

### **PART III – CONCLUSION**

Legislation on the commercial production and trade of bioenergy on international markets cannot be examined in isolation. Only through the identification and assessment of the many activities, institutions, policies and legislative provisions related directly or indirectly to bioenergy at the national level can governments identify strengths, weaknesses, overlaps and gaps. A firm legal basis is fundamental to properly regulate and support the development of bioenergy. Countries that have sound policies to promote the production and use of bioenergy will be at the forefront of realizing the economic and environmental benefits of this sector.

The relationships between bioenergy and sustainable development are complex, and depend on several factors, including the energy crop, method of cultivation, conversion technology and the conditions and alternatives in the specific country. The impacts of policy and legislation in related sectors, such as agriculture, forestry, environment and trade can have a profound effect on the development of effective bioenergy programmes.

To achieve an interdisciplinary approach to bioenergy, governments must promote institutional capacity building at the national level so as to ensure coordination among key stakeholders. Governments should encourage cooperation between ministries responsible for energy, agriculture, environment, industry and trade and the private sector. One way to do so is to establish national commissions or boards on bioenergy in which all concerned ministries and outside organizations, industry groups and NGOs are represented.

A better understanding of the linkages between different areas of law and a coherent approach to bioenergy would reduce legal uncertainties and encourage the optimal development of the sector. Coordination in this area may be intersectoral, intrasectoral or cross-sectoral, aligning international and national efforts. In any case, strong political will and commitment are required at all levels of government. In order to streamline bioenergy policies and laws, the underlying social, economic, cultural and political causes of non-compliance must be reviewed, as well as the impact of the energy policy and legal framework on the environment, rural development and the poor.

**REFERENCES**

- Associated Press.** 2007. *Argentina, Brazil Join WTO Complaint Against U.S Corn Subsidies*, International Herald Tribune, 22 January, available at [www.ihf.com](http://www.ihf.com).
- Berg, C.** 2004. *World Fuel Ethanol Analysis and Outlook*, available at [www.distill.com](http://www.distill.com).
- Bush, G.W.** 2006. *State of the Union Address*, available at [www.usatoday.com](http://www.usatoday.com).
- Caldwell, J.** 2007. *Fuelling a New Farm Economy: Creating Incentives for Biofuels in Agriculture and Trade Policy*. Center for American Progress, Washington, D.C.
- Deshpande, R.S.** 2006. *Biofuels and the WTO: An Emerging Context*. Asian Biotechnology and Development Review Vol. 8, No. 2. Research and Information System for Developing Countries, Bangalore, available at [www.ris.org.in](http://www.ris.org.in).
- Elasha, B., Medany, M., Niang-Diop, I., Nyong, T., Tabo, R. & Vogel, C.** 2006. *Background paper on impacts, vulnerability and adaptation to climate change in Africa*, UNFCCC Secretariat, Bonn, available at [unfccc.int](http://unfccc.int).
- Ericsson, K., Huttunen, S., Nilsson, L.J. & Svenningsson, P.** 2004. *Bioenergy Policy and Market Development in Finland and Sweden*, Energy Policy, Vol. 13, Issue 15. Division of Environmental and Energy Systems Studies, Lund Institute of Technology, Lund.
- Fagernäs, L., Johansson, A., Wilén, C., Sipilä, K., Mäkinen, T., Helynen, S., Daugherty, E., Den Uil, H., Vehlow, J., Käberger, T. & Rogulska, M.** 2006. *Bioenergy in Europe: Opportunities and Barriers*, VTT Research Notes No. 2352. Bioenergy Network of Excellence, Helsinki, available at [www.vtt.fi](http://www.vtt.fi).
- FAO.** 2000. *The Energy and Agriculture Nexus*, Environment and Natural Resources Working Paper No. 4, Rome, available at [www.fao.org](http://www.fao.org).
- Fresco, L.** 2006. *Biomass for food or fuel: is there a dilemma?* The Duisenberg Lecture, Singapore, available at [www.rabobank.com](http://www.rabobank.com).

