

Overview of GHG-abatement measures in the Dutch road transport sector

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2. Programs and policy measures of international importance (e.g. worth considering for other countries/governments), providing a bit more detail compared to the previous section.
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6. The name (+ contact details) of government commissions/committees that are currently investigating measures to be used for making road transport less carbon polluting, as well as similar on-going efforts of academia/think-tanks that are of interest.

1. A short summary of national policies for reducing GHG-emissions from road transport

Introduction

The Dutch government has formulated goals and policies for reducing GHG-emissions from road transport up to 2020. The main policy program is the program “Clean & Efficient”, which was implemented in 2007. This program contains a number of “larger” policy instruments for which specific goals have been formulated with respect to their contribution to the overall objective of the program.

In addition a range of “smaller” policy instruments have been implemented. In many cases no specific goals have been formulated with respect to the reductions to be achieved by these “smaller” policy nor with respect to the total reduction to which these measures are expected to add up.

The Dutch government supports the European ambition to reduce GHG emissions by 80-95% by 2050, but national climate policies for the period 2020 to 2050 have not been formulated yet. Preparatory activities are currently on-going as part of a roadmapping exercise.

The program “Clean & Efficient” (since 2007)

- As part of an overall government program for economy-wide reductions of energy use and CO₂ emissions the Dutch government has implemented a specific policy program for the transport sector. One of the goals of the government program “Clean & Efficient” (effective since 2007) is to reduce the CO₂ emissions from the Dutch transport sector in 2020 to 30-34 Mton per year. This is comparable to the 1990 level, and requires a reduction of 13 – 17 Mton p.a. (or 28-36%) compared to a baseline of 47 Mton estimated for 2020 at the time the policy was developed. The program contains a range of policy measures for reducing CO₂ emissions from transport. These include impacts of European policy instruments on CO₂ emissions from the Dutch transport sector:
 - Increased use of biofuels through implementation in the Netherlands of obligations following from European policy instruments.
 - “Greening” of the fiscal system, including changing the purchase tax towards a largely CO₂-based system, measures to better balance the sales of petrol and diesel vehicles, differentiation of company car taxation and other specific measures to promote the sales of very fuel efficient vehicles.
 - See: *Incentives in the Dutch fiscal system for road transport*
 - European CO₂ regulation for passenger cars and vans.
 - Other measures including impacts of measures taken by stakeholders in the transport sector in the context of a covenant between sector and government (see below)
- The original “Clean & Efficient” program also contained plans to introduce road charging by 1/1/2012. However, although a legislative proposal for introducing road charging in the Netherlands has been prepared, the plan was withdrawn by the Dutch government in October of 2010. The recently installed new government coalition also has no intention to implement a road charging scheme.

- As part of the program “Clean & Efficient” in December 2008 a large number of branch organisations and private stakeholders from the transport and mobility sector have signed a covenant / voluntary agreement with the Dutch government called “Sustainability in motion”.
 - For more information see chapter 3 on *Private sector and/or local and regional government initiatives*.

Incentives in the Dutch fiscal system for road transport

Registration tax (BPM)

- Between 2009 and 2013 the Dutch registration tax for passenger cars is transformed from a vehicle price based system to a 100% CO₂-based system.
- Electric vehicles and very fuel-efficient cars (i.e. cars with a CO₂ emission below a given threshold) are exempted from BPM.
- The system is progressive in the sense that the CO₂-based tax increases more than linearly with increasing CO₂ emissions of the vehicle. Details of the system are explained in chapter 2 on *Programs and policy measures of international importance*.

Circulation tax (MRB)

- Very fuel efficient cars are exempted from MRB. For diesel cars the maximum emission is 95 g/km, while for petrol/LPG cars a maximum emission of 110 g/km applies (year 2012). From January 1st 2014 this exemption will expire – both for new cars as well as for “existing” cars.
- To further stimulate the development and purchase of next generation fuel efficient cars, passenger cars with a CO₂ emission of less than 50 g/km are exempted from MRB until the end of 2015.

Taxation of private use of company cars

- The private use of a company car is taxed by adding a percentage of the new car list price to the employee’s gross income. The standard percentage is 25%. Income tax and social security fees are paid over this additional income. For private use of company cars older than 15 years 35% income tax has to be paid over the actual value rather than the list price.
- The use of fuel efficient company cars is stimulated by means of a CO₂ differentiation in the percentage of the of the new car list price that is added to the income. Depending on the efficiency class the percentage of the new vehicle price to be added to the income is 20% or 14%.
- Additional incentives are provided for using electric vehicles and plug-in hybrids as company cars. For passenger cars emitting less than 50 g/km, purchased between January 1st 2012 and December 31st 2013, no income addition is required for a period of 60 months.
- Details of the system are explained in chapter 2 on Programs and policy measures of international importance.

