

Status of Fuel Quality and Vehicle Emission Standards in Asia-Pacific



COUNTRY	Lead Status	Sulphur (Max, ppm)		50ppm Target Date	Fuel Quality Comment	Vehicle Import Restrictions*	Vehicle Fleet	Vehicle Standards & Inspection and Maintenance (I/M)	Vehicles Comment
		Diesel	Petrol						
Afghanistan	Leaded	10,000		No date	No standards or on-going plans. <i>Source: MW</i>		14 vehicles per 1000 people (2003), up from 11 in 1990	Vehicle inspection with car registration, and annual inspections after that	Report on second hand car market: www.areu.org.af/publications/Market%20in%20Secondhand%20Cars.pdf ; most cars imported via Pakistan, Japan or Dubai; UNEP did air quality testing in Kabul in 2002
Bangladesh	Unleaded	2,500		No date	Lead phased out in 2001. 500 ppm target date set for 2013 (http://newagebd.com/newspaper1/archive_details.php?date=2011-06-27&nid=24148)	Imported used vehicles must be less than three years old.	1 vehicle per 1000 people (1990-2003)	Roadworthiness certificate required, through Bangladesh Road Transport Authority; World Bank and DOE established emissions testing. The country adopted Bangladesh 1 and 2 emission standards in line with the Euro emission norms (Euro 1 and 2) in Mar 2006. <i>Source: CAI-Asia, cse.polyu.edu.hk</i>	Second hand cars imported from Japan; Environment Canada did capacity-building in Bangladesh to reduce emissions from auto rickshaws;
Bhutan	Unleaded	500		Unknown		Importation of used vehicles is banned.	Was 13,600 in 1997, then 26,700 in 2004; growth rate of 15% per annum. This equates to 0.01 vehicles per 1000 people	Roadworthiness certificate required; emissions testing started in early 2003; both under Road Safety and Transport Authority. Euro 2 Vehicle emission standards came into force in March 2008. Import licenses only given for vehicles that meet the Euro 2 standards or above. <i>Source: kuenselonline.com</i>	
Brunei Darussalam	Unleaded	1,000		Unknown	Lead phased out in 2003. By law, max allowable sulphur is 5,000ppm. <i>Source: ASCOPE</i>	Imported used vehicles must be less than five years old; all imported cars must have a catalytic converter	607 vehicles per 1000 people (1999)	Regular roadworthiness inspection required for vehicles over seven years old	Land Transport website: http://www.land-transport.gov.bn/ ; petrol follows Euro2 standards, diesel follows Euro1 - plan to go to Euro4 (as of mid-2005)
Cambodia	Unleaded	1,500		No date	Lead phased out in 2007.		6 vehicles per 1000 people (1999-2001) 30 vehicles per 1000 (2003)	Formal emission standards for petrol and diesel vehicles exist. Emission standards for 2 and 4 stroke motorcycles and vehicles are provided for under Cambodian law. <i>Source: CAI-Asia</i>	There was an ADB loan in 2002 for a road safety programme, including vehicle testing, but no more information found
China (nationwide)	Unleaded	2000	150	2016	Lead phased out in 2001. Average commonly in-use diesel is between 600-1000ppm. The State Council on 18/05/2009 released and issued detail plan to boost the petrochemical industrial sector. Plan stated would implement China III gasoline (150ppm) in 2009 and China III diesel (350 ppm) in 2010 (postponed to 2013); see details in Chinese at: http://www.gov.cn/zw/gk/2009-05/18/content_1317790.htm ; updates of plan: http://www.f-paper.com/?i876976-Implementation-of-the-national-IV-standard-fuel-and-then-five-second-delay-or-affect-the-environmental-indicators# <i>Source: dieselnet.com, CAI Asia, http://www.theicct.org/pubs/chinarpt/4_fuel_standards.pdf</i>	Importation of used vehicles is banned.	12 vehicles per 1000 people (1999-2001), up from 5 in 1990, 15 vehicles per 1000 people (2003); 77 vehicles per 1000 people in Hong Kong; all cars require catalytic converter	Rigorous inspection before registration, including emissions; Hong Kong: annual roadworthiness inspection, including emissions test; Euro2 standards in effect; Euro4 to be implemented by 2010 The government announced a cash-for-clunkers program for 2012 to help in emissions reduction. The government will offer subsidies ranging from 11,000 yuan (US\$1,750) to 18,000 yuan (US\$2,800) for upgrades or trade-ins of used passenger vehicles in rural areas, city buses and heavy trucks. http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20120615000014&cid=1201 http://www.reuters.com/article/2012/05/28/china-autos-subsidies-idUSL4E8GSOT220120528	In Hong Kong, diesel vehicles are about 30% of fleet
China (Beijing)	Unleaded	10	10	Done.	Adopted 50 ppm in 2008. Plans to adopt Euro 5-equivalent fuel by 2012 (Fuel sulphur level 10ppm). <i>Source: dieselnet.com</i> Beijing Environmental Protection Bureau			Plans to adopt Euro 5 emission standards by 2012. <i>Source: dieselnet.com</i>	

