Chapter 11
Making the Local Work for the Global Best: A Comparative Study of Vehicle Efficiency Standards Implementation in China and Mexico

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1 Introduction

The invention and dissemination of road vehicles globally constituted a major technological shift in the transportation, economic productivity and competitiveness paradigms. While the social and economic benefits flowing from this innovation are overwhelming, the use of fuels to get this technology "on the move" has had a deep ecological impact, resulting in adverse local as well as climate change effects. The transport sector is a key contributor to worldwide greenhouse gas emissions (GHGs) and other volatile compounds, and over 63.7% of the world's total oil consumption is related to fuel usage (IEA, 2014, p. 33), making the transport sector responsible for approximately 23% of the total energy-related CO_2 emissions (6.7 $GtCO_2$ in 2010) (Sims et al., 2014, p. 602). Road transportation represents 73% of such contributions, making it one of the top priority areas for formulating and achieving mitigation efforts globally. Due to accelerated urbanization processes, economic and population growth, transport demand per capita is expected to grow at a faster rate in the developing and emerging countries in the coming decades (Sims et al., 2014, p. 603).

In order to address the ever-increasing concerns about climate risks, fuel efficiency norms and standards have been key policy tools to lead the transformation towards achieving a drastic reduction in the use of fuel and/or the total amount of aggregated emissions derived from light and heavy-duty vehicles. Through technological and market adjustments and institutional arrangements, it is estimated that potential GHG emissions reduction coming from the adoption of vehicle efficiency standards could go up from 1.6 to 3.5 $GtCO_2$ by 2030 (Stec & Baraj, 2009, p. 304)—a figure higher

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than the total amount of $GtCO_2$ emissions in Latin America and Africa together in 2012 (EIA, 2015). The adoption of such standards becomes more relevant in emerging economies where along with population dynamics and economic growth, fuel use, vehicle fleets and automotive industries show major growth trends.

Fuel efficiency norms and standards are not only relevant in terms of climate change mitigation[1] but also because of the co-benefits they provide locally. According to the Global Fuel Economy Initiative (GFEI, 2010), the implementation of such standards could lead to cleaner and healthier cities, foster green mobility, ensure sustainable energy use and improve economic opportunities (GFEI, 2015). Accordingly, the multi-dimensional effects of fuel efficiency relate to the global development agenda framed by the Sustainable Development Goals (SDG),[2] and for specific sectoral supporting agendas such as the Global Energy Efficiency Accelerators Platform promoted by the UN's Sustainable Energy for All Initiative (SE4All), aiming to double the global rate of improvement in energy efficiency in six key sectors (including transport)[3] by 2030.

While the global benefits of fuel efficiency standards are well accepted, their implementation at the national level varies from country to country. Although there is no "one-size-fits-all" global standard on fuel efficiency, there are two general reference standards: those used in the European Union[4] and those used in the USA.[5] Both regulations cover elements and parameters regarding the automotive sector production processes such as technologies to improve litre per kilometre efficiency, CO_2 grams per kilometre measurement, time frames, testing methods, fleet requirements, etc. The selection of those parameters is based on the industry and market production necessities and consumption patterns, satisfying and prioritizing the criteria to be covered on a dominant technological basis.

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[1] The IPCC AR5 recognized in 2014–2015 that one of the key developments in the transport sector in terms of GHG emissions reduction potential has been the fuel economy standards and GHG vehicle performance standards implemented for light and heavy-duty vehicles (Sims et al., 2014, p.605).

[2] The goals that have a direct link to the fuel efficiency standards in the final adopted document at the UN Sustainable Development Summit in September 2015 are: Goal 3: Ensure healthy lives and promote well-being for all at all ages; Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all; Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation; Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable; Goal 12: Ensure sustainable consumption and production patterns and; Goal 13: Take urgent actions to combat climate change and its impacts.

[3] According to the SE4All Agenda, these sectors are: lighting, electrical appliances, building, industry, district heating/cooling and fuel efficiency.

[4] Road transport contributes about one-fifth of the EU's total emissions of CO_2. While these emissions fell by 3.3% in 2012, they are still 20.5% higher than in 1990. Transport is the only major sector in the EU where greenhouse gas emissions are still rising.

