

Curriculum Vitae



Name

Wojciech M. Budzianowski

Contact details

e-mail: wojciech.budzianowski@gmail.com

tel.: +48 792914912

Skype: wmb202

website: http://works.bepress.com/wojciech_budzianowski

Affiliations (current)

- 1) Wojciech Budzianowski Consulting Services, Wrocław, Poland (CEO & Principal Consultant)
- 2) Wrocław University of Science and Technology, Wrocław, Poland (Associate Professor)
- 3) Pan African University, Tlemcen, Algeria (Lecturer)
- 4) Renewable Energy Sources - Research and Business (RESRB) (Conference Series Founder)
- 5) Renewable Energy and Sustainable Development (RESD) Group, Wrocław, Poland (Group Leader)
- 6) Journal of Power Technologies (Warsaw University of Technology), Warsaw, Poland (Section Editor)

Employment (previous)

- 1) European Commission, Brussels, Belgium (Consultant)
- 2) International Renewable Energy Agency (IRENA), Abu Dhabi, UAE (Consultant)
- 3) Springer, Cham, Switzerland (Editor)
- 4) Elsevier (Renewable and Sustainable Energy Reviews), Oxford, UK (Editor)
- 5) National Centre for Research and Development (Narodowe Centrum Badań i Rozwoju, NCBR), Warsaw, Poland (Consultant)
- 6) Dolnośląska Agencja Współpracy Gospodarczej Sp. z o. o., Wrocław, Poland (Consultant)
- 7) Hellenic Republic Ministry of Education, Athens, Greece (Consultant)
- 8) Estonian Research Council, Tallinn, Estonia (Consultant)
- 9) Latvian Science Council, Riga, Latvia (Consultant)
- 10) Romanian Research Council, Bucharest, Romania (Consultant)
- 11) Polish Agency for Enterprise Development (Polska Agencja Rozwoju Przedsiębiorczości, PARP), Warsaw, Poland (Consultant)
- 12) Bank Gospodarstwa Krajowego, Warsaw, Poland (Consultant)
- 13) Rokita S.A., Brzeg Dolny, Poland (Export Sales Manager)
- 14) Enterprise Estonia, Tallinn, Estonia (Consultant)
- 15) BOC Gazy Sp z o.o., Wrocław, Poland (Consultant)
- 16) Convetit Inc., Palo Alto, USA (Consultant)

Academic degrees

- 1) DSc Silesian University of Technology, Gliwice, Poland, 2014
energy (engineering, technology, policy, economy)
- 2) PhD Wrocław University of Science and Technology, Wrocław, Poland, 1998
energy (engineering, technology, policy, economy)
- 3) MSc Wrocław University of Science and Technology, Wrocław, Poland, 1994
energy (engineering, technology, policy, economy)

Languages

- 1) English (fluent)
- 2) French (elementary)
- 3) Russian (elementary)
- 4) German (elementary)
- 5) Polish (native)

I. Books, Edited Books

- 1) *Introduction to renewable energy economics, finance and management for developing countries*, **Budzianowski W.M.**, Nwedeh C.C. (2018)
- 2) *Underutilised biomass resources for bioenergy and other applications: Opportunities for value creation in Africa*, eds **Budzianowski W.M.** (2018)
- 3) *Criticalities for development of renewable energy systems in sub-Saharan Africa*, eds **Budzianowski W.M.** (2018)
- 4) *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, e-ISBN 978-3-319-47262-1, ISSN 1865-3529, <http://dx.doi.org/10.1007/978-3-319-47262-1>

II. Articles with the impact factor greater than 6

- 1) **Budzianowski W.M.**, Nantongo I., Bamutura C., Rwema M., Abimana C., Akumu E.O., Alokore Y., Babalola S.O., Bachir M.L., Gachuri A.K.K., Hefney Diab M.S., Ituze G., Kiprono H., Kouakou G.C., Kukeera T., Lyambai M., 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* (2017) <http://dx.doi.org/10.1016/j.rser.2017>. (IF-7.896 as of 2015)
- 2) **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 <http://dx.doi.org/10.1016/j.rser.2016.11.260> (IF-7.896 as of 2015)
- 3) **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* 68(2) (2017) 852-868 <http://dx.doi.org/10.1016/j.rser.2016.05.076> (IF-7.896 as of 2015)
- 4) **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 <http://dx.doi.org/10.1016/j.rser.2015.10.054> (IF-7.896 as of 2015)
- 5) **Budzianowski W.M.**, Postawa K.: Total Chain Integration of sustainable biorefinery systems. *Applied Energy* 184 (2016) 1432-1446 <http://dx.doi.org/10.1016/j.apenergy.2016.06.050> (IF-6.222 as of 2015)
- 6) 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 <http://dx.doi.org/10.1016/j.apenergy.2016.06.104> (IF-6.222 as of 2015)
- 7) Ye W., Shi, X., Zhang Y., Hong C., Wang C., **Budzianowski W.**, Xue D.: Catalytic oxidation of hydroquinone in aqueous solution over bimetallic PdCo catalyst supported on carbon: effect of interferents and electrochemical measurements. *ACS Applied Materials and Interfaces* 8(5) (2016) 2994-3002 <http://dx.doi.org/10.1021/acsami.5b09663> (IF-7.332 as of 2015)
- 8) **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 <http://dx.doi.org/10.1016/j.rser.2012.08.016> (IF-6.577)
- 9) **Budzianowski W.M.**: Sustainable biogas energy in Poland: prospects and challenges. *Renewable and Sustainable Energy Reviews* 16(1) (2012) 342-349 <http://dx.doi.org/10.1016/j.rser.2011.07.161> (IF-6.577)