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					announced introduction of 10 ppm fuel sulphur standards (both diesel and petrol) in May 2012, with testing to be done in August 2012 http://www.china.org.cn/environment/2012-05/19/content_25422404.htm				
China (Hong Kong)	Unleaded	10	50	Done	Lead phased out in 1999. <i>Source Hong Kong EPD, 1</i> Euro 4-equivalent petrol was introduced in 2005 (sulphur level 50ppm) and Euro 5-equivalent diesel was introduced in 2007 (sulphur level 10ppm). <i>Source Hong Kong EPD, 1</i>			Adopted Euro 1, 2, 3 & 4 emission standards in 1995, 1998, 2001 & 2006, respectively. A law banning motor vehicle idling for more than 3 minutes total within any continuous 60-minute period came into effect in December 2011. The ban applies to all stationary vehicles with internal combustion engines, ICE, including hybrids operating in ICE mode. There are some exemptions e.g. a motor vehicle that is stationary because of traffic conditions. <i>Source Hong Kong EPD, 1 & 2</i>	The 2012 Air Pollution Control (Vehicle Design Standards) amendment regulation released in March 2012 will require newly registered vehicles to comply with Euro 5 standards from June 1, 2012. <i>Source: http://www.china.org.cn/environment/2012-03/23/content_24972527.htm</i>
China, Macao Sar	Unleaded	50		Done	Lead phased out in 2001. The Government passed an Administrative Order – No. 4/2006– to further limit the sulphur content of commercial light diesel oil for car use from no more than 0.05% (500ppm) to under 0.005%(50ppm) of its weight. <i>Source: Macao government website</i>				
China, Taiwan	Unleaded	50	50	Done	Lead phased out in 2000. The allowable sulphur content in diesel fuel was gradually reduced from 5,000ppm in 1989 to 50 ppm in 2005. A 50ppm cap was put on gasoline fuel, effective 1 January 2007. Diesel fuel to meet Euro 5 (10ppm) from 1 July 2011 and petrol to meet Euro 5 from 1 January 2012. <i>Source: Taiwan environmental protection agency (EPA) website</i>			Gasoline vehicles: Phase 4 emission standards went into effect January 2008. Diesel engine vehicles: Phase 4 standards went into effect October 2006. Motorcycle standards: Phase 5 standards went into effect July 2007. Inspection and maintenance programmes and clean vehicle technologies have been adopted. Plan to implement Euro 5 diesel emission standards January 2012 <i>Source: Taiwan environmental protection agency (EPA) website</i>	
Cook Islands	Unleaded			Unknown			Between 2000-2005, new vehicle registration was 1256, 1698, 1254, 1641, and 1588, respectively (Cook Islands Office of Statistics)		Pacific Forum called for vehicle and emissions testing by 2004/2005, but no more information found
Democratic People's Republic of Korea	Leaded			Unknown			Private car ownership was forbidden until recently, so auto market just opening; total fleet estimated at about 270,000 - 20,000-25,000 passenger cars		Report on DPR Korea's air quality: www.rrcap.unep.org/reports/soe/dprk_air.pdf ; DPR Korea has four automotive plants producing vehicles
Fiji	Unleaded	500			Lead phased out in 2006 as per information	Imported cars require	39 vehicles per 1000		