[5] Japan's experience in fuel efficiency standards shouldn't be, however, diminished. Japan has historically had the lightest, most fuel-efficient vehicle fleet in the world. Historically, Japan's fuel economy standards have been rigorous in comparison to other countries, but in the current conditions it has set lower targets for the coming years. For the purpose of this research project, we aim to focus on the EU and US regulations.

This chapter analyses the implementation of fuel efficiency standards in two developing economies: China and Mexico. The second section introduces the methodology used for the comparative analysis. The third section analyzes the use of fuel efficiency standards in emerging economies, underlining the idea that the local economic, political and institutional context must act as the determinant in implementing external standards in national contexts. In two subsections, both national cases are discussed while a third subsection comparatively analyses determinants and barriers in both cases regarding the fuel efficiency implementation process. Challenges and lessons learned are presented in the final section as conclusions.

2 Methodology

The methodology applied in this study is a comparative analysis based on the typology[6] proposed by the International Council of Clean Transportation (ICCT) on fuel and vehicle groups (Kodjak, 2015). Countries that have implemented policy actions towards fuel efficiency are divided into three main groups based on the implementation stage/policy action status. Under this typology, Mexico and China share certain attributes; both employ processes involving clean, low-sulphur, available or planned standards, but both also partially adopt external (de facto "global") standards (Euro or US EPA). Derived from this categorization of countries, it is possible to draw a two-country case-oriented comparison based on interpretation of literature and review of policies rather than bearing a set of variables. The study is focused on making an appropriate comparison in respect of fuel efficiency implementation processes in emerging economies.

Due to the governance and economic asymmetries between these two countries, the strategy adopted was based on a "Most Different Systems Design" method. According to Lor (2012), this method implies a selection of different countries that share a phenomenon which constitutes a societal challenge based on attributes rather than merely variables. The strategy aims to define a boundary of comparability useful for limiting the scope of the comparison. Nevertheless, the typology is used for reference purposes only because several countries even within the proposed groups may differ in their implementation stages of fuel efficiency standards. The criteria offered by this strategy are logical and consistent for the purposes of the research objectives.

[6]Mouton and Marais (1990, p. 137) define a typology as a conceptual framework in which phenomena are classified in terms of characteristics that they have in common with other phenomena.

3 Fuel Efficiency Standards in Emerging Economies

Fuel efficiency standards are understood as having a strong regulatory component; the adoption and scope of implementation of such standards depend on the stage of the value chain where they are intended to be applied. Fuel efficiency standards establish emission limits in the automotive industry; the indirect effect on the private or productive sector entails the adoption or development of new and clean technologies in order to make cars produce fewer emissions by making fuel usage more efficient. The adoption of this technology is voluntary; each company decides where and in which fleet investments would be feasible in order to comply with the standard. Several co-effects result from the adoption of such standards: improved air quality and public health caused by lessening particulate matter, nitrogen oxides and ozone molecule concentrations in the atmosphere, mobility and renewed automotive fleet in urban and peri-urban areas, among others (GFEI, 2010). The interplay between voluntary and/or mandatory standards on fuel efficiency remains in many emerging economies dependent on its implementation stage. For instance, USA and Mexico have both fuel economy and GHG standards, and manufacturers must satisfy both. By contrast, South Korea's light-duty vehicle manufacturers have the option to choose which standard to meet—fuel economy or GHG standard (IEA, 2015a).

In most scenarios, emerging economies usually adopt and implement fuel economy/efficiency standards based on a reference to the EU/US regulations that are modified according to its own national conditions and economic structures. This entails a complex process of norm diffusion from the global to the local level. Such adoption is in some cases mixed—this means incorporating elements from both (and other) regulations into a unique standard; in other cases, it is part of a homologation process on a regional basis. China and Mexico are clear examples of the above. As Mikler (2008, p. 1) suggests, fuel economy/efficiency implies that "sharing sovereignty in the process of making and implementing national regulations produces opportunities for global regulation"; fuel economy/efficiency standards require complex public–private governance where incentives, regulation and communication are vital. Therefore, fuel economy/efficiency standards are key components of a regulation process that could be analysed from the multi-level governance approach (Payne & Phillips, 2015; Evans, 2012), with the benefit of allowing the national implementation to be examined under the light of its own specific conditions without disregarding the global processes. The local–global inter-linkages that a regulation such as the fuel economy/efficiency one creates could be enablers/drivers for societal change (Hughes, 2010), not only in terms of environmental benefits, but under a wider sustainability scope.