III. Articles with the impact factor between 3 and 6

- 1) Wylock C.E., **Budzianowski W.M.**: Performance evaluation of biogas upgrading by pressurized water scrubbing via modelling and simulation. *Chemical Engineering Science* (2017) <http://dx.doi.org/10.1016/j.ces.2017.01.012> (IF-2.948 as of 2015)
- 2) Lee K.T., Chen W.-H., **Budzianowski W.M.**: Preface - Sustainable Biofuels. *Energy Conversion and Management* 141 (2017) 1 <http://dx.doi.org/10.1016/j.enconman.2017.04.031> (IF-4.631 as of 2015)
- 3) **Budzianowski W.M.**, Brodacka M.: Biomethane storage: evaluation of technologies, end uses, business models, and sustainability. *Energy Conversion and Management* 141 (2017) 254-273 <http://dx.doi.org/10.1016/j.enconman.2016.08.071> (IF-4.631 as of 2015)
- 4) **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 <http://dx.doi.org/10.1016/j.enconman.2016.03.018> (IF-4.631 as of 2015)
- 5) 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 <http://dx.doi.org/10.1016/j.renene.2016.08.002> (IF-4.068 as of 2015)
- 6) **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 <http://dx.doi.org/10.1016/j.ijggc.2016.02.028> (IF-4.764 as of 2015)
- 7) **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 <http://dx.doi.org/10.1016/j.energy.2015.05.104> (IF-4.810)
- 8) **Budzianowski W.M.**: Value-added carbon management technologies for low CO₂ intensive carbon-based energy vectors. *Energy* 41(1) (2012) 280-297 <http://dx.doi.org/10.1016/j.energy.2012.03.008> (IF-4.107)
- 9) **Budzianowski W.M.**: Target for national carbon intensity of energy by 2050: a case study of Poland's energy system. *Energy* 46(1) (2012) 575-581 <http://dx.doi.org/10.1016/j.energy.2012.07.051> (IF-4.107)
- 10) **Budzianowski W.M.**: Benefits of biogas upgrading to biomethane by high-pressure reactive solvent scrubbing. *Biofuels, Bioproducts and Biorefining* 6(1) (2012) 12-20 <http://dx.doi.org/10.1002/bbb.334> (IF-5.907)
- 11) **Budzianowski W.M.**: An oxy-fuel mass-recirculating process for H₂ production with CO₂ capture by autothermal catalytic oxyforming of methane. *International Journal of Hydrogen Energy* 35(14) (2010) 7454-7469 <http://dx.doi.org/10.1016/j.ijhydene.2010.04.178> (IF-4.411)
- 12) **Budzianowski W.M.**: Can 'negative net CO₂ emissions' from decarbonised biogas-to-electricity contribute to solving Poland's carbon capture and sequestration dilemmas? *Energy* 36(11) (2011) 6318-6325 <http://dx.doi.org/10.1016/j.energy.2011.09.047> (IF-3.858)

IV. Articles with the impact factor between 0.5 and 3

- 1) **Budzianowski W.M.**: Implementing carbon capture, utilisation and storage in the circular economy, *International Journal of Global Warming* (2017) <http://dx.doi.org/10.1504/ijgw>. (IF-1.043 as of 2015)
- 2) **Budzianowski W.M.**, Gibbins J., Hangx S., Lucquiaud M., Ramirez A.: Editorial, *International Journal of Global Warming* (2017) <http://dx.doi.org/10.1504/ijgw>. (IF-1.043 as of 2015)
- 3) **Budzianowski W.M.**, Gomes J.F.P.: Perspectives for low-carbon electricity production until 2030: lessons learned from the comparison of local contexts in Poland and Portugal, *Energy Sources, Part B: Economics, Planning, and Policy* 11(6) (2016) 534-541 <http://dx.doi.org/10.1080/15567249.2012.710293> (IF-0.682 as of 2015)
- 4) **Budzianowski W.M.**, Budzianowska K.J., Budzianowska D.S.: Analysis of solutions alleviating CO₂ emissions intensity of biogas technology, *International Journal of Global Warming* 9(4) (2016) 507-528 <http://dx.doi.org/10.1504/ijgw.2016.076334> (IF-1.043 as of 2015)
- 5) **Budzianowski W.M.**: Single solvents, solvent blends, and advanced solvent systems in CO₂ capture by absorption: a review, *International Journal of Global Warming* 7(2) (2015) 184-225 <http://dx.doi.org/10.1504/ijgw.2015.067749> (IF-1.043)
- 6) **Budzianowski W.M.**: Modelling of CO₂ content in the atmosphere until 2300: influence of energy intensity of gross domestic product and carbon intensity of energy, *International Journal of Global Warming* 5(1) (2013) 1-17 <http://dx.doi.org/10.1504/ijgw.2013.051468> (IF-0.764)
- 7) **Budzianowski W.M.**: Tetra-stable bifurcation structure of the climate system of Earth: mechanisms triggering potential transition to the greenhouse steady state, *International Journal of Global Warming* 5(2) (2013) 152-178 <http://dx.doi.org/10.1504/ijgw.2013.053485> (IF-0.764)
- 8) **Budzianowski W.M.**: Experimental and numerical study of recuperative heat recirculation, *Heat Transfer Engineering* 33(8) (2012) 712-721 <http://dx.doi.org/10.1080/01457632.2011.635985> (IF-1.024)
- 9) **Budzianowski W.M.**, Budzianowska D.C.: Allocation of ecologically allowable carbon emissions to countries as a key to more effective post-Kyoto Protocol climate change mitigation law, *International Journal of Global Warming* 4(2) (2012) 113-133 <http://dx.doi.org/10.1504/ijgw.2012.048456> (IF-0.646)
- 10) **Budzianowski W.M.**: CO₂ reactive absorption from flue gases into aqueous ammonia solutions: the NH₃ slippage effect, *Environment Protection Engineering* 37(4) (2011) 5-19 http://epe.pwr.wroc.pl/2011/budzianowski_4-2011.pdf http://www.dbc.wroc.pl/Content/13628/EPE_4_2011.pdf (IF-0.520)
- 11) **Budzianowski W.M.**: Mitigating NH₃ vaporization from an aqueous ammonia process for CO₂ capture, *International Journal of Chemical Reactor Engineering* 9 (2011) art. no. A58 <http://dx.doi.org/10.2202/1542-6580.2711> (IF-0.822)
- 12) **Budzianowski W.M.**: Negative net CO₂ emissions from oxy-decarbonization of biogas to H₂, *International Journal of Chemical Reactor Engineering* 8 (2010) art. no. A156 <http://dx.doi.org/10.2202/1542-6580.2455> (IF-0.640)
- 13) **Budzianowski W.M.**: Role of catalytic technologies in combustion of gaseous fuels, *Rynek Energii* 82(3) (2009) 59-63 <http://www.kaprint.pl/re/> (IF-0.626)
- 14) **Budzianowski W.M.**: A rate-based method for design of reactive gas-liquid systems, *Rynek Energii* 83(4) (2009) 21-26 (in Polish) <http://www.kaprint.pl/re/> (IF-0.626)
- 15) **Budzianowski W.M.**, Miller R.: Superadiabatic lean catalytic combustion in a high-pressure reactor, *International Journal of Chemical Reactor Engineering* 7 (2009) art. no. A20 <http://dx.doi.org/10.2202/1542-6580.1963> (IF-0.733)
- 16) **Budzianowski W.M.**, Miller R.: Auto-thermal combustion of lean gaseous fuels utilizing a recuperative annular double-layer catalytic converter, *Canadian Journal of Chemical Engineering* 86(4) (2008) 778-790 <http://dx.doi.org/10.1002/cjce.20080> (IF-0.602)