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					from US EPA Oct 2008 data. In March 2007, the Cabinet approved the gazette of the Trade Standards (Fuel Standards) Order 2007, which introduced mandatory standards for automotive diesel fuel and petrol fuel. <i>Source: Fiji government website</i>	"warrant of fitness"	people (1996 - WRI)		
India (nationwide)	Unleaded	350		No date	Lead phased out in 2000. The Indian government in 2008 issued a notification to introduce Euro 3-equivalent diesel (sulphur level 350ppm) nationwide by April 1, 2010 <i>Source: The gazette of India, Part II-section 3 sub-section (i) of 15th July 2008</i>	Imported used vehicles must be less than three years old.	200 vehicles per 1000 people (Pew Center) in urban areas. Nationwide: 4 vehicles per 1000 people in 1990 and 9 vehicles per thousand people in 2003	Pollution Under Control (PUC) inspection programme has been operating since 1980s; all vehicles tested twice a year, in Delhi tested four times a year. Euro 2 introduced in 2005. The adopted emission standards (Bharat standards) correspond to Euro emission standards. The Indian government in 2008 issued a notification to introduce Euro 3 emission standards by April 1, 2010 nationally. <i>Source: The gazette of India, Part II-section 3 sub-section (i) of 15th July 2008</i>	US EPA report deems India's I/M programme a failure
India (metros)	Unleaded	50		Done	In 2008, the Indian government issued a notification to introduce Euro 4-equivalent fuel sulphur level (50ppm) in eleven cities by April 1, 2010. <i>Source: The gazette of India, Part II-section 3 sub-section (i) of 15th July 2008</i>			In 2008, the Indian government issued a notification to introduce Euro 4 emission standards in eleven cities by April 1, 2010. <i>Source: The gazette of India, Part II-section 3 sub-section (i) of 15th July 2008</i>	
Indonesia	Unleaded	3,500 (avg.) / 500ppm	500	No date	Lead phased out in 2006. Sulphur levels are above 4000ppm due to high sulphur imports. Small amounts of 500ppm sulphur fuel available in Jakarta only in packages. Plan to adopt Euro 3-equivalent fuels (350ppm) in 2016. <i>Source: Ministry of Energy & Mineral Resources, ACFA</i>	Conflicting information: US government document says used vehicles now banned, but newspaper article says used vehicles to be banned from 2007 (http://english.people.com.cn/200601/05/eng20060105_233068.html); for used commercial vehicles, there is currently a 10-year age maximum on imports	16 vehicles per 1000 people in 1990	Emissions testing facilities available in a number of cities (Surabaya, Yogyakarta, etc.); Jakarta has roadworthiness and emissions tests for commercial vehicles, but system is corrupt and ineffective. Euro 2 vehicle emissions came into force in January 2005 for new models and 2007 for existing models (<i>Source: Integer-Research, 1</i>) but sulphur levels are above 4000ppm and standard not met.	Plan to adopt Euro 4 vehicle emissions in January 2012 for new models and 2014 for existing models (<i>Source: Integer-Research, 1</i>)
Japan	Unleaded				Lead phased out in 1999.				
Kiribati	Unleaded			Unknown	Lead phased out in 2006 as per information from delegates to GC 24 and US EPA Oct 2008	No policy on imports	In 1995, only about 2000 vehicles in Kiribati; only about 500 km road suitable for vehicles	Vehicle inspection undertaken by Police Patrol unit on any cars to be registered	No policy on imports
Lao People's Democratic Republic	Unleaded	2,500		No date	Lead information from PCFV workshop in Lao PDR in Aug 2008. Imports fuel from Thailand, Vietnam & Malaysia. Currently developing an environmental sustainable transport strategy where Fuel Quality Standards are to be addressed. <i>Source: PCFV workshop 4-5th August, 2008.</i>		9 Vehicles per 1000 people in 1990; 10 vehicles per 1000 people (2003 - WHO)	Proportion of diesel to petrol vehicles - 70:30.	Air quality testing in 2003 indicated that PM10 levels are high, but sulphur and NO2 levels are low. Understand there are no standards but currently are developing an Environmental sustainable Transport strategy.
Malaysia	Unleaded	500	500	2016	Lead phased out in 1999. In 2005 adopted Plans to adopt Euro 4-equivalent fuels (50 ppm) by 2010 and Euro 5-equivalent fuels (10ppm) by 2015; this is	Vehicle imports make up less than 5% of market	139 vehicles per 1000 people (1996 - WRI); 254 Vehicles per 1000 people (2003)	Proportion of diesel to petrol vehicles - 10:90; half of vehicles are motorcycles; in-use vehicles subject to periodic and roadside inspections, including emissions - outsourced to private	There are 23 vehicle assembly plants in Malaysia, which make up 90% of market

