



GT Standards

Standards are meant to provide a reliable basis for people to share the same expectations about a product or service. They should facilitate trade, provide a framework for achieving economies, efficiencies and interoperability and, last but not least - enhance consumer protection and confidence. Dependent on the issuing body they refer national, regional or international use as voluntary documents that set out specifications, procedures and guidelines that aim to ensure products, services, and systems are safe, consistent, and reliable. But their application can be made mandatory by law. In the mobility sector, different standards can apply to the preservation of the air quality and engine exhausts, the durability of materials and products and even the quality of service.

European examples:

Air Quality: Air quality directive 2008/50/EC: The directive on ambient air quality legislative sets out concentration level goals for different pollutants. The goal must be achieved by all EU countries. Contrary to a regulation, it is up to the EU member state how to achieve the goal. The following table shows the current standards that are derived from the directive.

Table 1: Ambient air quality derived from air quality directive 2008/50/EC¹

Pollutant	Concentration	Averaging period	Permitted exceedences each year
Fine particles (PM2.5)	25 µg/m ³ ***	1 year	n/a
Sulphur dioxide (SO ₂)	350 µg/m ³	1 hour	24
	125 µg/m ³	24 hours	3
Nitrogen dioxide (NO ₂)	200 µg/m ³	1 hour	18
	40 µg/m ³	1 year	n/a
PM10	50 µg/m ³	24 hours	35



The six key benefits of standards:²

Boost confidence: Thanks to standards, businesses and consumers can feel confident that the products and services they develop and/or use are safe, reliable and fit-for-purpose.

Enhance innovation: Standards are a launch pad for exciting new ideas. They can be created, evolved or discarded according to our changing world. New standards are developed to reflect the latest technologies, innovations and community needs.

Give products a competitive edge: In the eyes of consumers, products that comply with the approved Standards offer added value. International Standards give exporters an instant competitive advantage when moving into overseas markets.

Reduce barriers to international trade: Regardless of where a product is made, standards mean it can be sold and used around the globe. Opening new doors to international trade, standards help businesses compete globally and to a wider market.

Reduce red tape: Standards assist with harmonisation across different laws and regulations. They offer an alternative to regulation, reducing business costs and decreasing red tape, but still providing security for businesses and consumers.

Help businesses thrive: Standards are central to business. They make business transactions simpler and more efficient, assisting with risk mitigation and compliance. Put simply, standards help our businesses thrive.

Noise Standards: The environmental noise directive 2002/49/EC defines a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure to environmental noise. For that purpose several actions are to be progressively implemented. The directive demands that member state draw up noise maps and action plans for major roads, railways and airport areas to assess the number of people affected.³

Clean Vehicle standards: The Directive on the Promotion of Clean and Energy Efficient Road Transport Vehicles (2009/33/EC) aims at a broad market introduction of environmentally-friendly vehicles. It requires that energy and environmental impacts linked to the operation of vehicles over their whole lifetime are taken into account in all purchases of road transport vehicles, as covered by the public procurement Directives and the public service Regulation.⁴

Pollutant Emission Standards: The emission standards for passenger vehicles are regulated under directive No 715/2007. The following pollutants are covered: Carbon monoxide, particulate matter, nitrogen oxide, hydrocarbon. A particulate number standard (P) or (PN) has been introduced in 2011 with Euro 5b for diesel engines and in 2014 with Euro 6 for petrol engines.⁵

CO₂ Emission Standards: EU Regulation No 443/2009 sets an average CO₂ emissions target for new passenger cars of 130 grams per kilometre. The target is gradually being phased in between 2012 and 2015. A target of 95 grams per kilometre will apply from 2021.⁶

Intelligent Transport Systems 智能交通系统: ITS Directive 2010/40/EU: Under this Directive the European Commission has to adopt within the next seven years specifications (i.e. functional, technical, organisational or services provisions) to address the compatibility, interoperability and continuity of ITS solutions across the EU. The first priorities will be traffic and travel information, the eCall emergency system and intelligent truck parking.⁷

Transit oriented planning development standards 自愿规划标准: The TOD Standard addresses transit-adjacent developments which maximize the benefits of public transit in both developed and developing countries. "The ITDP publication outlines eight key prin-

principles for guiding a non-technical audience, everyone from developers to interested local residents, through the successful development of TODs. The TOD Standard elaborates these principles providing measurable performance objectives. The key principles are measured and rated within the categories: walk, cycle, connect, transit, mix, densify, compact, and shift. The TOD Standard is not an EU policy.⁸