V. Articles with the impact factor below 0.5

- 1) **Budzianowski W.M.**: Enhancing low-carbon economic growth by renewable energy uptake in countries with per capita gross domestic product between 10 and 20 kUSD. *International Journal of Energy Technology and Policy* (2017) <http://dx.doi.org/10.1504/IJETP.2017>.
- 2) Rwema M., **Budzianowski W.M.**: Renewable energy in sustainable economic growth of Rwanda: energy policy implications. *International Journal of Energy Technology and Policy* (2017) <http://dx.doi.org/10.1504/IJETP.2017>.
- 3) **Budzianowski W.M.**: Influence of biogas technological improvement and adoption rate on greenhouse gas emissions from primary energy: a scenario analysis for Poland until 2100. *International Journal of Energy Technology and Policy* (2017) <http://dx.doi.org/10.1504/IJETP.2017>.
- 4) Banapurmath N.R., **Budzianowski W.M.**, Basavarajappa Y.H., Hosmath R.S., Yaliwal, V.S., Tewari P.G.: Effects of compression ratio, swirl augmentation techniques and ethanol addition on the combustion of CNG-biodiesel in a dual-fuel engine, *International Journal of Sustainable Engineering* 7(1) (2014) 55-70 <http://dx.doi.org/10.1080/19397038.2013.798712>
- 5) Milewski J., **Budzianowski W.M.**: Recent key technical barriers in solid-oxide fuel cell technology, *Archives of Thermodynamics* 35(1) (2014) 17-41 <http://dx.doi.org/10.2478/aoter-2014-0002>
- 6) **Budzianowski W.M.**: Indicators for the monitoring of low-carbon energy policy of Poland, *Rynek Energii* 100(3) (2012) 121-126 <http://www.kaprint.pl/re/content/indicators-monitoring-low-carbon-energy-policy-poland-0>
- 7) **Budzianowski W.M.**: Opportunities for bioenergy in Poland: biogas and solid biomass fuelled power plants, *Rynek Energii* 94(3) (2011) 138-146 <http://www.kaprint.pl/re/node/281>
- 8) **Budzianowski W.M.**: Critical evaluation of low-carbon electricity production technologies, *Rynek Energii* 95(4) (2011) 127-133 <http://www.kaprint.pl/re/node/324>
- 9) **Budzianowski W.M.**, Milewski J.: Solid-oxide fuel cells in power generation applications: a review, *Recent Patents on Engineering* 5(3) (2011) 165-189 <http://dx.doi.org/10.2174/187221211797636926>
- 10) **Budzianowski W.M.**: Low-carbon power generation cycles: The feasibility of CO₂ capture and opportunities for integration, *Journal of Power Technologies* 91(1) (2011) 6-13 <http://papers.its.pw.edu.pl/index.php/JPT/article/view/226/407>
- 11) **Budzianowski W.M.**, Chasiak I.: The expansion of biogas fuelled power plants in Germany during the 2001-2010 decade: Main sustainable conclusions for Poland, *Journal of Power Technologies* 91(2) (2011) 102-113 <http://papers.its.pw.edu.pl/index.php/JPT/article/view/246/422>
- 12) **Budzianowski W.M.**: Time delay of global warming, *International Journal of Global Warming* 3(3) (2011) 289-306 <http://dx.doi.org/10.1504/ijgw.2011.043424> (IF-0.418)
- 13) **Budzianowski W.M.**: Thermal integration of combustion-based energy generators by heat recirculation, *Rynek Energii* 91(6) (2010) 108-115 <http://www.kaprint.pl/re/>
- 14) **Budzianowski W.M.**: Engineering benefits of mass recirculation in novel energy technologies with CO₂ capture, *Rynek Energii* 88(3) (2010) 151-158 <http://www.kaprint.pl/re/>
- 15) **Budzianowski W.M.**: Mass-recirculating systems in CO₂ capture technologies: a review, *Recent Patents on Engineering* 4(1) (2010) 15-43 <http://dx.doi.org/10.2174/187221210790244758>
- 16) **Budzianowski W.M.**: Thermal and bifurcation characteristics of heat-recirculating conversion of gaseous fuels, *Archives of Thermodynamics* 31(2) (2010) 63-76 <http://dx.doi.org/10.2478/v10173-010-0009-6>
- 17) **Budzianowski W.M.**: A comparative framework for recirculating combustion of gases, *Archivum Combustionis* 30(1-2) (2010) 25-36 http://archcomb.its.pw.edu.pl/downloads/03_2010.pdf
- 18) **Budzianowski W.M.**: The effect of pressure on conversion of gaseous fuels in structured catalytic reactors, *Inżynieria i Aparatura Chemiczna* 49(1) (2010) 21-22 (in Polish) http://inzynieria-aparatura-chemiczna.pl/pdf/2010/2010-1/InzApChem_2010_1_21-22.pdf
- 19) **Budzianowski W.M.**: A heat recirculator for superadiabatic combustion of low-calorific industrial gases, *Inżynieria i Aparatura Chemiczna* 49(1) (2010) 19-20 (in Polish) http://inzynieria-aparatura-chemiczna.pl/pdf/2010/2010-1/InzApChem_2010_1_19-20.pdf
- 20) **Budzianowski W.M.**, Miller R.: Towards improvements in thermal efficiency and reduced harmful emissions of combustion processes by using recirculation of heat and mass: a review, *Recent Patents on Mechanical Engineering* 2(3) (2009) 228-239 <http://dx.doi.org/10.2174/1874477X10902030228>
- 21) **Budzianowski W.M.**, Miller R.: Catalytic converters and processes in selected energy technologies: I. gas turbines and II. radiant burners in drying, *Recent Patents on Chemical Engineering* 2(3) (2009) 181-206 <http://dx.doi.org/10.2174/1874478810902030181>
- 22) **Budzianowski W.M.**, Miller R.: The effect of process factors on the reaction rate of catalytic combustion: determination by a new method and a new reactor configuration, *Chemical and Process Engineering* 30(1) (2009) 149-161 <http://www.inche.pwr.wroc.pl/1-2009/12.pdf> (IF-0.094)
- 23) **Budzianowski W.M.**, Miller R.: Design of dynamics of a recuperative catalytic combustor: enhancement in operation and control, *Chemical Product and Process Modeling* 4(2) (2009) art. no. A11 <http://dx.doi.org/10.2202/1934-2659.1297>
- 24) **Budzianowski W.M.**: Transient behaviour of annular catalytic converters, *Archivum Combustionis* 28(3-4) (2008) 231-246 http://archcomb.its.pw.edu.pl/downloads/22_2008.pdf
- 25) **Budzianowski W.M.**, Miller R.: Effect of energy release and detailed surface mechanisms on multicomponent catalytic combustion, *Environment Protection Engineering* 34(4) (2008) 17-26 http://epe.pwr.wroc.pl/2008/Budzianowski_4-2008.pdf
- 26) **Budzianowski W.M.**, Miller R.: The effect of combustion energy recuperation in an annular double-layer catalytic converter, *Archivum Combustionis* 27(3-4) (2007) 123-134 http://archcomb.its.pw.edu.pl/downloads/11_2007.pdf
- 27) **Budzianowski W.M.**: Non-stationary catalytic combustion over a catalyst with internal temperature gradients, *Archivum Combustionis* 25(1-4) (2005) 7-15 http://archcomb.its.pw.edu.pl/downloads/01_2005.pdf
- 28) **Budzianowski W.**, Koziol A.: Stripping of ammonia from aqueous solutions in the presence of carbon dioxide. Effect of negative enhancement of mass transfer, *Chemical Engineering Research and Design* 83(A2) (2005) 196-204 <http://dx.doi.org/10.1205/cherd.03289> (IF-0.413)
- 29) **Budzianowski W.**, Koziol A.: Determination of parameters of a catalyst particle in non-stationary conditions, *Chemical and Process Engineering* 25(3) (2004) 751-756 (in Polish) (IF-0.337)
- 30) Koziol A., **Budzianowski W.**: Analysis of the phase equilibrium in the system H₂O-NH₃-CO₂, *Chemical and Process Engineering* 24(3) (2003) 429-439 (in Polish) (IF-0.110)
- 31) Koziol A., **Budzianowski W.**: Mass transfer in columns with modern packings of various types, *Chemical and Process Engineering* 24(4) (2003) 717-723 (in Polish) (IF-0.110)
- 32) **Budzianowski W.**, Koziol A.: Parametric analysis of ammonia and carbon dioxide simultaneous desorption process, *Chemical and Process Engineering* 22(3B) (2001) 301-306 (in Polish) (IF-0.473)
- 33) **Budzianowski W.**, Koziol A.: Ammonia removal from aqueous solutions containing carbon dioxide by stripping with air. Process model verification, *Chemical and Process Engineering* 21(4) (2000) 741-752 (in Polish) (IF-0.172)
- 34) **Budzianowski W.**, Koziol A.: Process model of ammonia desorption from aqueous solutions containing carbon dioxide, *Chemical and Process Engineering* 20(4) (1999) 485-501 (in Polish) (IF-0.192)