**Fritsche, U., Hünecke, K., Hermann, A. Schulze, F. & Wiegmann K.** 2006. *WWF Sustainability Standards for Bioenergy*. World Wide Fund for Nature, Berlin, available at [www.lowcvp.org.uk](http://www.lowcvp.org.uk).

**Greene, N.** 2004. *Growing Energy: How Biofuels Can Help End America's Oil Dependence*, Natural Resources Defense Council, Washington, D.C., available at [www.nrdc.org](http://www.nrdc.org).

**Howse, R., et al.** 2006. *WTO Disciplines and Biofuels: Opportunities and Constraints in the Creation of a Global Marketplace*. International Food & Agricultural Trade Policy Council Discussion Paper. IPC and Renewable Energy and International Law. Washington, D.C., available at [www.agritrade.org](http://www.agritrade.org).

**ICTSD.** 2006. *Linking Trade, Climate Change and Energy*. ICTSD Trade and Sustainable Energy Series, International Centre for Trade and Sustainable Development, Geneva, available at [www.trade-environment.org](http://www.trade-environment.org).

**IFPRI.** *Bioenergy and Agriculture: Promises and Challenges* (P. Hazell & R.K. Pachauri, eds.). 2020 Focus No. 14. International Food Policy Research Institute, Washington D.C., available at [www.ifpri.org](http://www.ifpri.org).

**ILO.** *Safe Work, Safety and Health in Agriculture*, available at [www.ilo.org](http://www.ilo.org).

**Johnson, F.X. & Matsika, E.** 2006. *Bioenergy Trade and Regional Development: The Case of Bioethanol in Southern Africa*, Energy for Sustainable Development, Vol. X, No. 1, London.

**Kartha, S., Leach, G., & Rajan, S.** 2005. *Advancing Bioenergy for Sustainable Development: Guideline for Policymakers and Investors*, Vol. I, ESMAP, World Bank, Washington, D.C., available at [www.esmap.org](http://www.esmap.org).

**Kojima, M. & Johnson, T.** 2005. *Potential for Biofuels for Transport in Developing Countries*. ESMAP, World Bank, Washington, D.C., available at [www.esmap.org](http://www.esmap.org).

**OECD.** 2005. *Agricultural Market Impacts of Future Growth in the Production of Biofuels*. OECD, Paris, available at [www.oecd.org](http://www.oecd.org).

**OECD/FAO.** 2006. *OECD-FAO Agricultural Outlook 2006-2015*. OECD, Paris, and FAO, Rome.

**Petillion, F.** 2005. *Report on the Legal Issues Regarding Biofuels for Transport*, VIEWLS Project, SenterNovem, Brussels, available at ec.europa.eu.

**Plesch, D., Austin, G., Grant, F. & Sullivan, S.** 2006. *Bioenergy and CAP Reform: The Gains to Europe and Africa*. The Foreign Policy Centre, London, available at fpc.org.uk.

**Rothkopf, G.** 2007. *A Blueprint for Green Energy in the Americas: Strategic Analysis for Brazil and the Americas*. Inter-American Development Bank, Washington, D.C., available at idbdocs.iadb.org.

**Schnepf, R.** 2006. *European Union Biofuels Policy and Agriculture: An Overview*, CRS Report for Congress, Washington, D.C., available at italy.usembassy.gov.

**Smeets, E., Faaij, A. & Lewandowski, I.** 2004. *A Quickscan of Global Bio-Energy Potentials to 2050: An Analysis of the Regional Availability of Biomass Resources for Export in Relation to the Underlying Factors*. Copernicus Institute, Utrecht, available at www.chem.uu.nl.

**Spaulding, R.O.** 2003. *Fuel from Vegetables? A Modern Approach to Global Climate Change*, Transnational Law and Contemporary Problems, Vol. 13, No.1.

