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GREENHOUSE GASES REDUCTION THROUGH WASTE MANAGEMENT IN CROATIA

ABSTRACT

The climate change policy is one of the key factors in the achievement of sustainable development in the Republic of

Croatia. Control and mitigation of green house gases is correlated with all economy activities. Waste management is one of the main tasks of environmental protection in Croatia. The Waste Management Strategy of the Republic of Croatia and the Waste Management Plan in the Republic of Croatia define the concept of waste management hierarchy and direct and indirect measures as criteria for sustainable waste management establishment. The main constituent of this system is avoiding and minimizing waste, as well as increasing the recycling and recovery level of waste and land fill gas, which also represent green house gases mitigation measures. The Waste Management Plan consists of several direct and indirect measures for green house gases emission reduction and their implementation also affects the green house gases emissions. The contribution of the methane emission from land fills amounts to about 2% of the total green house gases emissions in Croatia. The climate change control and mitigation measures as an integral part of waste management sector strategies represent the measures of achieving the national objectives to wards green house gases emission reduction which Croatia has accepted in the frame work of the Kyoto Protocol.

KEYWORDS

waste management, greenhouse gases, Kyoto protocol
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REFERENCES [view full list]
1. Magrinho, A., Didelet, F., Semiao V., Municipal Solid Waste Disposal in Portugal, Waste

Management, 26 (2006), 12, pp. 1477-1489

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Cited By

- 2. Wang, L., et al., Emission Reductions Potential for Energy from Municipal Solid Waste Incineration in Chongqing, Renewable Energy, 34 (2009), 9, pp. 2074-2079
- Skavgaard, M., et al., Municipal Waste Management and Greenhouse Gases, European Topic Centre on Resource and Waste Management, working paper 2008/1, 2008
- 4. ***, AEA Technology: Waste Management Options and Climate Change, Report for the EC, DG Environment, ISBN: 92-894-1733-1, 2001
- 5. ***, Inter governmental Panel on Climate Change: 2006 IPCC Guide lines for National Greenhouse Gas Inventories, IGES, 2006
- Lou, X. F., Nair, J., The Impact of Landfilling and Composting on Greenhouse Gas Emissions
 A Review, Bioresource Technology, 100 (2009), 16, pp. 3792-3798
- 7. Chen, T., Lin, C., Greenhouse Gases Emission from Waste Management Practices Using Life Cycle Inventory model, Jour nal of Hazardous Materials, 155 (2008), 1-2, pp. 23-31
- 8. Tchobanoglous, G., Kreith, F. Handbook of Solid Waste Management, 2nd ed., McGraw-Hill, New York, N. Y., USA, 2002
- 9. Crow, M., et al., Biodegradable Municipal Waste Management in Europe, Part 1: Strategies and Instruments, EEA, 2002
- 10. ***, Croatian ratification of the Kyoto Protocol, Official Gazette of the Republic of Croatia -International Agreements, 05/07
- Hublin, A., Vešligaj, D., The Role of Municipal Solid Waste as Renewable Energy Source in the Implementation of Greenhouse Gases Mitigation Measures, Proceedings, 1st European Business Forum on Renewable Energy Sources, Intelligent Energy - Europe Programme, Cavtat, Croatia, 2007, pp. 267-274
- 12. Giust, L., A Review of Waste Management Practices and Their Im pact on Human Health, Waste Management, 29 (2009), 8, pp. 2227-2239
- Fiorucci, P., Minciardi, R., Robba, M., Solid Waste Management in Urban Areas: Development and Application of a Decision Support System Resources, Resources, Conservation and Recycling, 37 (2003), 4, pp. 301-328
- 14. Stefanović, G., et al., Pollution Data Tracking in the Western Balkan Countries: A State-ofthe-Art Review, Thermal Science, 12 (2008), 4, pp. 105-112
- 15. ***, Waste Management Strategy of the Republic of Croatia (in Croatian), Official Gazette of the Republic of Croatia, 130/05
- ***, Waste Management Plan in the Republic of Croatia (2007-2015) (in Croatian), Official Gazette of the Republic of Croatia, 85/07
- 17. Callabro, P. S., Greenhouse Gases Emission from Municipal Waste Management: The Role of Separate Collection, Waste Management, 29 (2009), 7, pp. 2178-2187
- ***, Directive 1999/31/EC of European Parliament on the Landfill of waste, OJ, L 182/1, April 26, 1999
- De Gioannis, G., Muntoni, A., Cappai, G., Landfill Gas Generation after Mechanical Biological Treatment of Municipal Solid Waste, Estimation of Gas Generation Rate Constants, Waste Management, 29 (2009), 3, pp. 1026-1034
- 20. Barton, J. R., et al., Making the Right Choice for Waste Management in Developing Countries, Waste Management, 28 (2008), 4, pp. 690-698
- 21. ***, European Commission: Integrated Pollution Prevention and Control, Reference Document on the Best Available Techniques for the Waste Treatment Industries, 2006
- 22. ***, The Waste Law, Official Gazette of the Republic of Croatia, 178/04, 111/06, 60/08, 87/09
- 23. ***, Report on the Implementation of Programs and Operations of the Environmental Protection and Energy Efficiency Fund (in Croatian), www.fzoeu.hr
- Bogner, J., et al., Waste Management, in: Climate Change 2007: Mitigation, Contribution of Working Group III to the 4th Assessment Report of the Intergovernmental Panel on Climate Change (Eds. B. Metz, et al.), Cambridge University Press, Cambridge, UK and New York, N.