The analysis of the China and Mexico cases aims to provide an overview of the implementation process of fuel efficiency standards in particular economies, in order to find their comparability elements. The idea of a differentiated local political and economic arrangement connecting with the global efforts to impulse fuel efficiency underlies this study.

3.1 The Case of China

The Chinese vehicle fuel economy standard is a weight class based, per vehicle and corporate average standard that is mandatory for every domestically made vehicle and is more stringent than its European counterpart (EIA, 2015). Light-duty vehicle manufacturers in China must meet a fuel-consumption standard at each weight class level and must meet an overall corporate average fuel-consumption standard. Vehicle fuel economy standards in China are based on 16 weight classes, ranging from vehicles weighing less than 750 kg (approximately 1500 lb) to vehicles weighing more than 2500 kg, or approximately 5500 lb. Based on the New European Driving Circle (NEDC) testing standard system, China has set a new fuel economy target for 2020, which would require the fleet average fuel economy to reach 5l/100 km. This target could translate into about 53 mpg US equivalent, or about 116 CO_2g/km EU equivalent (Arena & Mezzana, 2014).

China initially based its vehicle emission standard on that of Europe. In 2000, the Chinese government issued the first national emission standard for both heavy and light-duty vehicles that was equivalent to Euro I, followed by several more stringent standards in later years. The China National V emission standard was implemented nationwide by harmonizing the Euro V emission standard. Meanwhile, the China National VI emission standard was announced by the government at the end of 2016 to be implemented nationwide from 2019. Since the EU upgrades emission standards every 4–5 years or so, China sets new targets every 4.5 years on average in order to catch up with EU standards as early as possible, as the implementation of China's national emission standards usually lags behind Europe by 5–9 years (Table 1). With the acceleration of urbanization as well as localization of the auto industry, China has begun to design its own emission standards system. When setting the National VI emission standard for light-duty vehicles, the Chinese government introduced the US (California) standard, but at the same time it also developed a new National VI emission standard for heavy-duty vehicles, with no reference to the EU or the US model.

Table 1 Year of implementation of vehicle emission standards in China and EU

Vehicle emission standards	Year of implementation (all sales and registrations)		Time lag: China versus EU
	China	EU	
China National I (Euro I)	2000	1992	8
China National II (Euro II)	2004	1996	8
China National III (Euro III)	2007	2000	7
China National IV (Euro IV)	2010	2005	5
China National V (Euro V)	2018	2009	9

Source Authors

There were basically two factors that drove China to adopt the EU's emissions standards in the beginning. The first was its social circumstances; China's vast rural areas and population imply widespread need for the use of diesel trucks, rural and non-road vehicles, just as diesel vehicles are prevalent in the European market. The other was the late development of the auto industry, which meant that most of the domestically made vehicles depended on technologies from Europe.

Nowadays, China's urban population has exceeded its rural population and gasoline vehicles, especially passenger cars, have gained a dominating proportion in the cities and even in some rural areas. Meanwhile, although European car companies still retain a certain market share in China, American and Japanese automakers have been enlarging their business, which has diversified China's autoindustry. The changing landscape of China's urbanization and auto industry has led the Chinese government to create its own standards by taking the US (California) standards as reference. China's geographic area covers similar latitudes as those of the USA. What is more, diesel vehicles that enjoy less stringent regulations (when compared to gasoline vehicles) still dominate the European market, while 99% of China's vehicles today are gasoline vehicles, falling into a situation similar to the USA. Adopting fair regulations on gasoline and diesel vehicles, the US standards are a better fit for China's current situation.

In China, it is notable that all the vehicle efficiency standards are set by the central government, with several Ministries and state-owned oil companies involved.[7] These governmental institutions or enterprises with vested interests sometimes have conflicting views with regard to how to formulate vehicle efficiency standards. One typical example is that the Ministry of Ecology and Environment (MEE), which used to lack the authority to set standards, as the lead agency for developing and enforcing vehicle emission standards, can now exert a strong influence on specifying fuel quality parameters. In contrast, the auto industry seems to have a relatively weak voice in the process, while the participation of NGOs is negligible.