**Steenblik, R.** 2005. *Liberalising Trade in "Environmental Goods": Some Practical Considerations*. OECD Trade and Environment Working Paper No. 2005-05, OECD, Paris, available at www.oecd.org.

**Stern, N.** 2007. *The Economics of Climate Change: The Stern Review*. Cambridge University Press, Cambridge.

**Takada, M. & Fracchia, S.** 2007. *A Review of Energy in National Energy Reports*, UNDP, New York.

**Teixeira Coelho, S.** 2005. *Biofuels: Advantages and Trade Barriers*, UNCTAD, Geneva, available at www.unctad.org.

**Tomain, J.** 2006. *Smart Energy Path: How Willie Nelson Saved the Planet*, Cumberland Law Review, Vol. 36.

**Tomain, J.** 1990. *The Dominant Model of United States Energy Policy*, University of Colorado Law Review, Vol. 61.

**Turner, T.** 2006. *Biofuels, Agriculture and the Developing World*, in *Linking Trade, Climate Change and Energy*, ICTSD, Geneva, available at [www.trade-environment.org](http://www.trade-environment.org).

**UNCTAD.** 2006. *Adjusting to Recent Changes in the Energy Sector: Challenges and Opportunities*. Background note by the UNCTAD Secretariat, Geneva, available at [www.unctad.org](http://www.unctad.org).

**UNCTAD.** 2006. *Challenges and opportunities for developing countries in producing biofuels*, United Nations Conference on Trade and Development, Geneva, available at [www.unctad.org](http://www.unctad.org).

**Weaver, J. L.** 2006. *The Traditional Petroleum-Based Economy: An "Eventful" Future*, *Cumberland Law Review*, Vol. 36, No. 3.

**Willis, M., Wilder, M. & Curnow, P.** 2006. *The Clean Development Mechanism: Special Considerations for Renewable Energy Projects*, Renewable Energy and International Law Project, New Haven, available at [www.yale.edu](http://www.yale.edu).

**Wiriwan, S. & Tambunan, A.** 2006. *The Current Status and Prospects of Biodiesel Development in Indonesia: A Review*, available at [unit.aist.go.jp](http://unit.aist.go.jp)

**WTO, 2007.** *United States – Subsidies and other Domestic Support for Corn and other Agricultural Products*, WT/DS357/1 (11 January 2007) Request for Consultations by Canada.

**WTO.** 2004. *European Communities – Conditions for the Granting of Tariff Preferences to Developing Countries*, Report of the Appellate Body WT/DS246/AB/R 7, April 2004.

**Yacobucci, B.** 2006. *Ethanol Imports and the Caribbean Basin Initiative*. CRS Report for Congress, Washington, D.C., available at [www.nationalaglawcenter.org](http://www.nationalaglawcenter.org)

**Zarrilli, S.,** 2006. *The Emerging Biofuels Market: Regulatory, Trade and Development Implications*, United Nations Conference on Trade and Development, New York and Geneva, available at [www.unctad.org](http://www.unctad.org)

**LEGAL INSTRUMENTS CITED**

## INTERNATIONAL

**Convention on Biological Diversity** (1992), available at [www.cbd.int](http://www.cbd.int).

**International Labour Organization Safety and Health in Agriculture Convention**, available at [www.ilo.org](http://www.ilo.org).

**Montreal Protocol on Substances That Deplete the Ozone Layer**. 1989, available at [ozone.unep.org](http://ozone.unep.org).

**Plan of Implementation of the World Summit on Sustainable Development**, available at [www.un.org/esa](http://www.un.org/esa)

**United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa** (1996), available at [unccd.int](http://unccd.int).

**United Nations Framework Convention on Climate Change**. 1992, available at [unfccc.int](http://unfccc.int).

**Vienna Convention for the Protection of the Ozone Layer**. 1985, available at [www.unep.org](http://www.unep.org)

## NATIONAL

**Argentina**

*Ley 26.093/06 de régimen de regulación y promoción para la producción y uso sustentables de biocombustibles* (2006).

