

Wojciech Budzianowski Consulting Services

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2017

Renewable Energy and Sustainable Development (RESO) Group

Wojciech M. Budzianowski



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RESD

Renewable Energy and Sustainable Development Group

Renewable Energy and Sustainable Development (RESD) Group has been created with the intention to promote sustainable development of economy by means of optimal use of renewable energy sources.

The group consists of members with expertise in the areas of technology, science, economy, business and policy. The group is supported by interns, students, the international advisory board and cooperating enterprises. RESD is a think tank supporting sustainable economic development. Currently, the RESD Group operates through its individual members.

For any other details you may require, please contact us at:

Renewable Energy and Sustainable Development (RESD) Group

Group Leader

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Recent publications of RESD members

- **Budzianowski W.M.:** A review of potential innovations for production, conditioning and utilization of biogas with multiple criteria assessment. *Renewable and Sustainable Energy Reviews* 54 (2016) 1148-1171
- Gielen D, Saygin D, Wagner N, **Budzianowski W.** REmap 2030 renewable energy prospects for Poland. Abu Dhabi. IRENA (International Renewable Energy Agency). www.irena.org/remap. (2015)
- **Budzianowski W.M.,** Postawa K.: Renewable energy from biogas with reduced carbon dioxide footprint: implications of applying different plant configurations and operating pressures. *Renewable and Sustainable Energy Reviews* (2017) <http://dx.doi.org/10.1016/j.rser.2016.05.076>
- **Budzianowski W.M.:** Sustainable biogas energy in Poland: Prospects and challenges. *Renewable and Sustainable Energy Reviews* 16(1) (2012) 342-349
- *Energy efficient solvents for CO₂ capture by gas-liquid absorption - compounds, blends and advanced solvent systems*, eds **Budzianowski W.M.**, (2017), Springer, ISBN 978-3-319-47261-4
- **Budzianowski W.M.:** Negative carbon intensity of renewable energy technologies involving biomass or carbon dioxide as inputs. *Renewable and Sustainable Energy Reviews* 16(9) (2012) 6507-6521
- **Budzianowski W.M.,** Budzianowska D.A.: Economic analysis of biomethane and bioelectricity generation from biogas using different support schemes and plant configurations. *Energy* 88 (2015) 658-666
- **Budzianowski W.M., Nantongo I.K., Bamutura C., Rwema M., Lyambai M.,** Abimana C., Akumu E.O., Alokore Y., Babalola S.O., Gachuri A.K.K., Hefney Diab M.S., Ituze G., Kiprono H., Kouakou G.C., Kukeera T., Megne W.B., Muceka R., Mugumya A., Mwongereza J.A., Nwadiaru O.V., , Sow S.: An overview of business models and innovativeness of potential renewable energy projects in Africa: a perspective from Pan African University students. *Renewable and Sustainable Energy Reviews*
- **Budzianowski W.M.:** Value-added carbon management technologies for low CO₂ intensive carbon-based energy vectors. *Energy* 41(1) (2012) 280-297
- **Budzianowski W.M.,** Wylock C.E., **Marciniak P.A.:** Power requirements of biogas upgrading by water scrubbing and biomethane compression: comparative analysis of various plant configurations. *Energy Conversion and Management* 141 (2017) 2-19
- **Budzianowski W.M.:** Explorative analysis of advanced solvent processes for energy efficient carbon dioxide capture by gas-liquid absorption. *International Journal of Greenhouse Gas Control* 49 (2016) 108-120
- **Budzianowski W.M.,** Postawa K.: Total Chain Integration of sustainable biorefinery systems. *Applied Energy* 184 (2016) 1432-1446
- **Budzianowski W.M.:** High-value low-volume bioproducts coupled to bioenergies with potential to enhance business development of sustainable biorefineries. *Renewable and Sustainable Energy Reviews* 70 (2017) 793-804
- Lin B.J., Chen W.H., **Budzianowski W.M.,** Hsieh C.T., Lin P.H.: Emulsification analysis of bio-oil and diesel under various combinations of emulsifiers. *Applied Energy* 178 (2016) 746-757
- Yaliwal V.S., Banapurmath N.R., Hosmath R.S., Khandal S.V., **Budzianowski W.M.:** Utilization of hydrogen in low calorific value producer gas derived from municipal solid waste and biodiesel for diesel engine power generation application. *Renewable Energy* 99 (2016) 1253-1261