VI. Institutional Reports and Theses

- 1) 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).
- 2) Chudy K., Worsa-Kozak M., Grafender A., Śliwiński W., Poprawski L., **Budzianowski W.M.**: *Analiza wykorzystania naturalnych bogactw regionu w kontekście rozwoju społeczno-gospodarczego z uwzględnieniem przekrojów przestrzennych, w związku z perspektywą wyczerpania złóż naturalnych bogactw. Opracowanie założeń do Strategii Zrównoważonego Rozwoju w tym zakresie. Analiza zrealizowana w ramach projektu „Analizy, badania i prognozy na rzecz Strategii Rozwoju Województwa Dolnośląskiego” [POKL.08.01.04-02-003/08] współfinansowanego przez Unię Europejską w ramach Europejskiego Funduszu Społecznego. Dolnośląska Agencja Współpracy Gospodarczej (DAWG), (2010) ISBN: 978-83-62607-07-5 (in Polish) http://www.umwd.dolnyslask.pl/fileadmin/user_upload/Rozwoj_regionalny/20111003/Tom8.pdf*
- 3) **Budzianowski W.M.**: Intensification of clean technologies for fuel based energetics - a summary of publications. D.Sc. Thesis, Silesian University of Technology, Gliwice, Poland, (2014) (in Polish)
- 4) **Budzianowski W.M.**: Mass transfer with chemical reaction in the process of ammonia desorption from aqueous solutions containing carbon dioxide. Ph.D. Thesis, Wrocław University of Science and Technology, Wrocław, Poland, (1998) (in Polish)

VII. Chapters in edited books

- 1) **Budzianowski W.M.:** Preface, in *Energy efficient solvents for CO₂ capture by gas-liquid absorption - compounds, blends and advanced solvent systems*, ed. by Budzianowski W.M., Springer, (2017) ISBN 978-3-319-47261-4, e-ISBN 978-3-319-47262-1
- 2) **Budzianowski W.M.:** Introduction to carbon dioxide capture by gas-liquid absorption in nature, industry, and perspectives for the energy sector and beyond, in *Energy efficient solvents for CO₂ capture by gas-liquid absorption - compounds, blends and advanced solvent systems*, ed. by Budzianowski W.M., Springer, (2017) ISBN 978-3-319-47261-4, e-ISBN 978-3-319-47262-1 http://dx.doi.org/10.1007/978-3-319-47262-1_1
- 3) **Budzianowski W.M.:** Assessment of thermodynamic efficiency of carbon dioxide separation in capture plants by using gas-liquid absorption, in *Energy efficient solvents for CO₂ capture by gas-liquid absorption - compounds, blends and advanced solvent systems*, ed. by Budzianowski W.M., Springer, (2017) ISBN 978-3-319-47261-4, e-ISBN 978-3-319-47262-1 http://dx.doi.org/10.1007/978-3-319-47262-1_2
- 4) **Budzianowski W.M.:** Useful mechanisms, energy efficiency benefits, and challenges of emerging innovative advanced solvent based capture processes, in *Energy efficient solvents for CO₂ capture by gas-liquid absorption - compounds, blends and advanced solvent systems*, ed. by Budzianowski W.M., Springer, (2017) ISBN 978-3-319-47261-4, e-ISBN 978-3-319-47262-1 http://dx.doi.org/10.1007/978-3-319-47262-1_4
- 5) **Budzianowski W.M.:** Decarbonized energy via syngas routes, in *Syngas: Production, applications and environmental impact*, ed. by Indarto A., Palgunadi J., Nova Science Publishers Inc., (2013) ISBN: 978-1-62100-870-5 (print); 978-1-62100-904-7 (e-book) https://www.novapublishers.com/catalog/product_info.php?products_id=29769
- 6) **Budzianowski W.M.:** Analiza procesu usuwania CO₂ z gazów za pomocą wodnego roztworu amoniaku, in *Współczesne osiągnięcia w ochronie powietrza atmosferycznego*, ed. by Musialik-Piotrowska A., Rutkowski J.D., Polskie Zrzeszenie Inżynierów i Techników Sanitarnych, (2010) 47-54. ISBN 978-83-921167. Oral presentation at *X Symposium POL-EMIS 2010*, Polanica Zdrój, Poland, June 16-19, (2010) (in Polish) http://www.pzits.not.pl/docs/ksiazki/Pol_2010/Budzianowski%2047-54.pdf
- 7) **Budzianowski W.M.:** Gaz ziemny jako czyste paliwo dla energetyki: projektowanie procesowe reaktywnych układów gaz-ciecz z wykorzystaniem metody strumieniowej, in *Rynek Gazu 2009*, ed. by Kaproń H., Kaprint, (2009) 147-152. ISBN 978-83-927680-4-3. Oral presentation at *IX Symposium Rynek Gazu 2009*, Kazimierz Dolny, Poland, June 24-26, (2009) (in Polish)
- 8) **Budzianowski W.M.:** Wybrane technologie katalityczne w spalaniu paliw gazowych, in *Rynek Gazu 2009*, ed. by Kaproń H., Kaprint, (2009) 207-216. ISBN 978-83-927680-4-3. Presented at *IX Symposium Rynek Gazu 2009*, Kazimierz Dolny, Poland, June 24-26, (2009) (in Polish)
- 9) **Budzianowski W.M., Miller R., Gnutek Z.:** Modifications of a gas recuperation cycle for catalytic combustion of low calorific fuels in a gas turbine, in *Termodynamika w nauce i gospodarce*, ed. by Gnutek Z. Gajewski W., Oficyna Wydawnicza Politechniki Wrocławskiej, 1 (2008) 116-121. ISBN 978-83-7493-407-7. Oral presentation at *XX Zjazd Termodynamików*, Wrocław, Poland, September 2-6, (2008)
- 10) **Budzianowski W.M., Miller R.:** Intensyfikacja procesu dopalania gazów o niskiej reaktywności, in *Aktualne problemy w ochronie powietrza atmosferycznego*, ed. by Musialik-Piotrowska A., Rutkowski J.D., Polskie Zrzeszenie Inżynierów i Techników Sanitarnych, (2008) 45-48. ISBN 978-83-921167-6-9. Oral presentation at *IX Symposium POL-EMIS 2008*, Karpacz, June 18-21, (2008) (in Polish)
- 11) **Budzianowski W.M.:** Catalytic combustion over a catalyst with internal temperature gradients in nonstationary conditions, *Catalytic combustion. Proceedings of the 6th International Workshop on Catalytic Combustion. IWCC6*, ed. by P. Forzatti et al., Ischia, Italy, September 11-14, (2005). Vol. 2. Milano:Polipress p. 313-319. ISBN 88-7398-015-05. Presented at *IWCC6 2005*, Ischia, Italy, September 11-14, (2005)