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		Diesel	Petrol						
					now changed to 2016 for Euro 4-equivalent fuel. <i>Source: CAI-Asia, ACFA</i>			company; older commercial vehicles inspected every 6 months. Euro 2 vehicle emission standard since 2009	
Maldives	Unleaded			Unknown	Lead phased out in 2000.		4 vehicles per 1000 people (1996 - WRI), or a total of less than 3000 vehicles		
Marshall Islands	Unleaded			Unknown	Lead phased out in 2006 as per information from US EPA Oct 2008 data		3 vehicles per 1000 people (2003 - UNESCAP)		
Micronesia, Fed. States of	Unleaded			Unknown	No oil refinery/imports. Lead phased out in 2006 as per information from US EPA Oct 2008 data		In 1999, only 240 km of roads		
Mongolia	Unleaded	5,000		No date	Lead information from PCFV workshop in Lao PDR in Aug 2008 and confirmed by the Ministry of Nature and Environment. In 2008 committed to consider moving to 500 ppm in own timeline. <i>Source: PCFV workshop 30-31st July 2008</i>		18 vehicles per 1000 people (2000 - WRI); 43 vehicles per 1000 people in 2003	Militia do some of the vehicle inspections	Most cars are from Russia; there are 4 air quality monitoring stations in Ulaanbaatar (UNEP)
Myanmar	Leaded	2,000		Unknown		Imported used vehicles must be less than 10 years old; vehicles must pass six tests regarding parts, vehicle body, tested engine, overhaul of brakes, new battery and tires, and all done by authorised agency	less than 1 vehicle per 1000 people (1996 - WRI)	Smoke checks are done when vehicles are up for registration renewal (WHO)	http://foia.state.gov/MMS/posrpt/pr_view_all.asp?CntryID=25
Nauru	Unleaded			Unknown	Lead phased out in 2006 as per information from US EPA Oct 2008 data		Only 40 km of roads, and less than 1000 cars (1999)		
Nepal	Unleaded	500		No Date	Lead phased out in 2003. Imports fuel from India at 500ppm (which will be 350ppm in 2010 – same as India) though as per National specifications still retains 10,000 ppm as sulphur limit. Vehicles at Euro 1 standards.	Imported used vehicles must comply with 1999 Nepal Vehicle Mass Emission Standards. Vehicle over five years old are prohibited <i>Source: http://nepal.shipping-international.com/customs/</i>	10 vehicles per 1000 people (1999)	Emissions testing programme active in Kathmandu Valley since 1993; regular vehicle emissions testing programme established in 1996 (certificate required). Euro 1 vehicle standards introduced in 1999.	Most cars from India or Japan; Nepal has an electric vehicle programme (see www.hlf.org.np)
Niue	Unleaded				Imports from New Zealand. <i>Source: Bulk Fuel Manager of Niue government.</i>		Less than 1200 vehicles on island (2001 census)		
Pakistan	Unleaded	5,000 - 7,000		No date	Lead phased out in 2003. Refineries being upgraded to produce 500ppm by June 2012. <i>Source: CAI-Asia, cse.polyu.edu.hk</i>	Imported used vehicles must be less than two years old	5 vehicles per 1000 people (1999 - WRI); 8 Vehicles per 1000 people in 2003	Indication of emissions testing programme through UNDP/GEF; 2005 news report says vehicle testing programme to be privatised	In 2003, Pakistan had world's 3rd highest compressed natural gas (CNG) vehicle population (400,000 vehicles running on CNG)
Palau	Unleaded			Unknown	Lead phased out in 2006 as per information from US EPA Oct 2008 data		5 vehicles per 1000 people (2003 - UNESCAP)	Vehicle inspection undertaken by Ministry of Justice, Bureau of Public Safety	Most cars from Japan (via Guam)
Papua New Guinea	Unleaded			Unknown	Lead phased out in 2004 as per information from US EPA Oct 2008 data		24 vehicles per 1000 people (2000 - UNESCAP)		Most cars from Japan or Australia
Philippines	Unleaded	500	500	2010	Lead phased out in 2003. Implementing 500 ppm. Discussions on-going in 2009 on adopting Euro 4-equivalent fuel standards (50 ppm) by 2012. <i>Source: CAI-Asia, ACFA</i>	Importation of used vehicles dependent upon compliance with emissions requirements as set out under Clean Air Act	10 vehicles per 1000 people in 1990; 32 vehicles per 1000 people (2000 - WRI); 34 Vehicles per 1000	There is a motor vehicle inspection system for vehicles prior to registration; Department of Trade and Industry oversees emissions testing programme, necessary to have certificate for renewal of annual registration from Land	Motorcycles make up 70% of vehicle sales