Since retail prices of gasoline and diesel have always been set by the National Development and Reform Commission (NDRC) on behalf of the central government in China, it is difficult for the oil industry to recoup capital investments on refinery upgrades without a market pricing mechanism. In addition, small refineries with outdated technologies are not cost effective to upgrade. Concerns about unemployment and other economic impacts from facility closures in some regions where these small refineries are located could cause more delay in tightening fuel standards. This is why China's fuel efficiency standards have consistently lagged behind the fuel requirements corresponding to the emission standards.[8] Since the best vehicle

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[7]Some of these institutions are the National Development and Reform Commission (NDRC), Ministry of Industry and Information Technology (MIIT), Ministry of Science and Technology (MST), Ministry of Ecology and Environment (MEE), State Administration for Market Regulation (SAMR), China National Petroleum Corporation (CNPC) as well as China Petroleum and Chemical Corporation (SINOPEC).

[8]China's State Council issued the *Air Pollution Prevention and Control Action Plan* in September 2013, vowing to greatly improve air quality by 2017 in most Chinese cities, especially the metropolises. To implement this plan, the central government urged state-owned oil giants to quicken

emission performance can only be achieved if fuel and emission standards are implemented in parallel and a compliance program is established to enforce both fuel and vehicle standards, the staggered implementation of fuel standards has become a major roadblock in bringing down vehicle emissions.

Beijing, being the capital city, was one of the few exceptional places in China that could employ the highest fuel and emission standards simultaneously. For the sake of improving air quality, Beijing has pioneered the setting and implementation of these national standards. Most of the standards, from National I to V, were first piloted in Beijing and then fully applied across the nation after a gap of two or three years. For instance, in 2013, Beijing put the National V emission standard into practice, five years ahead of its proposed implementation nationwide.

3.2 *The Case of Mexico*

Mexico's fuel economy standard was first set in 2013, after several rounds of negotiations. NOM-163-SEMARNAT-ENER-SCFI-2013 (NOM 163) regulates year-model automobiles starting from 2012 productions. The norm that is referred to is the US Code of Federal Regulations vol. 40 parts 85, 86 and 600 and the Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards Final Rule (EPA, 2010). NOM 163 complements the existing regulations on fuel limits and average methods,[9] which, nevertheless, had never included components such as emission goals (g-CO_2/km) and Corporate Average Fuel Economy Standards. When published, this standard became a model in the region, being the first Latin American standard of its type (with other countries such as Peru, Chile and Argentina developing similar schemes), reflecting a complex relation within the North American region.[10]

The major drivers for the implementation of such a standard are linked to air quality (health effects) and climate change. Since the mid-1980s, air pollution became a major problem in urban areas in Mexico, mainly in the Metropolitan area of Mexico City. According to Molina (2005), some policies were implemented aiming to establish major pollutants' permissible limits, gaining some results for certain pollutants

their pace on fuel quality upgrading, in order to keep up with the more stringent vehicle emission standards. Chinese Premier Li Keqiang has reiterated the significance of domestic gasoline and diesel standards improvement in coping with environmental pollution. He encouraged further investment and technological innovation by major oil companies, which could lead to an early accomplishment of the set goals.

[9]Mexico uses the US-combined test cycle officially, although several companies—mainly the European ones—may incorporate the New European Driving Cycle (NEDC) into their plants' processes.

[10]In fact, the Mexican standard on fuel efficiency was created with an effort to look for a homologation with the USA standard proposed by then President Barack Obama in 2009, followed by Canada in 2010. The Mexican norm tries to homologate the 2016 USA goals of 35.5 miles per US Gallon (mpg). However, depending on the priorities of the newly elected Mexican Government, the Mexican standard's revision could point to another direction.

(mainly lead, carbon dioxide and sulphur dioxide), but retaining high levels of particulate material (PM_{10} and $PM_{2.5}$), carbon monoxide and ozone. In 2003, norms on vehicles were first issued, trying to reduce smog and limit pollutant emissions, followed by health-related standards on limits to all pollutants. Also, implementation of specific public policies for reducing emissions coming from mobile sources (such as Vehicle Verification Programs or the circulation restriction program (*Hoy no circula*) fostered an awareness of the high impact of transport on air quality.

