Havana transport: introductory notes[1]

Contents

[1] Briefing notes prepared by Dr E Morris for interdisciplinary seminar on Sustainable mobility for Havana, held at UCL Institute of the Americas, June 2013, supported by UCL Grand Challenges for Sustainable Cities.

Context: the Cuban transport exception

In Cuba, the emphasis of urban transport policy since the revolution in 1959 has been on providing public transport, rather than accommodating the expansion of private car use. New private cars have not been freely available for sale since the 1960s, and only state entities have been able to import them, for allocation according to official criteria (need and reward for service). As a result, the stock of private cars is exceptionally low, at only around 15 cars per 1,000 inhabitants,[2] compared with 128 in the Dominican Republic and 188 in Jamaica (and around 800 in the US and 500 in the UK).[3] The low level of car ownership provides a unique opportunity for Cuba to develop its transport system differently from other countries, to demonstrate the benefits of an alternative low carbon path, less dependent on increasing road traffic and the expansion of the use of the private car.

Cuba's uniqueness in terms of car ownership provides an opportunity that may be lost if it is not seized urgently. An economic reform process now underway has already made it possible to freely buy and sell second hand cars (since 2011) and increased the number of private taxis, leading to an increase in traffic volumes; and unless preventative steps are taken at this stage, this trend will continue as household incomes and investment grow. Without a clear strategy to avoid it, Cuba risks following China, India and other developing countries in generating ever-increasing GHG emissions, not only contributing to climate change but also bringing rising casualties, pollution, noise and congestion, and the deterrent effect of motor vehicles on cycling, walking and other uses of public urban space.

The Cuban government has a strong official commitment to action on climate change, as well as to public health (including accident prevention), equity (in terms of mobility as well as income distribution and access to public services) and environmental protection. The authorities are aware that in order to meet these objectives, there is a need to develop an alternative strategy. The aim of this project is to work with Cuban researchers at the Ministry of Transport and other entities, which have already gathered extensive data on current and projected impacts of transport choices,[4] to investigate different approaches, drawing of the experience of other cities around the world that have altered policy to mitigate the environmental, economic and social costs of the high volume of traffic generated by the standard model of urban transport development. The emphasis of such new initiatives is on encouragement to greater use of public transport and non-motorised mobility (including walking and cycling).

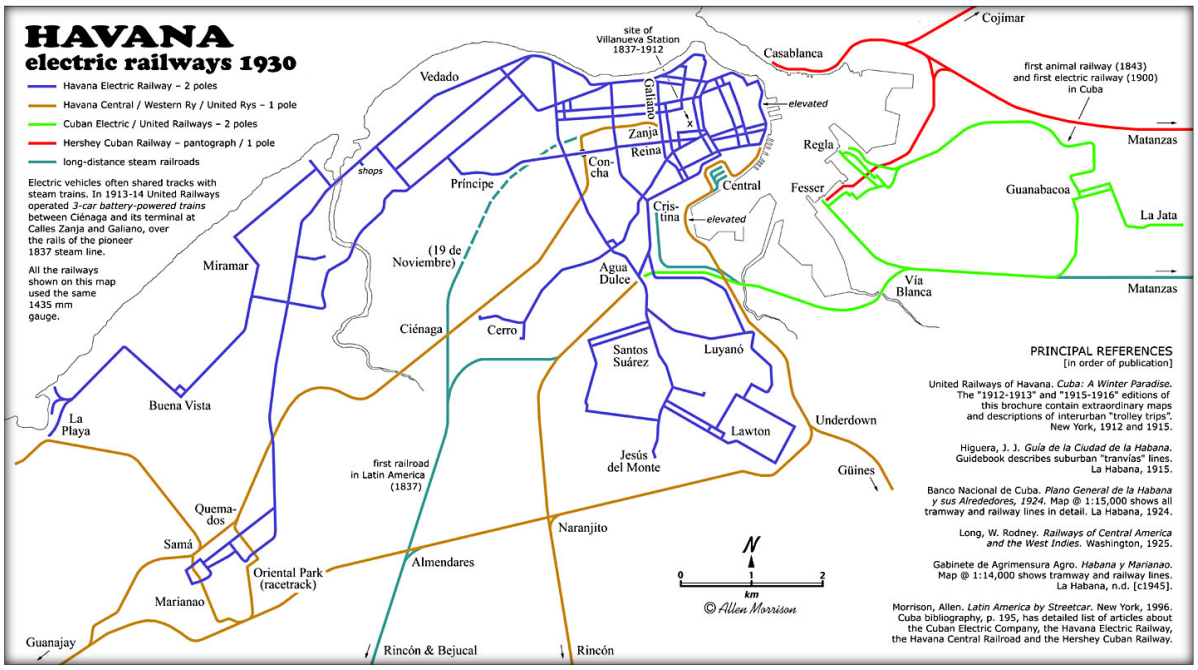
[2] International Atomic Energy Agency (2008), *Cuba: A Country Profile on Sustainable Energy Development*, Vienna, July 2008: IAEA. Table 10.8, p.215.