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RE&SD

Members of RESD Group



Group Leader

Wojciech Budzianowski is an Associate Professor at Wrocław University of Science and Technology, Wrocław, Poland. Involved in consultancies for national and international R&D agencies, various organisations and industries. A specialist in energy (engineering, technology, policy, economics).

As the Leader of the RESD Group he manages its current activities, provides consulting services for clients, exploits scientific results through projects participation and disseminates research outcomes via publications.

Mariusz Nowak is a MSc candidate at Wrocław University of Science and Technology in food engineering. His research activities include: food, energy and bioeconomy. Within the RESD Group he is involved in the evaluation of potential of renewable energy and the use of renewable energy in bioindustries.

Cleus Bamutura is BSc in civil engineering and MSc candidate in energy policy at Pan African University. His research interest includes renewable energy policy and economics. Within the RESD Group he is involved in applying policy modelling tools (e.g. LEAP) and economic assessments of renewable energy projects in Africa.



Irene Nantongo is BSc in industrial chemistry and MSc candidate in energy engineering at Pan African University. Her research interest fields include African renewable energy, rural electrification and energy-water-food nexus. Within the RESD Group, she is involved in business development of renewable energy projects and identifying investment opportunities in Africa.



Bartosz Pakuła is MSc in environmental biotechnology and PhD candidate in agrobioenergy. His research interest includes life cycle assessment (LCA). Within the RESD Group he is involved in the developing and utilization of tools for the life cycle assessment of innovative renewable energy projects.



Michel Rwema is MSc in mathematics and is MSc candidate in energy policy at Pan African University. His research interest includes renewable energy policy. Within the RESD Group he is involved in conducting energy policy analyses (African Sub-Saharan countries) by applying energy policy models (e.g. LEAP) and interpreting system dynamics contexts of sustainable development.



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Group Leader
Wojciech Budzianowski

Martin Lyambai is BSc in forestry and MSc candidate in energy policy at Pan African University. His research interest includes renewable energy policy and life cycle assessment. Within the RESD Group he is involved in life cycle assessment works and value chain analyses.

Przemysław Marciniak is MSc in process engineering. His research interest includes bioenergy engineering. Within the RESD Group he is involved in testing and utilization of tools for the deployment of innovative technological solutions.



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Current students and interns

(supervisor Wojciech Budzianowski)

Karol Postawa, PhD student - bioenergy

Marlena Brodacka, MSc student - energy storage

Michel Rwema, MSc student - energy policy

Martin Lyambai, MSc student - energy policy

International advisory board

(in alphabetical order)

Prof. Wei-Hsin Chen, National Cheng Kung University, Tainan, Taiwan

expertise - biomass conversion

Prof. Bogdan Dlugogorski, Murdoch University, Perth, Australia

expertise - clean combustion

Dr. Keat Teong Lee, Universiti Sains Malaysia, Nibong Tebal, Malaysia

expertise - liquid biofuels

Dr. Alessandro Parente, Université Libre de Bruxelles, Brussels, Belgium

expertise - biofuels combustion

Ing. Alex Sorokin, InterEnergy srl, Rome, Italy

expertise - commercialisation

Dr. Christophe Wylock, Université Libre de Bruxelles, Brussels, Belgium

expertise - biogas upgrading, waste management

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The logo consists of a light blue circle with two horizontal lines above and below the text 'RE&SD'.

Cooperating enterprises



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