulo: LTr :133-151

United Nations Environment Programme (UNEP)/ Sabin Center for Climate Change Law at Columbia University (2015) Climate Change and Human Rights. Nairobi/Kenya and New York/USA, 56p

United Nations Human Rights – UNHR (2015) Understanding Human Rights and Climate Change. Submission of the Office of the High Commissioner for Human Rights to the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change, Available at:

<https://www.ohchr.org/Documents/Issues/ClimateChange/COP21.pdf>

Holden, E, Linnerud, K, and Banister, D (2014) Sustainable development: Our Common Future revisited *Global Environmental Change* 26: 130–139 Available <http://dx.doi.org/10.1016/j.gloenvcha.2014.04.006>

Giller, K E, Drupady, I M, Fontana, L B and Oldekop, J A. (2018) Editorial overview: The SDGs– aspirations or inspirations for global sustainability. *Current Opinion in Environmental Sustainability* 34:A1– A2

Para consulta: Stefano, D e Mendonça, M L (orgs) 2019. *Direitos Humanos no Brasil 2019: Relatório da Rede Social de Justiça e Direitos Humanos*. São Paulo: Outras Expressões, 285p

(2) *Ampliando as inter-relações dos conceitos*

Mapp, S and Gabel, S G (2019) The Climate Crisis is a Human Rights Emergency. *Journal of Human Rights and Social Work*. Available at: <https://doi.org/10.1007/s41134-019-00113-0>

Schapper, A and Lederer, M (2014). Introduction: Human rights and climate change: mapping institutional inter-linkages *Cambridge Review of International Affairs*, 27(4), 666–679, Available at: <http://dx.doi.org/10.1080/09557571.2014.961806>

Ciplet, D, Roberts, J T (2017) Climate change and the transition to neoliberal environmental governance. *Global Environmental Change* 46 (2017) 148–156, Available at: <https://doi.org/10.1057/s41286-017-0032-z>

Schwartz, S W (2019) Measuring Vulnerability and Deferring Responsibility: Quantifying the Anthropocene, *Theory, Culture & Society*,. 36(4) 73–93, Available at: <https://dx.doi.org/10.1177/0263276418820961>

Seixas SRC and Nunes, R J. (2017) Subjectivity in a context of environmental change: opening new dialogues in mental health research. *Subjectivity* 10:294–312. Available at: <https://dx.doi.org/10.1057/s41286-017-0032-z>

Kumar N (2018) *Cities, Climate Change, & Health Equity* - Wellesley Institute, Toronto, ON, Canada Available at: <http://www.wellesleyinstitute.com/wp-content/uploads/2018/06/Cities-Climate-Change-Health-Equity-WIJune-2018-fv.pdf>

Hoggett, P (2019) Introduction. In: Hoggett, P (ed.), *Climate Psychology*, Studies in the Psychosocial: 1- 19. Available at: https://doi.org/10.1007/978-3-030-11741-2_1

Swim, J K; Vescio, T K; Dahl, J L; Zawadzki, S J (2018) Gendered discourse about climate change policies. *Global Environmental Change* 48: 216–225

Barnett, J (2020) Global environmental change II: Political economies of vulnerability to climate change. *Progress in Human Geography*, doi: <https://doi.org/10.1177/0309132519898254>

(3) *Sustentabilidade e direitos humanos: perspectivas para a sociedade contemporânea*

Oxfam Brasil/ INESC/ Center for Economic and Social Rights (2017).

Brasil. *Direitos humanos em tempos de austeridade*. Available at:

<https://oxfam.org.br/publicacao/direitos-humanos-em-tempos-de-austeridade/>

[Delina, L L](#) and [Sovacool, B K](#) (2018) Of temporality and plurality: an epistemic and governance agenda for accelerating just transitions for energy access and sustainable development. *Current Opinion in Environmental Sustainability*, 34: 1-6, Available at: <https://doi.org/10.1016/j.cosust.2018.05.016>

McCollum, D L, Echeverri, L G , Busch, S , Pachauri, S , Parkinson, S , Rogelj, J , Krey, V, Minx, J C , Nilsson, M, Stevance, A-S and Riahi, K (2018) Connecting the sustainable development goals by their energy inter-linkages *Environ. Res. Lett.* 13 (3) Available at: <https://doi.org/10.1088/1748-9326/aaafe3>

Swedish International Development Cooperation Agency/ Sida (2015). A Human Rights Based Approach to Environment and climate change. Available at: <https://www.sida.se/globalassets/sida/eng/partners/human-rights-based-approach/thematic-briefs/human-rights-based-approach-environment-climate-change.pdf>

Tozo, L S de O (2018). Direitos Humanos: o ideal comum a ser atingido por todos os povos e todas as nações. UNICAMP, Direitos Humanos. *Jornal da UNICAMP*. Available at: <https://www.unicamp.br/unicamp/ju/artigos/direitos-humanos/direitos-humanos-o-ideal-comum-ser-atingido-por-todos-os-povos-e-todas>