Energy labelling of cars

- In the Netherlands the obligations for energy labelling of cars, following from Directive 1999/94/EC, have been implemented by means of a relative label. The CO₂ emission value of a passengers is scored relative to the average CO₂ emission of vehicles of the same size class. Vehicles are compared to the average for the same size class on the basis of the length and width of the car, using a regression formula that is updated annually on the basis of data

available for all new car models that are on sale in the Netherlands. The regression formulas are different for petrol and diesel vehicles and corrections are applied for certain body types (e.g. station wagons). Labels are defined as follows:

energy label	Fuel consumption / CO ₂ emission relative to average car of the same size class
A	At least 20% lower
B	20% to 10% lower
C	Maximally 10% lower
D	Maximally 10% higher
E	10% to 20% higher
F	20% to 30% higher
G	More than 30% higher

- Annually information on the energy labels of all car models available in the Netherlands is published in booklet.
 - These booklets can be downloaded from:
<http://www.rdw.nl/nl/particulier/auto/kopenverkopen/Pages/Milieuenverbruik.aspx>
- Between 2002 and 2006 the purchase of energy-efficient passenger cars has been promoted using a bonus/malus system based on the energy label for cars. Between 2006 and 2010 the registration tax (BPM) was differentiated based on the energy label. This approach has been abolished as it lead to bonuses for large cars with high CO₂ emissions which are relatively efficient compared to other vehicles in their class while small cars with in absolute terms a much lower CO₂ emission could get a malus because they are less efficient than the average of their class. Since 2010 CO₂ differentiation of vehicle taxes in the Netherlands is based on the absolute CO₂ emission value.

Fiscal treatment of fuels and other energy carriers

- Excise duty on petrol is 813.48 €/1000 litre, for diesel this is 430.80 €/1000 litre. For LPG the excise duty is 167.54 €/1000 kg.
- Biofuels have the same excise duty per litre as the fuel they replace. However, as biofuels often have a lower energy content per litre, starting from 2012 suppliers of biofuels can ask for a partial refunding of excise duties paid on their biofuel supply.
- No excise duties apply to natural gas, biogas and electricity, but these energy carriers are subject to an energy tax.
 - The energy tax on natural gas and biogas for use in motor vehicles was € 0.0639 (excl. VAT) per m³ in 2012, but has been raised to € 0.0959 per m³ in 2013. This rate applies to CNG-filling stations connected to the natural gas grid. For home filling the energy tax rate for households applies which is € 0.1862 (excl. VAT) per m³ in 2013.
 - The energy taks on electricity is € 0.11650 per kWh for consumers using less than 10,000 kWh per year.

Fiscal incentives for sustainable investments by companies

- The net costs of investments in sustainable means of production by companies are reduced by a range of fiscal measures. A range of technologies for road transport is eligible for this type of fiscal incentive.

- For more detailed information see chapter 2 on *Programs and policy measures of international importance*.

Biofuels policy

- The Netherlands has implemented the targets of the FQD (2009/30/EG) and RED (2009/28/EG) by means of an obligation to fuel suppliers to sell an annually increasing share of biofuels. For 2012 the goal is 4.5%. This share increases to 5.5% in 2014. It has not yet been decided whether and how the increase to 10% in 2020 will be implemented. This decision is made dependent on progress to be made in (certifying) the sustainability of biofuels.
- The biofuel share is largely achieved through blending of bioethanol and biodiesel in conventional petrol resp. diesel. A small share of the biofuels used is in the form of high blend biofuels and biogas.
- Companies selling fuels have to report on their biofuel sales and CO₂ emissions from their fuel sales to the Dutch Emission Authority. Biofuel obligations can be traded within the Netherlands by means of “bio-tickets”, allowing companies selling less than the obliged percentage to buy credits from companies that sell more biofuels than the obliged share.
- Double counting of biofuels from waste and residues has been implemented.
- No tax incentives exist for biofuels.
- Since 2007 a subsidy scheme was in operation focused on realization of filling stations for alternative fuels, incl. biogas and high-blend biofuels. This scheme has recently been closed. Beginning of 2013 over a hundred public filling stations for natural gas or biogas are operational. 12 filling stations supply high-blend biodiesel and 37 stations supply E85.