[3] World Bank, http://data.worldbank.org/indicator/IS.VEH.NVEH.P3 (17.3.13)

[4] Baseline long-term energy demand projections indicate that transport's share of Cuba's total greenhouse gas (GHG) emissions is 26%, and will grow unless the model is changed.

Havana: a very brief history of the city and its transport [5]

Established under the Spanish crown in the early 16th century in a swampy area next to a large natural harbour, the port city of Havana became Cuba's capital a century later. The capture of the city by the British in 1762 prompted further fortification, although building continued outside the walls, to the south and west. Following independence in 1898, the continued expansion of the city was facilitated by the construction of new roads (including the six-lane Malecón road along the sea front) and tramways (see map, below),[6] which peaked in 1929 before losing out to competition from cars and buses. Amidst the decline, there was a short surge in tram use during the second world war, as shortages of tyres and petrol gave them an advantage over diesel buses and private cars. Tram services eventually ended in 1952. A road tunnel under the bay was completed in the late 1950s.



In the 1940s and 1950s, Havana became an important US tourism destination (estimated 800,000 visitors a year by the late 1950s), with the accumulation of fortunes associated with the industry (famously including gambling, drug trafficking and prostitution), infrastructure monopolies (including telecommunications and parking meters) and corruption. After 1959, US visitors ceased, companies were nationalised and tourism and Havana's service industries were closed down, while the revolutionary government's development strategy prioritised the less developed parts of Cuba. There was little investment in building for 30 years, apart from the building of a new suburb – La Habana del Este – on the eastern side of the bay. Economic crisis in the 1990s led to severe deterioration of housing and transport infrastructure, although the renovation of Habana Vieja, the old centre, has been undertaken by the City Historian's Office, using earnings from tourism.

[5]. All data from Oficina Nacional de Estadísticas e Información (ONE), *Anuario Estadístico de Cuba 2011* (2012) http://www.one.cu unless otherwise stated.

[6] From Allen Morrison, *The Tramways of Havana*, http://www.tramz.com/cu/hb/hbm2.html (17.3.13)

Havana and its transport today

The population of Havana is 2.15 million (2012), one-fifth of the Cuban population. With an area of 730 km^2, average population density is 2,925 per km^2. Density ranges widely between municipalities, from 43,858 per km^2 in the most dense (Centro Habana) to 880 per km^2 in the least (Guanabacoa). The city's population is forecast to decline, to 2.06 million by 2020, due to a very low birth rate and (to a lesser extent) outward migration.

Public transport was very badly hit by the economic crisis of the 1990s, when Cuba lacked foreign exchange for fuel or spare parts. In the absence of means of motorised transport, people were forced to walk more, and use bicycles (of which hundreds of thousands were imported from China). During the worst years of the recession of the 1990s, rates of cardiovascular disease and diabetes declined. Although the economy has recovered since then, public transport services have not yet been restored. Havana's current situation is in line with that of Cuba as a whole, with total bus passenger miles in 2011 still only 30% of the 1989 level. Buses are still scarce, unreliable and very crowded. The difficulty of getting to work has affected the average number of hours worked, and access to public services (including recreational and cultural facilities) is hampered by transport problems.