*Resolución 1156/2004 Resolución 1156/2004 de la Secretaría de Agricultura, Ganadería, Pesca y Alimentos por la que se crea el Programa Nacional de Biocombustibles* (2004).

*Resolución 1076/2001 de la Secretaría de Desarrollo Sustentable y Política Ambiental por la que se crea el Programa Nacional de Biocombustibles, relacionado con la problemática del cambio climático* (2001).

*Ley 254383/01 de aprobación del Protocolo de Kyoto de la Convención marco de las Naciones Unidas sobre cambio climático* (2001).

*Decreto 109/2007 sobre actividades alcanzadas por los términos de la Ley 26.093, autoridad de aplicación, funciones, Comisión Nacional Asesora, habilitación de plantas productoras y Régimen promocional* (2007).

**Bolivia**

*Ley No 1.715 - Servicio Nacional de Reforma Agraria (1996).*

**Colombia**

*Decreto 3862 de 28 de octubre de 2005 por el cual se reglamenta la Ley 693 de 2001 relativa a normas sobre el uso de alcoholes carburantes (2005).*

*Ley 1970 del Ministerio de Agricultura y Desarrollo Rural por la cual se reglamenta parcialmente la Ley 939 de 2004 (2005).*

*Ley 939 de 2004 por medio de la cual se subsanan los vicios de procedimiento en que incurrió en el trámite de la Ley 818 de 2003 y se estimula la producción y comercialización de biocombustibles de origen vegetal o animal para uso en Motores diesel y se dictan otras disposiciones. Diario Oficial N° 45.778 de 31 de diciembre de 2004 (2004).*

*Resolución 447 de 2003 del Ministerio de Ambiente Vivienda y Desarrollo Territorial y Ministerio de Minas y Energía por la cual se modifica parcialmente la Resolución 898 del 23 de agosto de 1995, que regula los criterios ambientales de calidad de los combustibles líquidos y sólidos utilizados en hornos y calderas de uso comercial e industrial y en motores de combustión interna (2003).*

*Resolución 180687 de 2003 del Ministerio de Minas y Energía por la cual se expide la regulación técnica prevista en la Ley 693 de 2001, en relación con la producción, acopio, distribución y puntos de mezcla de los alcoholes carburantes y su uso en los combustibles nacionales e importados (2003).*

*Ley 693 de 2001 por la cual se dictan normas sobre el uso de alcoholes carburantes, se crean estímulos para su producción, comercialización y consumo, y se dictan otras disposiciones. Diario Oficial N° 44.564, de 27 de septiembre de 2001 (2001).*

*Ley 697 de 2001 mediante la cual se fomenta el uso racional y eficiente de la energía, se promueve la utilización de energías alternativas y se dictan otras disposiciones. Diario Oficial N° 44.573, de 5 de octubre de 2001 (2001).*

**Costa Rica**

*Derogación de los Decretos Ejecutivos 31087 MAG MINAE y 31818-MAG-MINAE y Creación de la Comisión Nacional de Biocombustibles (2006).*

**Ecuador**

*Decreto Ejecutivo 2332 de 2004 por el que se declara de interés nacional la producción, comercialización y uso de biocarburos así como la producción agrícola destinada a la preparación de biocarburos. Diario Oficial No. 482 (2004).*

**European Union**

Council Regulation (EC) No. 980/2005 (2005).

Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport (2003).

Directive 2003/17/EC of the European Parliament and of the Council of 3 March 2003 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels (2003).

**Guatemala**

*Acuerdo Gubernativo N° 211-2005, Reglamento de la Ley de incentivos para el Desarrollo de Proyectos de Energía Renovable* (2005).

*Decreto N° 52/03 - Ley de incentivos para el desarrollo de proyectos de energía renovable. Diario de Centro América N° 91, 10 de noviembre de 2003* (2003).

*Decreto Ley N° 17-85 del Ministro de Economía y del Ministro de Energía y Minas por la cual se reglamenta el alcohol carburante* (1985).