Action plan on Electric vehicles

- Since 2009 the Dutch government promotes electric driving by means of the Action Plan Driving Electric. The first phase of this plan ran between 2009 and 2011. The current plan runs between 2011 and 2015.
- The target is to have 20,000 EVs on the road in the Netherlands by 2015, going up to 200,000 in 2020 and 1 million in 2025. This includes PHEVs. For infrastructure the goal is to have 10,000 public charging points and 50 fast charging stations by 2013.
- Important elements of the 1st phase were:
 - Government action for pilots and demonstration projects, launching customership, promotion of charging and energy infrastructures, promotion of research & development for and production of electric vehicles and components, formation of consortia and coalitions, and flanking policies.
 - Governance of the program was organised by the formation of the “Formule-E team”, with representatives from various stakeholders, and the formation of the “POWER-team”, an interdepartmental team coordinating activities by different involved ministries (Economic Affairs, Transport, Environment, Finance). The goal of the “Formule-E team” is to coordinate market introduction activities by stakeholders and to identify and remove barriers.
 - A budget of 65 M€ for pilot projects with electric vehicles and R&D on electric vehicles and infrastructure. A total of 10 pilot programs are supported.

- Additional financial means are available through the flanking fiscal policies (see: *The Dutch fiscal system for road transport and Fiscal incentives for sustainable investments by companies*)
- The second phase of the Action Plan Drive Electric continues many elements of the 1st phase, but has a much smaller budget (9 M€ for the whole period). Important new elements of the 2nd phase are:
 - A central role for “focus areas”, regions or cities with a large number of EV activities and initiatives and strong collaboration between various government levels and private stakeholders.
 - Efforts to intensify international collaboration, with neighbouring regions such as Flanders and Nordrhein-Westfalen as well as in a wider European context.
 - Focus on scaling up in promising market segments such as logistics & distribution, business travel and commuting, collective transport (public transport, taxi, car rental and car sharing), professional applications (e.g. refuse collection vehicles) and government fleets.
 - Special attention to understanding and improving total cost of ownership (TCO) and development of market models.
- <http://www.rijksoverheid.nl/documenten-en-publicaties/richtlijnen/2011/10/03/bijlage-2-plan-van-aanpak-elektrisch-vervoer-elektrisch-rijden-in-de-versnelling.html>

Other specific incentives

- *Ecodriving*
 - The Dutch government has actively supported the development of knowledge on eco-driving, and as supported its application for more than a decade, e.g. by means of information campaigns in magazines and on television. Since 2006 eco-driving is part of driver training and examination.
 - A few years ago the responsibility for promotion of eco-driving has been transferred to private parties in the transport sector as part of the covenant between government and transport sector. Under coordination of the Institute for Sustainable Mobility (IvDM), a program is executed which sponsors projects aimed at reducing CO₂ emissions through promotion of eco-driving and associated behavioural measures.
 - see chapter 3 on *Private sector and/or local and regional government initiatives*.
 - <http://www.hetnieuwerijden.nl/>
- *Action Plan Truck of the Future*
 - This program, aimed at reducing the CO₂ emissions of road freight transport, is a building block in the context of the government program “Clean & Efficient” and the covenant with the transport sector. “Truck of the Future” is partly funded by the Dutch Ministry of Infrastructure and Environment. The program contains two main elements:
 - A demonstration program, led by TNO, for demonstrating market-ready options for reducing rolling resistance and air drag and of ICT systems for promoting fuel efficient driving styles and validating these options in daily use. Over a period of 12 months 10 options were demonstrated on 500 vehicles from 12 transport companies.
 - A subsidy program, coordinated by Agentschap NL, for pilot projects with more advanced options such as hybrid propulsion, alternatives for the use of diesel

and auxiliary power systems (e.g. for cooling systems). Also for this program TNO evaluates the fuel savings, economics and use aspects.