The share of cars in total passenger mobility is remarkably small, in line with the low level of car ownership: of 1.3m passenger journeys per day in 2011, less than 4% were by car. However, since 2011, an increase in the number of private taxis and introduction of a free market in second hand cars has increased traffic noticeably on Havana's streets. While there is still not enough to create serious congestion, the environmental impact of this increase in motor vehicles is evident. With an aged car fleet (with a substantial proportion of cars dating from before 1959) and poor quality, leaded petrol, air pollution is a growing problem. Other road users are being driven off the roads: the use of bicycles has almost ceased, and the rise in noise levels and danger are discouraging recreational use of urban space. In 2011, there were 4,945 road accidents in Havana, resulting in 145 deaths.

Public attitudes to transport issues are conditioned by experience. A longing for greater mobility, the experience of inadequate bus services, extensive communication with relatives in the US, and the association of bicycles with the worst years of economic hardship all serve to feed a yearning for private car ownership. Official efforts to improve road safety through improved traffic controls, new regulations, tougher policing and severe penalties have had only a slight impact. Recent articles on accident rates in the Cuban press, which have focused on the lack of care taken by pedestrians, indicate that the public health case for traffic control is not widely appreciated.

The Cuban economy and transport infrastructure

The Cuban economy is defined as middle income, with national income (in purchasing power parity terms) estimated[7] at around US$6,000 per head.

Recent performance. The collapse of the Soviet bloc in 1990-91 caused a devastating 34% decline in national income, and it took 15 years before GDP was restored to its 1990 level. Over the past five years, real Gross Domestic Product (GDP) growth has been modest but steady, averaging 2.8% a year (with a stable population, this is the same as the GDP growth per head figure). This is a marked slowdown from the previous five years, when average annual growth of 7.9% was made possible by the initiation of Cuba's close trade relationship with Venezuela. This relationship has protected Cuba from the impact of high oil prices, by allowing the state to pay for oil imports with earnings from the export of professional (mainly medical) services – the price of which fluctuates with the price of oil.

Structure. The Cuban economy is dominated by the services sector which, according to Cuba's national income accounts, accounts for 73% of total output. This includes: a large state sector providing universal health, education and welfare services; an important tourist industry; and an export 'industry' consisting of professionals working abroad (the largest group being doctors, and the main customer Venezuela). A shift in the structure of the economy since 1990, from export of sugar the export of tourism and professional services, has resulted in a sharp decline in international cargo transport volumes and rise in air passenger travel.

Cuba. Economic structure, 2011				
Origins of GDP	**% of total**		**Components of GDP**	**% of total**
Agriculture & fisheries	3.6		Private consumption	52.9
Mining	0.6		Government consumption	35.4
Construction	4.8		Gross fixed investment	8.3
Electricity, gas & water supply	1.6		Changes in stocks	2.0
Manufacturing	15.5		Exports, goods and services	24.9
Services	73.8		Imports, goods and services	21.5
Exports	**US$ m**		**Imports**	**US$ m**
Total goods & services	17,157		Total goods & services	14,799
Goods	6,340		Goods	13,956
Oil products	2,816		Fuel	6,370
Nickel	1,411		Food	2,046
Medicines	547		Machinery & equipment	1,958
Sugar and sugar products	389		Chemicals	1,254
Other goods	879		Other goods	2,280
Services	10,817		Services	843
Goods exports: main destinations	**% of total**		**Goods imports: main origins**	**% of total**
Venezuela	38.4		Venezuela	42.3
China	12.4		China	9.2
Canada	11.3		Spain	7.3
Netherlands	10.4		Brazil	4.6
Spain	2.6		US	3.1

[7] Estimates of purchasing power parity national income are always approximate. In the case of Cuba, the estimation of comparative GDP is particularly difficult because of the lack of a single exchange rate and existence of widely divergent price sets in different markets within the country, as well as the large share of national income accounted for by free state services. However, estimates by the UN Commission for Latin America and the Caribbean, the World Bank and Economist Intelligence all concur in including Cuba as a medium income country.