**Honduras**

*Decreto N° 79.88 del 12 de julio de 1988 que contiene la Ley del Alcohol Carburante* (1988).

**Indonesia**

Decree No. 3675K/24/DJM/2006 (17 March 2006).

Decree No. 73/KEP/BSN/2006 (22 February 2006).

Presidential Decree No. 10/2006 on Establishment of National Team for Biofuel Development (2006).

Presidential Regulation No. 5/2006 on National Energy Policy (2006).

Presidential Instruction No. 1/2006 on Supply and Utilization of Biofuels as Alternative Energy (2006).

**Mexico**

*Ley de Promoción y Desarrollo de los Bioenergéticos de 27 de abril de 2007* (2007).

*Ley de Desarrollo Rural Sustentable* (2001).



*Ley General del Equilibrio Ecológico y la Protección al Ambiente. Publicada en el Diario Oficial de la Federación el 28 de enero 1988 (1988).*

### **Namibia**

Agronomic Industry Act (1992).

Petroleum (Exploration and Production) Act (1991).

### **Nicaragua**

*Decreto N° 42-2006 por el que se declara de interés nacional la producción de biocombustible y bioenergía (2006).*

### **Panama**

*Decreto de Gabinete N° 36 de 27 de septiembre de 2003 (2003).*

### **Paraguay**

*Decreto N° 7.412/06 por el que se reglamenta la Ley N° 2.748/05 de fomento de los biocombustibles (2006).*

*Ley N° 2.748/05 de fomento de los biocombustibles (2005).*

*Ley N° 2421/04 de reordenamiento administrativo y de adecuación fiscal (2004).*

*Ley N° 60/90 de inversiones (1990).*

*Decreto N° 20.9842/80 por el cual se homologa y declara obligatoria la norma técnica paraguaya elaborada por el Instituto Nacional de Tecnología y Normalización (1980).*

### **Peru**

*Decreto Supremo N° 013-2005-EM Reglamento de la Ley de Promoción del Mercado de los Biocombustibles (2005).*

*Ley N° 28054/03 de Promoción del Mercado de los Biocombustibles (2003).*

### **Philippines**

Republic Act No. 9367, An act to direct the use of biofuels, establishing for this purpose the biofuel program, appropriating funds therefore, and for other purposes (Biofuels Act of 2006).

### **South Africa**

National Water Act [No. 36 of 1998], available at [www.elaw.org](http://www.elaw.org) (1998).