- <http://www.agentschapnl.nl/content/plan-van-aanpak-truck-van-de-toekomst>
- *Lean & Green program for the logistics sector*
 - The Lean and Green program challenges transport companies and coalitions involved in logistics (e.g. in municipal programs) to achieve a 20% CO₂ reduction within five years. In the Netherlands more than 300 organisations have received a Lean and Green award for submitting a detailed plan for achieving this 20% reduction. The program, managed by Connekt, is sponsored by the Dutch Ministry of Infrastructure and Environment.
 - The Lean and Green Award is given on the basis of a plan of action that sets out how the organisation is going to reduce CO₂ emissions by more than 20% over a five-year period. These plans are evaluated by TNO. After gaining the Lean and Green Award for mobility of goods and/or people, organisations can work towards their first Lean and Green Star. To that end, organisations have to notify Lean and Green of their CO₂ reductions every six months, in both relative and absolute terms, with the help of a monitoring application. To achieve the Lean and Green Star an organisation has to meet a set of specified criteria, which include having achieved the targeted CO₂ reduction of at least 20% for twelve months.
 - The program has reached its goals by involving and awarding more than the targeted number of frontrunners. The future of this program is uncertain at this moment, but ideas are under development for issuing labels for achieved reductions and new awards for plans for reductions beyond the first step of 20%.
 - More information can be found on: <http://www.duurzamelogistiek.nl/en-GB/>
- Small Business Innovation Research (SBIR)-program "Car of the Future"
 - In 2009 the Ministry of Transport (now the Ministry of Infrastructure and Environment) launched a subsidy programme for promoting innovations by small and medium sized companies for clean and efficient road vehicles. The program is closed, but funded projects are still running.

Other related policies

Fiscal treatment of travel costs

- In the Netherlands allowances received by employees from their employer to compensate the costs of travel for commuting are exempted from income tax. For all travel modes the maximum un-taxed allowance is limited to 0.19 €/km.
 - This fiscal regime is a de facto subsidy for commuting. A recent proposal from the Dutch government to abolish resp. further limit the tax exemption for allowances for commuter travel has been withdrawn. Such a change in the tax system could have had benefits in terms of reduced travel and CO₂ emissions.
- The use of public transport for commuting is promoted by the following measure:
 - An employee is allowed to deduct travel cost for commuting from his income before taxes if he commutes by public transport and if the one-way commuting distance is more than 10km. The allowed deduction is not the real travel costs but a fixed amount based on based the commuting distance and the average number of days per week that the employer travels to work.

2. Programs and policy measures of international importance

Incentives in the Dutch fiscal system for road transport

Registration or purchase tax (BPM)

- Vehicle owners in the Netherlands are taxed at the moment of purchase of the (new) vehicle by means of the “Belasting van personenauto's en motorrijwielen” or BPM. Currently the BPM is based partly on the vehicle price and partly on the CO₂ emission of the vehicle, which is directly related to its fuel efficiency. In 2012 the vehicle price dependent part of the BPM is 11.1% of the gross list price. From 2013 onwards the BPM is solely based on CO₂.
- CO₂-differentiation of the BPM is only applicable to passenger cars. BPM for vans and motorcycles is only dependent on the price of the vehicle.
- Electric vehicles and very fuel-efficient cars (i.e. cars with a CO₂ emission below a given threshold) are exempted from BPM.
- Under the 2010 taxation regime the percentage of fuel efficient passenger cars had increased to 33% in the year 2011. Prolongation of the regime would lead to more than 60% fuel efficient cars which would be eligible for BPM exemption by 2015. In that case the incentive for people to buy fuel efficient cars would cease to exist. Moreover, the Dutch government's tax income would decrease by 600 MEUR, rendering the system too expensive. Therefore, in 2012, new criteria have been developed for fuel efficient cars.
- Table 1, Table 2, and Table 3 show the CO₂ emission boundaries for petrol and diesel passenger cars and the corresponding tax rates per tax bracket. Due to the transition from vehicle price based BPM towards a BPM based on CO₂ emissions, a fourth bracket has been introduced to avoid highly fuel inefficient cars becoming cheaper under the CO₂ based system. Also note from the tables that the CO₂ emission thresholds for petrol and diesel cars will converge between now and 2015. The situation for the second half of 2012 is graphically illustrated in Figure 1.

- Table 1, Table 2, and Table 3 should be read as follows:

For a new petrol vehicle in 2013 which emits 175 g/km the CO₂-based part of the BPM is derived by combining the columns labelled “2013” in [Table 1](#) and [Table 3](#), and equals:

$$\begin{aligned}
 \text{BPM} = & 96 \text{ g/km} \times \text{€ } 0 \text{ per g/km} + && \text{(exemption)} \\
 & (140 - 96 \text{ g/km}) \times \text{€ } 122 \text{ per g/km} + && \text{(1st bracket)} \\
 & (175 - 140 \text{ g/km}) \times \text{€ } 145 \text{ per g/km} = && \text{(2nd bracket)} \\
 & \text{€ } 10,443
 \end{aligned}$$

- Additionally, for diesel cars a CO₂-dependent tax surcharge exists to compensate for the fuel excise advantage (compared to petrol). In 2012, this surcharge amounts to € 40 per gram/km for any emissions above 70 gram/km. The surcharge will rise to € 80 per gram/km in 2015. For petrol cars, a discount of € 450 applies to the price based part of the BPM.