The Cuban economy is highly vulnerable to external shocks due to its openness, with a trade/GDP ratio of over 40%. Dependence on imports of fuel and food is very high: Cuba imports around 70% of its energy needs, which account for around 40% of total import spending. Food imports account for a further 10-15% of import costs. The economy is far less dependent on commodity exports than it was (in 1990, sugar and nickel accounted for 80% of export earnings from goods and services; in 2012 they accounted for only 10%), but nonetheless the prices of nickel and sugar, as well as fuel and food, remain significant in terms of annual growth performance.

Dependence on a single trading partner is also not as great as it was under the Soviet trading system, but the close relationship with Venezuela has created a new vulnerability. Venezuela now supplies all of Cuba's oil imports and accounts for more than one third of foreign exchange earnings. Other important trading partners are China, Canada, Brazil, Spain, the Netherlands (which is the destination for much of Cuba's nickel) and Russia. US sanctions prevent all trade with the US apart from imports of agricultural goods, which must be paid up front.

The crisis of the 1990s was caused by a collapse of foreign exchange inflows, and Cuba's restricted access to international finance remains the main constraint on both economic growth and investment in transport infrastructure. US sanctions mean that Cuba has no access to funds from multilateral financial institutions (the World Bank, International Monetary Fund, Inter-American Development Bank). It also acts as a severe deterrent to Cuba's access to international finance from banks or private financial institutions. As a result of its vulnerability to terms of trade shocks, combined with its limited access to short term finance, Cuba has defaulted on past payments to official creditors from Europe. This year, it seems that progress is being made on renegotiating these outstanding debts, but creditors remain wary.

For these reasons, the rate of investment (total fixed capital formation as a percentage of GDP) has remained depressed since 1990, staying close to only 10% of GDP (compared with a regional average of over 20%). In terms of transport infrastructure, in many areas there has been insufficient investment to replace depreciating assets. Decapitalisation has resulted. It has been very hard to find external financing for major investments in transport infrastructure, and the few projects that have been financed have been made possible by official bilateral financing agreements with friendly governments. These include a joint venture with a Brazilian company for the assembly of buses, the supply of buses by China, and Chinese support for the repair and replacement of rail infrastructure. All this is only a fraction of the amount of investment needed to restore mobility to former levels. In this context, climate financing funds might provide a new and important opportunity.

While health and education indicators are exceptionally good (ranking on a par with the richest countries, having been miraculously little damaged by the recession of the 1990s), a heavily undervalued Cuban peso (at the 'Cadeca' rate, which applies to households) has created a wide income gap between those working for Cuban peso salaries (this includes all state sector workers, including government officials) and those with access to hard currency. Public transport is subsidised to make it affordable by peso earners, and although petrol prices have been adjusted towards their market price, subsidised supplies remain for many users. Meanwhile, those with hard currency income are able to afford taxis and buy cars. In terms of mobility as well as other types of consumption, the divide between 'haves' and 'have-nots' has become stark.

Economic policy and transport planning

When the Soviet bloc collapsed in 1990-91, the Cuban government rejected the path of economic 'transition', and the economy remains dominated by the state. Education and health services are free, there is a comprehensive system of social welfare, prices of basic goods are heavily subsidised, and the official exchange rate is fixed. The state accounts for 77% of total employment.

In terms of energy policy, Cuba's high import dependency has ensured that energy conservation has been a high priority since the Soviet Union began to reduce its oil price subsidy in the mid-1980s. Energy intensity (energy consumption relative to national income) has been on a downward trend since then, helped by a shift in the structure of production from industry to services. Domestic production of oil has multiplied six-fold since 1990, with the help of foreign (mainly Canadian) investment, but still accounts for only around one third of national consumption. This oil comes from the coastal zone on the north coast, to the east of the city of Havana. The rest of Cuba's oil is now imported from Venezuela.