**United States of America**

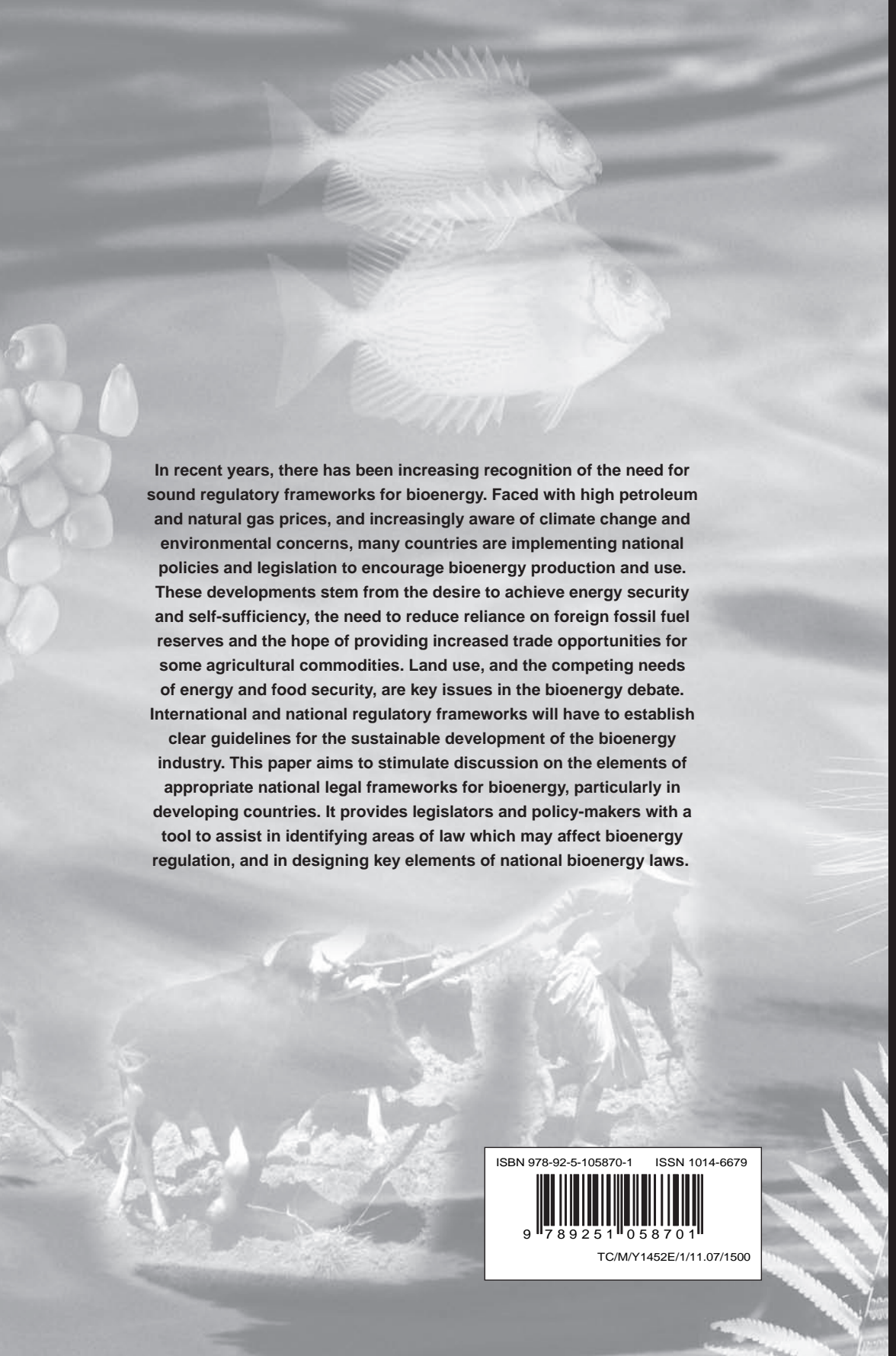
U.S. Energy Policy Act, 42 U.S.C. 15801 (2005).

**Uruguay**

*Ley N° 17.567 sobre combustibles alternativos, renovables y sustitutos de los derivados del petróleo, elaborados con materia nacional de origen animal o vegetal (2002).*

*Ley N° 17.598 relativa a la Unidad Reguladora de Servicios de Energía y Agua (2002).*

Ley de creación de ANCAP (1931).



In recent years, there has been increasing recognition of the need for sound regulatory frameworks for bioenergy. Faced with high petroleum and natural gas prices, and increasingly aware of climate change and environmental concerns, many countries are implementing national policies and legislation to encourage bioenergy production and use. These developments stem from the desire to achieve energy security and self-sufficiency, the need to reduce reliance on foreign fossil fuel reserves and the hope of providing increased trade opportunities for some agricultural commodities. Land use, and the competing needs of energy and food security, are key issues in the bioenergy debate. International and national regulatory frameworks will have to establish clear guidelines for the sustainable development of the bioenergy industry. This paper aims to stimulate discussion on the elements of appropriate national legal frameworks for bioenergy, particularly in developing countries. It provides legislators and policy-makers with a tool to assist in identifying areas of law which may affect bioenergy regulation, and in designing key elements of national bioenergy laws.

ISBN 978-92-5-105870-1

ISSN 1014-6679



9 789251 058701

TC/M/Y1452E/1/11.07/1500