Mexico has used the US EPA reference and test method as a "global best" reference for its own national standard setting. The Mexican fuel efficiency norm is aligned in design and depth with the US and Canadian standards (ICCT, 2012), trying to equal efficiency levels by 2016. In 2012, then US President Barack Obama announced a new 54.5 mpg (20.9 K/l) goal for USA fuel efficiency by 2025 (The White House, 2012)—considerably higher than the Mexican 2016 goal (whose revision process started in 2018). However, in 2018, the Trump administration announced a new policy shift, abandoning the standards and freezing them to the 2020 values, arguing they were too high and expensive (Walsh, 2018). US EPA announced a new rule named "Safer Affordable Fuel-Efficient" (SAFE) for the years 2021–2025, which was criticized by a group of scientists (Bento, et al., 2018). In order to match this goal, the subsequent Mexican regulation has to be more solid and set higher thresholds. This, however, could be contested by the private sector—as was the case in 2012. This is notwithstanding the recent environmental concerns regarding urban air pollution, alteration and corruption in the vehicle verification testing methods and technologies used by international automotive companies, which undermined fuel efficiency governance, and the regulatory challenges in getting the standard updated on the basis of robust modelling instruments.

The transport sector is therefore a complex issue in terms of standards-related processes in the country, either for climate change reduction schemes or fuel efficiency. During the standards negotiation process, some of the concerns of the automotive sector were the cost effectiveness and terms of its mandate. Mostly dependent on foreign technology, imports would modify the commercial chain of technology associated with autoparts and engines in terms of compliance, posing serious challenges to the industry actors. Another barrier to the implementation of the standard was the absence of an overall standards policy that provides direction to all the standards related to a certain area. Although there is, for instance, a clear relation between the fuel economy standards and both health and climate change policies, the standard was negotiated separately with the automotive industry with a focus on industry implications rather than on health impacts. In-depth analysis is also likely to show that there are significant gaps in the standard setting process (standard cycle), which does not link development planning and normative analysis in a clear fashion. The Mexican experience shows that a wide vision of integral and multi-dimensional policies is needed in order to create a clearly-articulated policy that has governance mandates for all sectors involved.[11]

[11] The necessity of updating the NOM 163 in Mexico has been supported, however, by parallel environmental policies. In preparing a new national communication for the United Nations Framework

3.3 China and Mexico: A Comparative Analysis

Both country cases demonstrate that there are several attributes and features related to their fuel efficiency standards implementation processes that are similar. First, the transportation sector in both countries is currently regarded as one of the main contributors to overall GHG emissions, mainly because commercial vehicles have become one of the most important sources of air pollution. In Beijing, Shanghai and other Chinese metropolitan areas, passenger vehicles are major contributors to the overall GHG emissions due to traffic congestion. Similarly, in Mexico the transport sector contributed in 2015 with 25.1% of total GHG emissions in the country, mainly dominated by freight and passenger vehicles (23.4% of total GHG emissions) (INECC, 2018). According to Mexico's Climate Change Special Program, 94% of the current transport GHG-related emissions come from road transportation. Besides, Mexico is the second largest market for new vehicles in Latin America, with a medium annual growth rate of 7.09% from 2013 to 2017 (1.3 million units per year projected average) (PROMEXICO, 2014, p. 16). A future increase in automobile consumption in both countries could exacerbate the global warming effect.[12]

Second, China and Mexico rank among the 15 largest automobile producers (first and thirteenth place respectively in 2018) and are leading automobile exporters in the world (JATO, 2019). According to the International Organization of Motor Vehicle Manufacturers (OICA), Chinese and Mexican car industries represented 30.7% of the global total of cars and commercial vehicle production in 2017 (OICA, 2018). At the same time, light-duty vehicles sales and exports in both countries have been increasing significantly (PROMEXICO, 2014).[13] Through exports, China and Mexico could bring about some indirect impacts for importing countries in terms of their national GHG emissions.

Third, both China and Mexico have to fulfil their individual commitments on combating climate change as a part of the global efforts and seek alignment in climate actions based on their own national interests. By the end of June 2015, both

Convention on Climate Change (UNFCCC), Mexico is preparing technological routes in which fuel efficiency standards for light vehicles will play a very relevant mitigation role. Discussions on a new standard for heavy duty-vehicles, and discussions on the energy transition requirements seem to pose new challenges for future debates.