Since 2005, when international oil prices started to climb, renewed efforts have been made to conserve energy and find alternative sources. The electricity generation, transmission and distribution systems have received an overhaul, known as the 'energy revolution', with the help of Venezuelan financing. This brought an end to the chronic problem of power cuts that had plagued the system for a decade and a half, and was also designed to enable the incorporation of local electricity generation, including renewables. To save fuel, the state-run freight distribution was redesigned to reduce distances travelled. The development of urban and suburban agriculture, redistribution of agricultural land, and reorganisation of the milk industry, are intended to reduce food imports and 'food miles' travelled by domestically-produced food. One of the ways to tackle a chronic problem of fuel theft (where fuel is diverted from subsidised state quotas for resale, at multiples of the subsidised price, on the black market) was to spin off state transport provision to competing private providers, who buy petrol at market prices and sell transport services. Renewable energy only accounts for around 3% of power generation so far, but development programme is under way, led by biofuels (sugar cane bagasse and a woody weed known as marabou), wind and solar power.

Despite these efforts, the problems of Cuba's vulnerability to external shocks, chronic lack of investment and low average productivity persist. In 2010, a comprehensive review of policy, and a huge process of public consultation, led to the launch of a major process of economic 'updating'. The outcome of the consultation, involving hundreds and thousands of meetings, in which contributions and suggestions were carefully collected and then collated, eventually led to the drafting of a set of 313 'guidelines', or *lineamientos.*[8] After further debate at the Congress of the Partido Comunista de Cuba (PCC, the Cuban Communist Party), the *lineamientos* were approved in April 2011. The full document has been widely distributed throughout Cuba and is available on the web.[9] The implementation of the guidelines has begun, and they will inform policy to 2016.

[8] The full title of the document is *Lineamientos de la política económica y social del partido y la revolución*, April 2011.
[9] http://www.granma.cubaweb.cu/secciones/6to-congreso-pcc/Folleto%20Lineamientos%20VI%20Cong.pdf.

The *lineamientos* document does not provide a list of reforms or schedule for their introduction, but provides a framework for policy. Although there are some elements of economic liberalisation, the *lineamientos* do not represent an intention to make an economic transition. Among the most important changes that have already started to be implemented are the rationalisation of the state sector, expansion of the private sector, tighter financial management, the development of a new tax system and gradual price liberalisation. But while these include some elements of the kind of reforms seen in the 'transition' economies of the former Soviet bloc, and will have the effect of opening up the Cuban economy further to the global market, the context of their implementation is very different. The pace of change is constrained by resources and a determination to maintain a set of principles that have come to define the Cuban system of 'socialist economic planning', which entails the protection of the health, education and welfare systems, the retention of state ownership of the main industries, and the use of economic planning to direct development strategy.

It is important for anyone working with the Cuban authorities to read the *lineamientos* document and understand this context. The selected extracts below highlight key policy principles that relate to the strategy for urban transport in Havana, and the Cuban approach to international collaboration. In transport policy, there is a stress on policies that can improve mobility while achieving a reduction in GHG emissions, import substitution, energy security, energy conservation, the development of renewables, environmental protection, equity and public health. In pursuing these ends, international collaboration is encouraged particularly to facilitate learning from international experience, technology transfer and access to external finance. It is in this context that the Cuban Ministry of Transport has agreed to work with University College London.

Extracts from Cuba's official economic and social policy guidelines.

I. MODELO DE GESTIÓN ECONÓMICA

Lineamientos Generales

A partir de las actuales condiciones y del escenario internacional previsible, la política económica se dirige a enfrentar los problemas de la economía transitando por dos tipos de soluciones, que requieren congruencia entre sí:

- Soluciones a corto plazo, encaminadas a eliminar el déficit de la balanza de pagos, que potencien la generación de ingresos externos y la **sustitución de importaciones** y, a su vez, den respuesta a los problemas de mayor impacto inmediato en la eficiencia económica, la motivación por el trabajo y la distribución del ingreso, y creen las necesarias condiciones infraestructurales y productivas que permitan el tránsito a una etapa superior del desarrollo.

- Soluciones del **desarrollo sostenible**, a más largo plazo, que conduzcan a una **autosuficiencia alimentaria y energética altas**, un uso eficiente del potencial humano, una elevada competitividad en las producciones tradicionales, así como el desarrollo de nuevas producciones de bienes y servicios de alto valor agregado.