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		Diesel	Petrol						
							people in 2003	Transportation Office. Current – Euro 2. Euro 4 standard for 2016. <i>Source: CAI-Asia</i>	
Republic of Korea	Unleaded	50	10	Done	Lead phased out in 1999. Plans to adopt Euro 4-equivalent fuel standards (10-15 ppm) by 2010. <i>Source: CAI-Asia</i>	Anti-import bias for Korean cars means minimal importation	30 vehicles per 1000 people in 1990; 171 vehicles per 1000 people (2000 - WRI); 304 vehicles per 1000 people in 2003	Indication of a vehicle inspection system	Starting in 2006, petrol vehicles have ULEV standards, and diesel vehicles must reach Euro 4 standards; introduction of natural gas vehicles to replace diesel buses
Samoa (Western)	Unleaded			Unknown	Lead phased out in 2001 as per information from delegates to GC 24 and confirmed by US EPA data		30 vehicles per 1000 people (1993); only about 800 km of roads (UN)	Indication of a vehicle inspection system, including emissions testing	
Singapore	Unleaded	50	500	Done	Lead phased out in 1999. Adopted 50 ppm in 2007. <i>Source: CAI-Asia, ACFA</i>	Imported used vehicles must be less than three years old.	130 vehicles per 1000 people in 1990; 155 vehicles per 1000 people (1999):	For cars less than three years, no inspection necessary; cars 3-10 years old, bi-annually; cars 10+ years, annually; Inspections include emissions, to follow EU Directive 96/69/EC (Euro 2); plans to upgrade to Euro 4 emissions by 2014 for new cars	Vehicle registrations subject to auction process in order to limit number of vehicles on road (see www.lta.gov.sg) http://www.eco-business.com/news/tougher-car-emission-rules-singapore-pipeline/
Solomon Islands	Unleaded			Unknown	Lead phased out in 2006 as per information from US EPA Oct 2008 data				Some vehicles imported from Japan
Sri Lanka	Unleaded	500		No Date	Lead phased out in 2003. Standards in place, no decisions to lower sulphur levels. <i>Source: CAI-Asia</i>	Imported used passenger vehicles must be less than 3 years old, commercial vehicles less than 5 years old	21 vehicles per 1000 people in 1990; 34 vehicles per 1000 people in 2003	Vehicle emissions testing programme started in August 2005; inspection programme in place - at registration, yearly for commercial vehicles, and roadside checks	
Thailand	Unleaded	350	500	2012	Lead phased out in 1999. In 2006 planned to adopt Euro 4-equivalent fuels (50 ppm) by 2010 now modified to 2012. <i>Source: CAI-Asia, ACFA</i>	Importation of used vehicles is banned; new imported vehicles must have a catalytic converter	46 vehicles per 1000 people in 1990; 110 vehicles per 1000 people (2000)	DIESEL is emissions testing programme for diesel vehicles; Euro 3 vehicle standards in place; Euro 4 vehicle standards in 2012	Pollution Control Dept. has 71 air quality monitoring stations across Thailand
Timor-Leste	Unleaded			Unknown	Lead phased out in 2008 as per information from US EPA Oct 2008 data	Importation of used vehicles manufactured before 1993 is prohibited	25 vehicles per 1000 people (2002 - UN)	No testing or safety inspections	www.mopf.gov.tl/.../SIP%202005/SIP%20REPORTS/English%20version/TRANSPORT_Eng.pdf
Tokelau	Unleaded			Unknown	No information available		Most transport by sea, very few vehicles		
Tonga	Unleaded			Unknown	Lead phased out in 2006 as per information from US EPA Oct 2008 data		5 vehicles per 1000 people (2000 - UNESCAP)	Annual and quarterly fitness tests required for all vehicles	
Tuvalu	Unleaded			Unknown	Lead phased out in 2006 as per information from US EPA Oct 2008 data		Only 8km of roads & less than 400 vehicles (total)		
Vanuatu	Unleaded			Unknown	Lead phased out in 2006 as per information from US EPA Oct 2008 data	No policy on imports	36 vehicles per 1000 people (1998)	There is a Vehicle Efficiencies Act, but it is not well enforced	
Viet Nam	Unleaded	500	500	2016	Lead phased out in 2001. Euro 4-equivalent fuels (50 ppm) by January 2016; Euro 5-equivalent fuels (10-15 ppm) by 2021. <i>Source: CAI-Asia, ACFA, http://cleanairinitiative.org/portal/node/7530</i>	Importation of used passenger vehicles is banned.	530,000 vehicles registered (CAI-Asia); 45 two-wheelers per 1000 people in 1990	There are 71 roadworthy registration centres in Vietnam, programme to be extended. Vehicle emission standards for new vehicles: Euro 2 from 2005; Euro 4 by January 2017; Euro 5 by 2022; Euro 3 for motorcycles by 2017. No standards for in-use vehicles. Scrapage policy for 25yr old cars. <i>Source: CAI-Asia</i>	http://vietnamnews.vnagency.com.vn/showarticle.php?num=01COM060106 Per Prime Minister's Decision No 51/2011/QD-TTg, all cars below 7 seats will be subject to Energy Labelling, voluntary from 31 Dec. 2014 and obligatory from 1 Jan. 2015.
Total: 39 countries									