[12]Mexico City entered into an environmental air quality crisis in early 2016 because the Metropolitan Index of Air Quality (IMECA) was surpassed for more than 150 points after 14 years of stability. Allegedly, one of the main causes of this was a court decision in June 2015 that allowed particular vehicle owners to get a protection against the assignation requirements for the vehicle verification programme based on year-model rather than emissions, which changed the criteria allowing for circulating cars. This, along with altered verification schemes, increased the number of cars circulating in the city to more than one million per day.

[13]The new international context for the car industry has affected the traditional car manufacturing geography. While the US, Canada, Japan and France have showed a decline in their production rates, emerging producers such as China, India, Brazil and Korea have showed considerable growth. Although in the last year (April 2018–2019) Mexico showed an important decrease on its car sales (−10.4%), it has shown growth and stability in the period 2012–2016. Investment announcements and growing road infrastructure are complementary elements for these dynamics.

China and Mexico had presented their new climate mitigation and adaptation targets after 2020, under their Nationally Determined Contributions (NDC)[14] to the United Nations Framework Convention on Climate Change (UNFCCC), where the transport sector is a key player.

The standard setting and implementation processes in both China and Mexico have been quite different. Norm diffusion rests on a diversity of factors within each country: socio-economic structure, regulatory framework, private sector engagement, industry and investments and even sub-regional standards application. The key dissimilarity is the adoption of different reference standards: while China has been working under the EU's regulatory framework, Mexico has set a partial homologation with the US EPA regulation. Consequently, the adoption of different targets, indicators, testing methods, fleet targets, penalties, incentives, etc., opens the possibility of analysing how the implementation process of fuel efficiency/economy standards in both economies has aligned with global commitment while at the same time being aligned with their own national development conditions.

4 Conclusion

Fuel efficiency is at the core of a local–global solution for GHG emissions reduction by addressing the negative impacts of vehicle fuel-consumption patterns, and generating significant local impacts that could be translated into global benefits. It is notable that a series of efficiency programs such as Europe's Euro VI and US's EPA 2010 have been undertaken on a global scale, thus becoming the de facto "global" standards, but it is relevant to analyse how this standardization process has been translated and adapted in emerging economies where fuel use, GHG emissions and economic growth will tend to increase.

When applying the European or American models to some emerging economies like China and Mexico, we found a difference in situations. Although EU/US standards are relevant for ensuring comprehensive frameworks for action, standards do not always consider national contexts of the emerging countries, neglecting their specific economic and sectoral conditions. At the same time, although standards are a recognized policy tool and a cost-effective strategy for private investment in many emerging economies (both at the national and local levels), there is a lack of proper standard setting or application processes related to the respective economic and political structure. The result is a domestically challenging multi-stakeholder process that leads to ineffective operations and local–global dialogue, resulting in insufficient mitigation mechanisms that could harm both economic development and environmental balance in emerging markets.

Fuel efficiency standards could be considered as both performance and sustainability standards, for they aim at reducing environmentally and socially harmful

[14]Mexico has started the national revision of its NDC mitigation and adaptation goals, under the mandate of Article 4 of the Paris Agreement, for its completion in 2020.

impacts of vehicles. Almost all of these standards are set up by national government agencies to provide legally binding requirements for general market access, thus becoming public mandatory sustainability standards. In terms of the geographic and systemic reach as well as ambition, vehicle fuel efficiency and GHG emissions standards adopted by a single country could also generate sustainability benefits transnationally. Such standards are focused on both product performance and the production process, and will in most cases apply strict criteria for the sake of climate and environment in both the national and international contexts. At the domestic level, frequent interactions between public and private sectors finally shape these standards that become legally mandated. Meanwhile, dialogues between national and international standards or regulations are conducted from time to time. As the International Energy Agency (IEA) suggests (2011, 2015b), fuel efficiency standards are at the core of sound transport and mobility policies that care for environmental and social effects, and promote a technology transition from fossil fuels to clean technologies. Measures such as labelling, eco-driving policies, electric mobility, transport batteries and efficiency together could play a transformational role in re-shaping energy systems nationally and globally.

The application of efficiency standards in emerging economies should guide public policies, investments and other partnerships in a holistic and in-context manner, responding to sustainable development, green economy, climate change and industrial sector priorities. Fuel efficiency standards represent an illustrative example of how this could be translated into practice, with governance playing a key role. "Global" (EU/US) standards should not be considered as a "one-size-fits-all" solution, but rather as a sustainable guideline to reduce emissions worldwide.

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