VIII. Contributions to conference proceedings

- 1) **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. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0006.
- 2) **Budzianowski W.M.**, Pakuła B.: Influence of biogas technological improvement and adoption rate on greenhouse gas emissions from primary energy: a scenario analysis for Poland until 2100. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0012.
- 3) **Budzianowski W.M.**, Brodacka M.: Biomethane storage: evaluation of technologies, end uses, business models, and sustainability. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0015.
- 4) **Budzianowski W.M.**, Nantongo I.K., Abimana C., Akumu E.O., Alokore Y., Babalola S.O., Bachir M.L., Bamutura C., Gachuri A.K.K., Hefney Diab M.S., Ituze G., Kiprono H., Kouakou G.C., Kukeera T., Lyambai M., Megne W.B., Muceka R., Mugumya A., Mwongereza J.A., Nwadiaru O.V., Rwema M., Sow S.: An overview of business models and innovativeness of potential renewable energy projects in Africa: a perspective from Pan African University students. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0003.
- 5) **Budzianowski W.M.**: High-value low-volume bioproducts coupled to bioenergies with potential to enhance business development of sustainable biorefineries. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0010.
- 6) Żyromski A., **Budzianowski W.M.**, Biniak-Pieróg M., Żyromski M.: Environmental and economic conditions of giant *Miscanthus* productivity (*Miscanthus x giganteus*) at varied water availability. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0011.
- 7) Rwema M., **Budzianowski W.M.**: Renewable energy in sustainable economic growth in Rwanda - Energy policy implications. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0020.
- 8) **Budzianowski W.M.**, Lyambai M., Bamutura C., Mugumya A., Mwongereza J.A.: Development of models for energy policy analysis - Software requirements in African contexts. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0022.
- 9) Quereshi S., Ahmad E., **Budzianowski W.M.**, Pant K.K., Dutta S.: Decarboxylation-decarbonylation: a promising route for production of olefins and fuel range hydrocarbons from biorenewable resources. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0024.
- 10) **Budzianowski W.M.**: Enhancing low-carbon economic growth and renewable energy uptake in countries with per capita gross domestic product between 10 and 20 kUSD. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0030.
- 11) Bamutura C., **Budzianowski W.M.**: Africa carbon emissions consequences and constraints to renewable energy deployment. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0031.
- 12) Postawa K., **Budzianowski W.M.**: Two-step anaerobic digestion: state of the art and modeling approaches. *Proceedings of the 1st Renewable Energy Sources - Research and Business RESRB 2016 conference*, June 22-24, 2016, Wrocław, Poland, RESRB2016.0032.
- 13) **Budzianowski W.M.**, Zawisłak J.M., Postawa K.: Influence of high pressure anaerobic digestion on energy output and CO₂ emissions from biomethane and CHP plants, *Proceedings of the 10th Conference on Sustainable Development of Energy, Water, and Environment Systems SDEWES2015.0140*, 1-12 (2015)
- 14) **Budzianowski W.M.**, Postawa K.: Integrated biorefinery systems for biofuels production: a review, *Proceedings of the 10th Conference on Sustainable Development of Energy, Water, and Environment Systems, SDEWES2015.0141*, 1-12 (2015)
- 15) **Budzianowski W.M.**, Miller R.: Recuperative annular double-layer catalytic converter for combustion of gaseous fuels, *Abstracts of XX-th International Symposium on Combustion Processes*, Pułtusk, September 3-5, (2007) p. 125-128. Presented at XX ISCP 2007, Pułtusk, Poland, September 3-5, (2007)
- 16) **Budzianowski W.M.**, Miller R.: The effect of combustion energy recuperation in an annular double-layer catalytic converter, *Abstracts of XX-th International Symposium on Combustion Processes*, Pułtusk, September 3-5, (2007) p. 116. Presented at XX ISCP 2007, Pułtusk, Poland, September 3-5, (2007)
- 17) **Budzianowski W.M.**: Catalytic ignition and extinction in the combustion of propane utilizing different types of structured converters, *Proceedings of XIX Polish Conference of Chemical and Process Engineering*, Rzeszów, September 3-7, Vol. 2, (2007) p. 39-42. Oral presentation at XIX PCCPE 2007, Rzeszów, Poland, September 3-7, (2007)
- 18) **Budzianowski W.**: Kinetyczno-strumieniowa metoda obliczania kolumn wypełnionych w procesach fizycznych i z reakcjami chemicznymi, *III Sympozjum Destylacja, Absorpcja i Ekstrakcja*. Conference Proceedings, Szklarska Poręba, September 13-15, (1999), ed. by R. Pohorecki, J.J. Kuźniar, L.J. Królikowski. Wrocław, (1999) p. 168-172. Oral presentation at III SDAE 1999, Szklarska Poręba, Poland, September 13-15, (1999) (in Polish)
- 19) **Budzianowski W.**, Kozioł A.: Projektowanie aparatów do procesu wymiany masy z reakcją chemiczną, *III Sympozjum Destylacja, Absorpcja i Ekstrakcja*. Conference Proceedings, Szklarska Poręba, September 13-15 (1999), ed. by R. Pohorecki, J.J. Kuźniar, L.J. Królikowski. Wrocław, (1999) p. 105-158. Oral presentation at III SDAE 1999, Szklarska Poręba, Poland, September 13-15, (1999), (in Polish)
- 20) **Budzianowski W.**, Kozioł A.: Modelowanie procesu desorpcji z reakcją chemiczną w fazie ciekłej, *XVI Ogólnopolska Konferencja Inżynierii*