La actualización del modelo económico y la implementación de las medidas asociadas se realizarán ratificando el principio de que en la sociedad socialista cubana **nadie quedará desprotegido**.

Roughly translated:

I. MODEL OF ECONOMIC MANAGEMENT

General guidelines

Based on current conditions and anticipated international conditions, economic policy aims to address the problems of the economy through two types of solutions, requiring consistency with each other:

- *Short-term solutions, to eliminate the balance of payments deficit, by promoting the generation of foreign earnings and **import substitution** and, in turn, responding to the problems of greatest immediate impact on economic efficiency, incentives and income distribution, and creating the necessary infrastructure and productive conditions that allow progress towards a higher stage of development.*

- *Solutions for **sustainable development** in the longer term, which lead to greater food and **energy self-sufficiency**, efficient use of human potential, improved competitiveness in traditional production, and the development of new productions of goods and high value-added services.*

*The updating of the economic model and the implementation of related measures will be made confirming the principle that in Cuban socialist society, **nobody will be left unprotected**.*

Lineamientos, selected extracts, contd.

III POLÍTICA ECONÓMICA EXTERNA

COMERCIO EXTERIOR

87. Propiciar un **acelerado proceso efectivo de sustitución de importaciones**, con mecanismos que estimulen y garanticen la máxima utilización posible de todas las capacidades de que dispone el país en el sector agrícola, industrial, en servicios y en recursos humanos.

88. Trabajar sistemáticamente, por parte de las empresas importadoras de maquinarias y equipos, en la identificación de capacidades de fabricación nacional …, y sobre esa base **promover acuerdos de provecho mutuo entre la industria mecánica cubana y los fabricantes extranjeros… para, mediante la transferencia de tecnología, asistencia técnica y otras facilidades, propender a la sustitución gradual de importaciones, en especial de partes y piezas de repuesto.**

INVERSIÓN EXTRANJERA

97. Garantizar que en la **atracción de la inversión extranjera se satisfagan diversos objetivos, tales como: acceso a tecnologías de avanzada, métodos gerenciales…, sustitución de importaciones**, … así como el desarrollo de nuevas fuentes de empleo.

COLABORACIÓN

112. Promover la **colaboración por la vía multilateral**, en especial con instituciones del sistema de las Naciones Unidas, que canalicen a nuestro país recursos financieros y tecnología, de acuerdo con las prioridades de desarrollo nacionales.

113. Priorizar, en las relaciones con las organizaciones de colaboración internacional, el **apoyo material y tecnológico en el desarrollo de objetivos para el aprovechamiento de las diversas fuentes de energía renovable.**

Roughly translated:

III EXTERNAL ECONOMIC POLICY

FOREIGN TRADE

*87. Promote an **accelerated and effective process of import substitution**, with mechanisms that encourage and ensure maximum possible use of national capacity in agriculture, industry, services and human resources.*

*88. Importers of machinery and equipment to work systematically to identify national manufacturing capacities ... and on that basis to promote **mutually beneficial agreements between Cuban mechanical industry and foreign manufacturers… in order to promote the gradual substitution of imports, especially of spare parts by means of technology transfer, technical assistance and other facilities.***

FOREIGN INVESTMENT

*97. When attracting **foreign investment, ensure that objectives are met, such as: access to advanced technologies, management methods ..., import substitution**, ... and the development of new sources of employment.*

COLLABORATION

*112. Promote **collaboration via multilateral institutions**, especially the United Nations system, to our country to channel financial resources and technology, in accordance with national development priorities.*

*113. Prioritize, in relations with international cooperation organizations, **material and technological support in the development of objectives for the use of various renewable energy sources.***

Lineamientos, selected extracts, contd.

V. POLÍTICA DE CIENCIA, TECNOLOGÍA, INNOVACIÓN Y MEDIO AMBIENTE, pp. 21-22.

129. Diseñar una política integral de ciencia, tecnología, innovación y medio ambiente que tome en consideración la aceleración de sus procesos de cambio y creciente interrelación a fin de responder a las necesidades del desarrollo de la economía y la sociedad a corto, mediano y largo plazo; orientada a elevar la eficiencia económica, ampliar las exportaciones de alto valor agregado, **sustituir importaciones**, satisfacer las necesidades de la población e incentivar su participación en la construcción socialista, protegiendo el entorno, el patrimonio y la cultura nacionales.