- Y., USA, 2007
- 25. ***, Regulation on Ways and Conditions for Waste Disposal, Categories and Landfill Operation Conditions (in Croatian), Official Gazette of the Republic of Croatia, 117/07
- 26. ***, Regulation on Waste Electrical and Electronic Equipment (in Croatian), Official Gazette of the Republic of Croatia, 74/07
- 27. ***, Regulation on End of Vehicle Maintenance Lifecycle (in Croatian), Official Gazette of the Republic of Croatia, 136/06
- 28. ***, Regulation on Old Batteries Management (in Croatian), Official Gazette of the Republic of Croatia, 133/06
- 29. ***, Regulation on Waste Oil Management (in Croatian), Official Gazette of the Republic of Croatia, 124/06
- 30. ***, Regulation on Waste Tyres Management (in Croatian), Official Gazette of the Republic of Croatia, 40/06
- ***, Regulation on Packaging and Waste Packaging Management (in Croatian), Official Gazette of the Republic of Croatia, 97/05
- 32. ***, Directive on Limited Emission Values of Airborne Pollutants from Stationary Sources (in Croatian), Official Gazette of the Republic of Croatia, 21/07
- 33. Houdkova, L., et al., Biogas a Renewable Source of Energy, Thermal Science, 12 (2008), 4, pp. 27-33
- 34. Raguzin, I., Tomšić, Ž., Legislation Framework for Croatian Renewable Energy Sources Development, Thermal Science, 11 (2007), 3, pp. 27-42
- 35. ***, Intergovernmental Panel on Climate Change: 2006 IPCC Guide lines for National Greenhouse Gas Inventories, Vol. 5: Waste (Eds. S. Eggleston, et al.), IGES, 2006
- ***, Ministry of Environmental Protection, Physical Planning and Construction: National Inventory Report 2009, Croatian Greenhouse Gas Inventory for the Period 1990-2007, EKONERG, Zagreb, 2009
- ***, Ministry of Environmental Protection, Physical Planning and Construction: Scenarios of Greenhouse Gas Emission Reduction in Post-Kyoto Period in Croatia till 2020 with a View to 2030 and 2050, EKONERG, Zagreb, 2009
- 38. Sovacool, B. K., Brown, M. A., Scaling the Policy Response to Climate Change, Policy and Society, 27, (2009), 4, pp. 317-328

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