*Referring to vehicle age, emissions standards, and technology requirements.

References:

ADB: Asian Development Bank (2007): A Roadmap for Cleaner Fuels and Vehicles in Asia; second consultative Draft, 19 December, 2007

ASCOPE: Asian Council on Petroleum

CAI-Asia: http://www.cleanairnet.org/caiasia/1412/articles-40711_SulfurDiesel.pdf; accessed on July 28, 2008

China Taiwan: <http://www.epa.gov.tw/en/epashow.aspx?list=99&path=128&guid=8d668c67-e27f-4a96-ac41-323149899ff2&lang=en-us>; accessed on accessed on July 31, 2008

Dieselnet.com: <http://www.dieselnet.com/standards/cn/>; accessed on July 31, 2008

Fiji: http://www.fiji.gov.fj/publish/page_8555.shtml; accessed on July 31, 2008

Hong Kong Environment Protection Department (EPD), 1: http://www.epd.gov.hk/epd/english/laws_regulations/envir_legislation/leg_air.html; Accessed on March 29, 2012

Hong Kong EPD, 2: http://www.epd.gov.hk/epd/english/environmentinhk/air/prob_solutions/idling_prohibition.html; Accessed on March 29, 2012

Indonesia: <http://www.thejakartapost.com/news/2008/05/12/fuel-quality-comes-price-hike-govt-told.html>; accessed on August 1, 2008

India: Email memo sent on 12/8/08 from Anumita Roychowdhury; Associate Director, Research and Advocacy Centre for Science and Environment, New Delhi

Integer-Research; <http://www.integer-research.com/legislation/asia/#10>; Accessed on March 29, 2012

Japan (JARI): <http://www.jari.jp/pdf/rt0806/07minato.pdf>; accessed on August 1, 2008

kuenselonline.com: <http://www.kuenselonline.com/modules.php?name=News&file=article&sid=8060>; accessed on July 31, 2008

Macao: <http://www.ambiente.gov.mo/tchinese/05/2006/en/index.html>; accessed on July 31, 2008

MW: Mike Walsh Global Clean Fuels Overview, Memo sent via email on June 26, 2005

WRI: World Resources Institute

http://www.cse.polyu.edu.hk/~activi/BAQ2002/BAQ2002_files/Proceedings/Subworkshop4/sw4b-4Kiuru_revpaper.pdf