- Chemicznej i Procesowej*, Kraków-Muszyna, September 22-25, (1998), T.3, Procesy transportu ciepła. Procesy transportu masy. Reaktory i bioreaktory, p. 279-282. Presented at *XVI OKiCIP 1998*, Kraków-Muszyna, Poland, September 22-25, (1998), (in Polish)
- 21) Kozioł A., **Budzianowski W.**: Wpływ dysocjacji elektrolitycznej na równowagę międzyfazową w układzie $H_2O-NH_3-CO_2$, *X Sympozjum Wymiany Ciepła i Masy*, Świeradów Zdrój, September 14-18, (1998). Vol. 2. Wrocław, (1998) p. 481-486 (in Polish). Presented at *X SWCiM 1998*, Świeradów Zdrój, Poland, September 14-18, (1998)
- 22) Kozioł A., **Budzianowski W.**: Modeling of simultaneous gas desorption of weak volatile electrolytes, *The First European Congress on Chemical Engineering. ECCE 1. Proceedings. AIDIC: The Italian Association of Chemical Engineering*, Florence, Italy, May 4-7, (1997) Vol. 1. p. 497-500. Oral presentation at *ECCE 1 1997*, Florence, Italy, May 4-7, (1997)

IX. Patents

- 1) **Budzianowski W.M.** (inventor); Wrocław University of Science and Technology (applicant): Method and system for the production of pure hydrogen from gaseous fuels (Sposób i układ do wytwarzania czystego wodoru z paliw gazowych), No.: PL216476B1, (2014)
- 2) **Budzianowski W.M.**, Miller R. (inventors); Wrocław University of Science and Technology (applicant): Method and apparatus for determination of the effect of factors on exothermic reactions rate (Sposób i urządzenie do ustalania wpływu czynników na szybkość reakcji egzotermicznych), No.: PL210352B1, (2012)

X. Patent applications

- 1) -

Table 1. Citation Metrics

Database	Sum of the times cited	h-index
Web of Science™	790	17
Core Collection	http://www.researcherid.com/rid/C-2188-2009	
Scopus	1030	20
	http://www.scopus.com/authid/detail.url?authorId=6508224838	
Google Scholar	1 540	25
	http://scholar.google.com/citations?user=TMvC5asAAAAJ	

Table 2. Collaboration Network: Co-Authors of Publications

No.	Co-author	Affiliation	h-index (extracted from Scopus)	Year of the most recent co-authored publication
1	Weihsin Chen	National Cheng Kung University, Tainan, Taiwan, ROC	34	2016
2	Chunming Wang	Lanzhou University, Lanzhou, China	34	2016
3	Desheng Xue	Lanzhou University, Lanzhou, China	28	2016
4	Dolf Gielen	International Renewable Energy Agency, Bonn, Germany	19	2015
5	Weichun Ye	Lanzhou University, Lanzhou, China	18	2016
6	João F.P. Gomes	Instituto Superior Tecnico, Lisbon, Portugal	14	2016
7	Xuezhao Shi	Lanzhou University, Lanzhou, China	11	2016
8	Jaroslaw Milewski	Warsaw University of Technology, Warsaw, Poland	11	2014
9	Nagaraj R.Banapurmath	B.V. Bhoomaraddi College of Engineering and Technology, Hubli, India	10	2014
10	Prashant G.Tewari	B.V. Bhoomaraddi College of Engineering and Technology, Hubli, India	10	2014
11	Ryszard Miller	Wroclaw University of Science and Technology, Wroclaw, Poland	8	2009
12	Deger Saygin	International Renewable Energy Agency, Bonn, Germany	8	2015
13	Christophe E. Wylock	Université Libre de Bruxelles, Brussels, Belgium	7	2017
14	Bojhih Lin	National Cheng Kung University, Tainan, Taiwan, ROC	7	2016
15	R.S. Hosmath	B.V. Bhoomaraddi College of Engineering and Technology, Hubli, India	6	2014

I would like to warmly invite interested researchers to join my collaboration network. I am interested in co-authoring articles and books, collaborative research projects, co-organisation of conferences.

Research Interests

Table 3. Research Interests

renewable energy	
➤	integrated power, gas, heat and transport systems, smart energy systems
➤	drop-in, carbon negative, renewable energy systems, incentives, economics
➤	policy design, social aspects, value chain analysis, life cycle assessment
bioenergy	
■	biogas: combustion, reforming, upgrading to biomethane, purification, anaerobic digestion, biofertilisers
■	biofuels: solid biofuels, liquid biofuels, G2 and G3 biofuels, biomethanol, DME, biochar
■	biorefinery: integration, biomass supply chain, logistics, sustainability, modelling, economics
■	conversions: fermentation, ensiling, combustion, gasification, pyrolysis, torrefaction, microbial electrosynthesis (MES)
■	feedstocks: corn, <i>Miscantus x giganteus</i> , short rotation forestry, residues
fuels	
○	fuel processing: combustion, gasification, pyrolysis, reforming, torrefaction
○	fuel production and utilization: biogas, biofuels, solid biomass, CO ₂ -derived fuel, hydrogen, syngas, natural gas, coal, lignite, biochar, refuse derived fuel
mechanical engineering	
●	power cycles: CHP, NGCC, GTFC, IGFC, SOFC
●	minichanneled heat exchanger, heat transfer, sustainable engineering
●	engines: gas turbine, gas engine
●	heat pumps, solar thermal
●	highly flexible fossil fuel power plant, flexible power from dispatchable biofuels
thermodynamics	
➤	kinetics, equilibria, Gibbs free energy, second law analysis
energy policy	
×	renewable energy policy, climate policy, policy design, policy evaluation
×	international (Europe, Africa), national (Poland) and regional (Lower Silesia) energy resources
energy economy	
●	economic incentives for renewable energy sources and decarbonisation
●	smart growth, business line, macroeconomy, energy finance and management
●	economy of energy clusters, economy of energy systems, project economy (NPV, IRR, VaR, CVaR)
environmental energy	
➔	low GHG-intensive energy, value-added carbon management, carbon-based energy vector
➔	flue gas purification, negative emission technologies, life cycle assessment (LCA)
➔	resource use efficiency, sustainable energy, waste-to-energy, waste management
➔	global warming, climate change, climate dynamics, multistability of climatic steady states
energy engineering	
◆	process integration, process system engineering, chemical engineering
◆	energy efficiency, energy conservation, energy saving, heat and mass transfer, gas engineering
◆	process intensification and miniaturisation, resource use efficiency
◆	dispatchable power sources, energy storage, electrochemical engineering, fuel cell
◆	reaction engineering: gas-solid, gas-liquid, catalytic, membrane, microbial, hybrid and nuclear reactors
◆	CO ₂ capture, CO ₂ separation, absorption, novel solvents and dry sorbents, chemical looping combustion
energy system	
✚	renewable energy system, country/region/city roadmap, energy system planning
✚	process & energy system integration, low GHG-intensive industrial parks
information technology & computer science	
✓	modelling of coupled multiphysical phenomena, multi-scale modelling, computational fluid dynamics (CFD)
✓	dynamics and control, advanced energy & process software, optimisation
applied mathematics	
❖	partial differential equation, dynamical system, multiple steady states

Awards, Honours and Memberships

1) Editorial activities

Table 4. Edited Journals

Journal	<i>Journal of Power Technologies</i>	Impact Factor (unofficial)	0.320
Publisher	Warsaw University of Technology	Subject category	Thermodynamics; Engineering, mechanical
Website	http://papers.itc.pw.edu.pl/index.php/JPT/about/editorialTeam		
Activity	Section Editor (section - Renewable and Sustainable Energy)		
Journal	<i>Renewable and Sustainable Energy Reviews</i>	Impact Factor	7.896
Publisher	Elsevier	Subject category	Energy and fuels
Activity	Editor (Bioenergy) 2015-2017		
I would like to kindly invite all authors to submit papers to these journals. Experts interested to support these journals as reviewers are invited to send CVs to my e-mail.			