131. Sostener y desarrollar los resultados alcanzados en el campo de la biotecnología, la producción médico-farmacéutica, la industria del software y el proceso de informatización de la sociedad, las ciencias básicas, las ciencias naturales, **los estudios y el empleo de las fuentes de energía renovables**, las tecnologías sociales y educativas, **la transferencia tecnológica industrial**, la producción de equipos de tecnología avanzada, la nanotecnología y los servicios científicos y tecnológicos de alto valor agregado.

133. Sostener y desarrollar investigaciones integrales para **proteger, conservar y rehabilitar el medio ambiente y adecuar la política ambiental a las nuevas proyecciones del entorno económico y social. Priorizar estudios encaminados al enfrentamiento al cambio climático y, en general, a la sostenibilidad del desarrollo del país. Enfatizar la conservación y uso racional de recursos naturales** como los suelos, el agua, las playas, la atmósfera, los bosques y la biodiversidad, así como el fomento de la educación ambiental.

135. Definir una política tecnológica que contribuya a reorientar el desarrollo industrial, y que comprenda el control de las tecnologías existentes en el país; a fin de promover su modernización sistemática atendiendo a la **eficiencia energética, eficacia productiva e impacto ambiental, y que contribuya a elevar la soberanía tecnológica en ramas estratégicas**. Considerar al importar tecnologías, la capacidad del país para asimilarlas y satisfacer los servicios que demanden, incluida la fabricación de piezas de repuesto, el aseguramiento metrológico y la normalización.

Roughly translated:

V. SCIENCE, TECHNOLOGY, INNOVATION AND ENVIRONMENT POLICY pp. 21-22.

*129. Design an integrated policy for science, technology, innovation and environment that takes into account the accelerating the processes of change and growing interdependence to meet the development needs of the economy and society in the short, medium and long term; aimed at raising economic efficiency, expanding high value added exports, **substituting imports**, meeting the needs of the people and encouraging their participation in socialist construction, **protecting the environment**, heritage and national culture.*

*131. Sustain and develop the results achieved in the field of biotechnology, medical-pharmaceutical production, the software industry and the process of computerization of society, basic sciences, natural sciences, **research and use of renewable energy sources**, social and educational technologies, **technology transfer**, high value added industrial production, advanced technology equipment, nanotechnology and scientific and technological services.*

*133. Sustain and develop comprehensive research to **protect, conserve and rehabilitate the environment and adapt environmental policy to new projections of economic and social environment. Prioritize studies aimed at tackling climate change and, in general, the country's sustainable development. Emphasize the conservation and rational use of natural resources** such as soil, water, beaches, atmosphere, forests and biodiversity, and the promotion of environmental education.*

*135. Define a technological policy that contributes to reorient industrial development, and builds on existing technologies; to promote its systematic modernization regarding **energy efficiency, productive efficiency and environmental impact, and help to raise the technological sovereignty in strategic branches**. Consider when importing technologies, the country's ability to assimilate and meet the services required, including the production of spare parts, hurricane preparedness and standardization.*

Lineamientos, selected extracts, contd.

VI SOCIAL POLICY

SALUD

159. Fortalecer las acciones de **salud en la promoción y prevención** para el mejoramiento del estilo de vida, que contribuyan a incrementar los niveles de salud de la población con la participación intersectorial y comunitaria.

DEPORTE

161. Priorizar el fomento y promoción de la cultura física y el deporte en todas sus manifestaciones como medios para elevar la calidad de vida, la educación y la formación integral de los ciudadanos; para ello concentrar la atención principal en la **práctica masiva del deporte y la actividad física**...