Bus Rapid Transit Standard: The BRT Standard design establishes a common definition of bus rapid transit (BRT) and ensures that BRT systems more uniformly deliver world-class passenger experiences, significant economic benefits, and positive environmental impacts.⁹

Public Transport Quality Standards 公共交通质量标准

DIN EN 13816: DIN EN 13816 is a European standard that was established to evaluate the quality of services provided by public transport companies. The aim is to promote quality by focusing on the needs and expectations of customers. EN 13816 is the Standard for evidencing quality capability of transport providers in public passenger traffic, which is valid all over Europe. It serves as a guideline for defining and measuring service quality in contracts for buyers and operators of public transport services.¹⁰

Chinese Emission standards.

Emission inventories and GHG accounting in urban transport are legal requirements governing air pollutants released into the atmosphere. Emission standards set quantitative limits on the permissible amount of specific air pollutants that may be released from specific sources over specific timeframes. They are generally designed to achieve air quality standards and to protect human health. Chinese transport and city planners can use the China Road Transport Emission Model to estimate road transport-related gas emissions and air pollutants based on the European Handbook for Emission Factors (HBEFA) that was developed by GIZ and partners. The methodology of the HBEFA allows to identify the most effective measures to reduce transport emissions.

Due to rapidly expanding wealth and prosperity, the number of coal power plants and cars on China's roads is rapidly growing, creating an ongoing pollution problem. China enacted its first emissions controls on automobiles in 2000, equivalent to Euro I standards. China's State Environmental Protection Administration (SEPA) upgraded emission controls again on July 1, 2004 to the Euro II standard. More stringent emission standard, National Standard III, equivalent to Euro III standards, went into effect on July 1, 2007. Plans are for Euro IV standards to take effect in 2010. Beijing introduced the Euro IV standard in advance on January 1, 2008, became the first city in mainland China to adopt this standard.

Credentials:

Drafted and compiled by Daniel Bongardt, GIZ China;
Fredrik Strompen, GIZ China: **Florian Steinberg, EC Link.**
Copy edited by Kosta Math y, July 2018

References and further reading:

- ¹ Directive: <http://www.eltis.org/sites/eltis/files/celex-32008l0050-en-txt.pdf>. Further information: <http://ec.europa.eu/environment/air/quality/> (legislation); http://www.german-sustainable-mobility.de/wp-content/uploads/2014/12/CleanAir-MadeInGermany_GPSM.pdf (German directive); http://www.eea.europa.eu/themes/air/air-pollution-country-fact-sheets-2014/eu-27-air-pollutant-emissions/at_download/file (European Environment Agency's fact sheets)
- ² Source: <https://www.standards.org.au/standards-development/what-is-standard>
- ³ Kinney, J. 2016. Certifiable roads? Raising the standards for green infrastructure. Doggerel 13 September. <http://doggerel.arup.com/certifiable-roads-raising-the-standards-for-green-infrastructure/> IN: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32002L0049>
- ⁴ Directive: <http://www.eltis.org/sites/eltis/files/celex-32009l0033-en-txt.pdf>. Further information: http://ec.europa.eu/transport/themes/urban/vehicles/directive/index_en.htm
- ⁵ Directive: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R0715&from=EN>
- ⁶ Regulations: <http://www.eltis.org/sites/eltis/files/celex-32009r0443-en-txt.pdf> (passenger vehicles); <http://www.eltis.org/sites/eltis/files/celex-32014r0253-en-txt.pdf> (LDV)
- ⁷ <http://www.eltis.org/sites/eltis/files/celex-32010l0040-en-txt.pdf>
- ⁸ http://mexico.itdp.org/wp-content/uploads/TOD_v2_FINAL.pdf
- ⁹ <https://www.itdp.org/wp-content/uploads/2014/07/BRT-Standard-2014.pdf>
- ¹⁰ <http://www.transportbenchmarks.eu/groups/documents/MEETING2-EN13816.pdf>

Further information on environmental policies and regulations can be found on the following pages:

Eltis: <http://www.eltis.org/discover/legislation-polices>

European Commission: <http://ec.europa.eu/environment/>