Table 5. Guest Edited Special Issues in Journals

Journal	<i>Energy Conversion and Management</i>	Impact Factor	4.631
Special Issue	Sustainable biofuels Guest Editors: Lee KT, Chen WH, Budzianowski WM		
Publisher	Elsevier	Subject category	Energy and fuels
Reference	Vol. 141 (2017) pp.1-438		
Journal	<i>International Journal of Global Warming</i>	Impact Factor	1.043
Special Issue	Developments in carbon capture, utilisation and storage Guest Editors: Budzianowski WM, Gibbins J, Hangx S, Lucquiaud M, Ramirez A		
Publisher	Inderscience	Subject category	Environmental sciences
Reference	(2017)		
Journal	<i>International Journal of Energy Technology and Policy</i>	Impact Factor	-
Special Issue	Renewable energy technology, business and policy Guest Editor: Budzianowski WM		
Publisher	Inderscience	Subject category	Energy and fuels
Reference	(2017)		
I thank the authors for their articles.			

Table 6. Journals Served as the Editorial-board Member

Journal	<i>International Journal of Global Warming</i>	Impact Factor	1.043
Publisher	Inderscience	Subject category	Environmental sciences
Website	http://www.inderscience.com/ijgw		
Journal	<i>International Journal of Sustainable Energy</i>	IPP	0.572
Publisher	Taylor & Francis	Subject category	Energy and fuels
Website	http://www.tandfonline.com/action/aboutThisJournal?show=editorialBoard&journalCode=gsol20		
Journal	<i>Recent Innovations in Chemical Engineering</i>	IPP	0.346
Publisher	Bentham Science Publishers	Subject category	Engineering, chemical; Engineering, environmental
Website	http://www.benthamscience.com/cheng/EBM.htm		
Journal	<i>Recent Patents on Engineering</i>	IPP	0.415
Publisher	Bentham Science Publishers	Subject category	Engineering, mechanical; Engineering, electrical and electronic
Website	http://www.benthamscience.com/eng/EBM.htm		
Journal	<i>Rynek Energii</i>	IPP	0.111
Publisher	Kaprint Publishing	Subject category	Energy and fuels; Engineering, electrical and electronic
Website	http://www.kaprint.pl/re/content/czasopismo-rada-programowa-2012r		
Journal	<i>Energy, Ecology and Environment</i>	IPP	0.000
Publisher	Springer	Subject category	Energy and fuels; Environmental sciences
Website	http://www.springer.com/energy/journal/40974?detailsPage=editorialBoard		
I would like to kindly invite all authors to submit papers to these journals.			

Table 7. Served Scientific Conferences

•	<i>2nd Renewable Energy Sources - Research and Business (RESRB 2017)</i> , Wroclaw (Poland), June 19-21, 2017 (Conference Founder and Chair)
•	<i>1st Renewable Energy Sources - Research and Business (RESRB 2016)</i> , Wroclaw (Poland), June 22-24, 2016 (Conference Founder and Chair)
•	<i>Sustainable Development of Energy, Water and Environment Systems (SDEWES)</i> , Dubrovnik (Croatia), September 27-October 3, 2015,

<http://dubrovnik2015.sdwes.org/sab.php> (Scientific Advisory Board member, Session Chair)

- *Sustainable Development of Energy, Water and Environment Systems (SDEWES)*, Venice-Istanbul (Italy-Turkey), September 20-27, 2014, <http://www.mediterranean2014.sdwes.org/sab.php> (Scientific Advisory Board member)
- *1st International Symposium on Energy Challenges and Mechanics (ECM1)*, Aberdeen (United Kingdom), July 8-10, 2014, <http://imechanica.org/node/14820> (Advisory Board Member)
- *2nd International Symposium on Energy Challenges and Mechanics (ECM2)*, Aberdeen (United Kingdom), August 19-21, 2014, <http://pluslearning.co.uk/ecm2/Organisers%20english.html> (Advisory Board Member)
- *South East European Conference on Sustainable Development of Energy, Water and Environment Systems (SEE SDEWES)*, Ohrid (Republic of Macedonia), June 29 - July 4, 2014, <http://www.ohrid2014.sdwes.org/sab.php> (Advisory Board Member)
- *Sustainable Development of Energy, Water and Environment Systems (SDEWES)* Dubrovnik (Croatia), September 22-27, 2013, <http://dubrovnik2013.sdwes.org/sab.php> (Scientific Advisory Board member)

2) **Reviewer** of publications

- Reviewer of journal publications - Outstanding Reviewer Awards: (1) *Renewable and Sustainable Energy Reviews* (2013), (2) *Bioresource Technology* (2014), (3) *International Journal of Greenhouse Gas Control* (2015), (4) *Biomass and Bioenergy* (2014), (5) *Energy Conversion and Management* (2014), (6) *Applied Energy* (2013), (7) *Energy Policy* (2015), (8) *Chemical Engineering and Processing: Process Intensification* (2013), (9) *Chemical Engineering Research and Design* (2015)
- Reviewer of books, books' chapters and new journal proposals.

3) **Evaluator** of research projects

Table 8. Institutions for which Research Projects Were Evaluated

International institutions
European Commission (EC) European Research Council Executive Agency (ERCEA) Hellenic Republic Ministry of Education (Greece), Estonian Research Council (Estonia), Latvian Science Council (Latvia), Romanian Research Council (Romania)
Polish institutions
National Centre for Research and Development (Narodowe Centrum Badań i Rozwoju, NCBR) National Science Centre (Narodowe Centrum Nauki, NCN) Ministry of Science and Higher Education of Poland (Ministerstwo Nauki i Szkolnictwa Wyższego, MNiSW) Ośrodek Przetwarzania Informacji (OPI)
I accept invitations from all institutions to evaluate research proposals, monitor on-going projects and evaluate project results.

4) **Evaluator** of PhD Theses

Table 9. Evaluated PhD Theses

Institution	Ph.D. candidates
Visvesvaraya Technological University, Belagavi, Karnataka, India	Nataraja K.M. (2016, mechanical engineering), Basavarajappa D.N. (2016, mechanical engineering), Yalival Virupaxappa S. (2015, mechanical engineering), Basavarajappa Y.H. (2014, mechanical engineering)
Pondicherry University, Kalapet, Puducherry, India	Ganai S.H. (2016, environmental technology)
I accept invitations from institutions to evaluate PhD Theses.	