VIII POLÍTICA INDUSTRIAL Y ENERGÉTICA
POLÍTICA ENERGÉTICA

246. Fomentar la cogeneración.. en todas las actividades con posibilidades. En particular, **se elevará la generación de electricidad por la agroindustria azucarera** a partir del aprovechamiento del bagazo y residuos agrícolas cañeros y forestales…

247. Potenciar el **aprovechamiento de las distintas fuentes renovables** de energía, fundamentalmente la utilización del biogás, la energía eólica, hidráulica, biomasa, solar y otras; priorizando aquellas que tengan el mayor efecto económico.

251. Prestar especial atención a la eficiencia energética en el sector del transporte.

254. Proyectar el sistema educativo y los medios de difusión masiva en función de profundizar en la calidad e integralidad de la política enfocada al ahorro y al uso eficiente y sostenible de la energía.

Roughly translated:

HEALTH

*159. Strengthen **health promotion and prevention** activities to improve lifestyle, contributing to improved population health, with intersectoral and community participation.*

SPORT

*161. Prioritize the development and promotion of physical culture and sport in all its forms as a means to improve the quality of life, education and integrated training of citizens, by focusing attention on the **mass practice of sport and physical activity**...*

VIII INDUSTRIAL AND ENERGY POLICY

ENERGY POLICY

*246. Promote cogeneration... where possible. In particular, **electricity generation by the sugar industry will be increased** through the use of sugarcane bagasse and agricultural and forestry residues ...*

*247. Promote the use of **renewable energy sources**, primarily the use of biogas, wind, hydro, biomass, solar and other, prioritizing those with the greatest economic impact.*

251. Pay special attention to energy efficiency in the transport sector.

254. Projecting the educational system and the mass media to deepen the quality and comprehensiveness of the policy aimed at saving and efficient and sustainable use of energy.

Lineamientos, selected extracts, contd.

X POLÍTICA PARA EL TRANSPORTE

269. Continuar la recuperación, modernización y reordenamiento del transporte terrestre y marítimo, elevando la eficiencia y calidad de los servicios de transportación de cargas y pasajeros, a partir del uso más racional de los recursos.

271. Las inversiones se pagarán con el rendimiento de éstas; las relacionadas con el desarrollo del ferrocarril y de la infraestructura portuaria y su equipamiento se financiarán, fundamentalmente, con los ahorros de portadores energéticos y reducción de los gastos.

272. Impulsar el programa de recuperación y desarrollo del ferrocarril .. según el plan y las posibilidades reales.

278. Fomentar el diseño de nuevas formas organizativas estatales y no estatales en las transportaciones de pasajeros y carga, así como en otros servicios vinculados con la actividad, en correspondencia con las características de cada territorio.

283. Brindar atención priorizada a la transportación de pasajeros, .. logrando la estabilidad y calidad de los servicios, asegurando su sostenibilidad, así como el incremento gradual de la satisfacción de la demanda, según las posibilidades del país.

284. Implementar nuevas formas de cobro en el transporte urbano de pasajeros en function de minimizar la evasión del pago y el desvío de la recaudación.

285. Garantizar el cumplimiento, con la calidad requerida, del programa de reparación y mantenimiento de la infraestructura vial automotor, … acorde con las posibilidades reales del país.

286. Establecer la compraventa de medios automotores entre particulares.

Roughly translated:

X TRANSPORT POLICY

269. Continue recovery, modernization and reorganization of land and sea transport, increasing the efficiency and quality of transport services of freight and passengers, from the more rational use of resources.

271. The investments will be repaid from earnings or, in the case of rail and port infrastructure and equipment, by savings in energy consumption and other costs.

272. Promote the recovery programme and development of railways .. according to plan and real possibilities.

278. Encourage the design of new state and non-state organizational forms in the transportation of passengers and cargo,… in line with the characteristics of each territory.

283. Give priority attention to the transportation of passengers, .. achieving stability and quality of services, ensuring sustainability and gradually increasing demand satisfaction, in line with the country's possibilities.

284. Implement new ways of charging in urban passenger transport to minimize evasion and diversion of revenues.

285. Ensure compliance with the required quality of the programme for repair and maintenance of road infrastructure, ... according to the real possibilities of the country.

286. Establish a private market for buying and selling motor vehicles.