Pribytkova, E (2020) "What Global Human Rights Obligations Do We Have?," *Chicago Journal of International Law*: 20 (2): 431-449, Article 15. Available at: <https://chicagounbound.uchicago.edu/cjil/vol20/iss2/15>

Schleicher, J, Schaafsma, M and Vira, B (2018) Will the Sustainable Development Goals address the links between poverty and the natural environment? *Current Opinion in Environmental Sustainability* 34:43–47. Available at: <https://doi.org/10.1016/j.cosust.2018.09.004> 1877-3435/ã 2018

Seixas, S R C and Hoefel, J L M (2020) Human Rights and Gender Equity: Building Sustainable. In: Leal Filho W., Azul A., Brandli L., Özuyar P., Wall T. (eds) *Gender Equality. Encyclopedia of the UN Sustainable Development Goals*. Springer, Cham, Available at: <https://doi.org/10.1007/978-3-319-70060-1>

III. Referencias complementares

Arendt, H. (1979) *As Origens do Totalitarismo*. São Paulo: Companhia das Letras: 339 – 532

Barnett, J, Adger, W N (2007). Climate change, human security and violent conflict. *Political Geography* 26: 639e655

- Black, R, Adger, W N, Arnell, N W, Dercon, S, Geddes, A, Thomas, D S G (2011) The effect of environmental change on human migration. *Global Environmental Change* 21S: S3–S11
- Jager, J (2003) The International Human Dimensions Programme on Global Environmental Change (IHDP) *Global Environmental Change* 13: 69–73
- Lertzman, R. 2015. *Environmental Melancholia: Psychoanalytic dimensions of engagement (Psychoanalytic Explorations)*. UK: Routledge.
- Lynch, B D (2012) Vulnerabilities, competition and rights in a context of climate change toward equitable water governance in Peru's Rio Santa Valley *Global Environmental Change* 22: 364–373
- Naser, M M, Shahidul, M, Swapan, H, Ahsan, R, Afroz, T and Ahmed, S(2019). Climate change, migration and human rights in Bangladesh: Perspectives on governance, Asia Pacific Viewpoint 60(2), doi: <https://doi.org/10.1111/apv.12236>
- Navarrete, D M and Mark Pelling, M (2015) Subjectivity and the politics of transformation in response to development and environmental change. *Global Environmental Change* 35: 558–569
- Ostrom, E (2008) Editorial: Frameworks and theories of environmental change. *Global Environmental Change* 18: 249–252
- Piovesan, F (2004) Direitos Sociais, Econômicos e Culturais e Direitos Civis e Políticos. *SUR - Revista Internacional de Direitos Humanos*, 1 (1): 21-47
- Piovesan, F (2005) Ações Afirmativas da Perspectiva dos Direitos Humanos . *Cadernos de Pesquisa*, 35(124): 45
- Poortinga, W, Whitmarsh, L, Steg, L, Bohm, G and Fisher, S (2019). Climate change perceptions and their individual-level determinants: A cross-European analysis *Global Environmental Change* 55 (2019) 25–35, <https://doi.org/10.1016/j.gloenvcha.2019.01.007>
- Shue, H (2018) *Climate Surprises: Risk Transfers, Negative Emissions, and the Pivotal Generation*. Available at SSRN: <http://dx.doi.org/10.2139/ssrn.3165064>
- Silove, D, S, Franzcp, M D (1999). The Psychosocial Effects of Torture, Mass Human Rights Violations, and Refugee Trauma: Toward an Integrated Conceptual Framework. *The Journal of Nervous & Mental Disease*: 187(4): 200-207
- Susteren, L V (2018) The psychological impacts of the climate crisis: a call to action. *BJPSYCH International*, 15(2): 25

Disciplina: PE181

Título: Tópicos Especiais em Planejamento de Sistemas Energéticos II: Métodos Multicritério de Tomada de Decisão e Sistemas Grey

Oferecimento: 1º semestre de 2024

Data: sextas-feiras

Horário: das 14 às 17h.

Professores: Carla Kazue Nakao Cavaliero / Rosley Anholon (FEM)

Ementa:

- The qualitative content analysis process;
- The Delphi Process; Lawshe's Content Validity Ratio;
- Traditional SWARA;
- Traditional WASPAS;
- Traditional TOPSIS;
- Promethee;
- CRITIC (Criteria Importance Through Intercriteria Correlation);
- Entropy Method;
- Analytic Hierarchy Process;
- Best-worst method;
- Fuzzy Set Theory Concepts;
- Fuzzy Delphi method;
- Fuzzy SWARA;
- Fuzzy TOPSIS;
- Fuzzy TOPSIS Class;
- Fuzzy Dematel;
- Fuzzy Cognitive Maps;
- Grey Theory and Models;
- Basic Concepts – Operations with Grey Systems;
- Whitenization of Grey Systems;
- Grey Relational Analysis;
- Grey Incidence Analysis;
- Grey Weight Fixed Clustering;
- Evaluation Model Using Center-Point Triangular Whitenization Functions;
- Multicriteria decision-making with Grey Systems Theory;
- Examples.