- 5) **Invited Speaker:** (i) *Renewable Energy Sources - Research and Business RESRB 2016 conference*, title: "An overview of business models and innovativeness of potential renewable energy projects in Africa: a perspective from Pan African University students", (ii) *Poland Carbon Capture Forum*, title: "How to make carbon capture a business opportunity in Poland?", Warsaw, (2014); (iii) Meeting of the Section of Combustion of the Thermodynamics and Combustion Committee of the Polish Academy of Sciences, title: "Recirculating combustion of gaseous fuels", Wrocław, (2009)

Professional International Experiences

(country, hosting institution, delegating institution, role/objective, duration)

- 1) Algeria, Pan African University Tlemcen, African Union, teaching, 2016-2017
- 2) Estonia, 3 Estonian universities and 1 institute, Estonian Minister of Education and Research, the member of the panel of international experts responsible for evaluating research in energetics in Estonia, 1 week in 2013
- 3) The Netherlands, Netherlands Organisation for Applied Scientific Research (TNO) Delft, European Commission, mid-term reviewer for the 7FP project, 1 week in 2011
- 4) Switzerland, Paul Scherrer Institute Villigen, Wrocław University of Science and Technology, collaborative research, 1 week in 2008
- 5) Belgium, Katholieke Industriële Hogeschool Antwerpen (KIHA) Antwerp, Wrocław University of Science and Technology under EU funded TEMPUS programme, MSc student, 6 months in 1993

Research Projects

(nature of contribution in the project, sources of funding, project title, project ID, budget, project duration)

- 1) Key investigator, National Science Centre (Poland), *Innovative process- and system-level research for expansion of biogas energy in Poland*, no. 2012/07/B/ST8/03334, 96 k€, 2013-2016
- 2) Expert, Dolnośląska Agencja Współpracy Gospodarczej Sp. z o. o. & Urząd Marszałkowski Województwa Dolnośląskiego under European Union Human Capital Operational Programme, *Analyses, researches and forecasts for The Development Strategy for the Lower Silesia Voivodship*, no. POKL.08.01.04-02-003/08, 2010-2011
- 3) Principal investigator, Ministry of Science and Higher Education (Poland), *Superadiabatic catalytic combustion of low calorific gaseous fuels*, no. 332116/2008, 5 k€, 2008
- 4) Key investigator, State Committee for Scientific Research (Poland), no. 3T09C00211, 85 k€, 1997-2000

I invite enterprises and institutions to co-prepare R&D project proposals together with my group.

Cooperation with the Economy

1) Cooperation with institutions

Table 10. Cooperation with Institutions

International institutions
International Renewable Energy Agency (IRENA) (Abu Dhabi, United Arab Emirates)
Polish institutions
National Science Centre (Narodowe Centrum Nauki, NCN)
Ministry of Science and Higher Education of Poland (Ministerstwo Nauki i Szkolnictwa Wyższego, MNiSW)
Polish Agency for Enterprise Development (Polska Agencja Rozwoju Przedsiębiorczości, PARP)
State Committee for Scientific Research (Komitet Badań Naukowych, KBN)
I would like to invite interested institutions to cooperation.

2) Cooperation with enterprises

Table 11. Cooperation with Enterprises

International enterprises
<i>Enterprise Estonia (Estonia)</i>
<i>Convetit Inc. (USA)</i>
<i>ENRAG (Austria)</i>
<i>ENVIMAC Engineering GmbH (Germany)</i>
Polish enterprises
<i>Dolnośląska Agencja Współpracy Gospodarczej Sp. z o. o.</i>
<i>BOC Gazy Sp z o.o.</i>
<i>Rokita S.A.</i>
I would like to invite interested enterprises to cooperation.

Teaching Qualifications

Institutions:

Wrocław University of Science and Technology, Wrocław, Poland
Pan African University, Tlemcen, Algeria

Courses taught:

Renewable energy
Energy economics, finance and management
Thermodynamics
Bioenergy
Fluid mechanics
Energy modelling and simulation for policy analysis
Introduction to policy analysis
Development of renewable energy systems
Gas engineering
Energy systems and applications
Mechanical separations
Heat transfer
Engineering graphics
Design & optimisation of manufacturing processes
Fuels & combustion
Energy engineering
Energy policy design
Project economics
Sustainable energy
Chemical & process engineering
Reactor engineering
Design of biotechnological processes
Computer aided design & manufacturing (CAD/CAM)
Informatics
Optimisation
Environmental engineering

Supervision of PhD thesis candidates:

Innovative fermentation processes for applications in multi-product biorefineries (Karol Postawa, 2018 ongoing)

Supervision of MSc thesis candidates:

Analysis of bioenergy storage technology in solid form (Agata Skotnicka, 2017)
Evaluation of bioenergy storage options (Marlena Brodacka, 2016)
Analysis of biogas production in Poland in the context of sustainable development (Bartosz Pakuła, 2016)
Inhibition of anaerobic digestion of biomass from contaminated sites (Ewa Szymków, 2016)
Analysis of the potential of practical utilisation of modern genetic tools in the production of bioenergies (Joanna Wiśniewska, 2016)
Selection of processes for circulating bioeconomy (Marta Wąchalska, 2016)
Project design of an innovative system for biogas production (Joanna Zawisłak, 2015)
Technological analysis of the production of second generation biofuels (Jakub Jerczyński, 2014)
Upgrading of biogas to biomethane (Grzegorz Skorupiński, 2014)
Methods for greenhouse gas emission reduction in biogas technologies (Karol Postawa, 2014)
Technological analysis of anaerobic digestion of biomass (Paweł Szczepaniak, 2014)
Conditions for rapid development of bioenergy systems in Polish Gmina administrative districts (Lidia Bohdanowicz 2013)
Techno-economic feasibility study of the production of second generation biofuels (Kamila Marticke 2013)
Thermal characteristic of an apparatus for recirculating combustion of gases (Mariusz Salaniec 2011)
Recirculation of combustion heat of low-calorific gaseous fuels (Przemysław Czeszek 2010)
Dynamics of catalytic recuperative converters (Agnieszka Górecka 2010)
Recuperative catalytic combustion under elevated pressure (Michał Piekarek 2009)
Catalytic combustion of gases in non-stationary conditions (Grzegorz Oleksy 2008)
before 2007 supervision of about 10 MSc thesis candidates

Hobbies

- 1) Sustainable development
- 2) Naturalism (philosophy)
- 3) Ancient human civilisations
- 4) Traveling
- 5) Scientometrics
- 6) Human rights
- 7) Health, sport

Other

Driving license - B
Sex - male
Civil status - single

Invitation to Collaboration

Academia - I willingly involve in carrying out research projects, co-authoring articles and co-organising conferences. I am available as a visiting professor, lecturer and invited speaker.

Enterprises - I willingly involve in carrying out research projects and commercialising project results. Further details are available in the document “Renewable Energy and Sustainable Development (RES D) Group” available at http://works.bepress.com/wojciech_budzianowski.

Institutions - I am available as a reviewer, expert and consultant for any institutional activity at all levels, i.e. from regional to international institutions. For my experience please visit: http://works.bepress.com/wojciech_budzianowski/.

Please don't hesitate to contact me: e-mail: wojciech.budzianowski@gmail.com, tel.: +48 792914912.