Table 1 | CO₂ emission threshold in g/km for PETROL passenger car purchase tax (BPM) per bracket, 2011-2015

	2011	01/01/2012	01/07/2012	2013	2014	2015
exemption	<111	<111	<103	<96	<89	<83
1 st bracket	111-180	111-180	103-159	96-140	89-124	83-110
2 nd bracket	181-270	181-270	160-237	141-208	125-182	111-160
3 rd bracket	>270	>270	238-242	209-229	183-203	161-180
4 th bracket	n/a	n/a	>242	>229	>203	>180

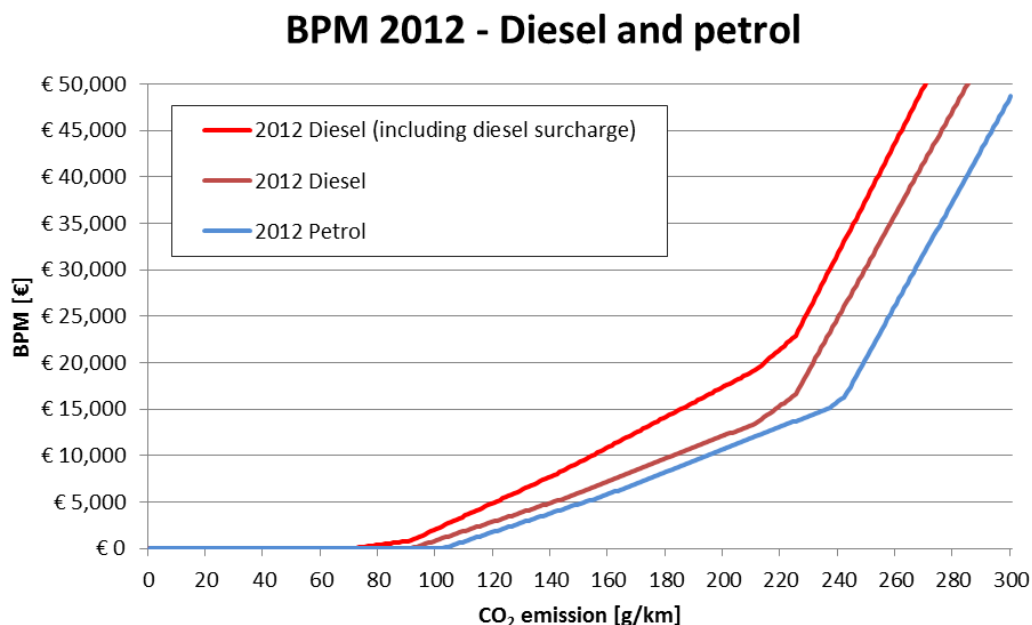
Table 2 | CO₂ emission thresholds in g/km for DIESEL passenger car purchase tax (BPM) per bracket, 2011-2015

	2011	01/01/2012	01/07/2012	2013	2014	2015
exemption	<96	<96	<92	<89	<86	<83
1 st bracket	96-155	96-155	92-143	89-131	86-120	83-110
2 nd bracket	156-232	156-232	144-211	132-192	121-175	111-160
3 rd bracket	>232	>232	212-225	193-215	176-197	161-180
4 th bracket	n/a	n/a	>225	>215	>197	>180

Table 3 | BPM tax rates for PETROL and DIESEL [€ per gram/km CO₂] per bracket, 2011-2015

	2011	01/01/2012	01/07/2012	2013	2014	2015
exemption	0	0	0	0	0	0
1 st bracket	61	94	101	122	101	88
2 nd bracket	202	280	121	145	121	106
3 rd bracket	471	654	223	270	228	205
4 th bracket	n/a	n/a	559	539	456	411

Figure 1 | Graphical illustration of the CO₂-based purchase tax (BPM) as per July 1st 2012



Circulation tax (MRB)

- The second type of vehicle taxation in the Netherlands is the circulation tax. The tariff for this “Motorrijtuigenbelasting” or MRB depends on a number of variables:
 1. type of the vehicle: passenger car, van, motorcycle, lorry/truck or bus;
 2. vehicle mass (empty weight);
 3. type of fuel: petrol, diesel, lpg (only applicable to passenger cars);
 4. the Province the vehicle owner is residing in: the so-called Provincial surcharges (only applicable to passenger cars and motorcycles);
 5. CO₂ emission of the vehicle (see below);
 6. term of payment: vehicle owners can get a payment discount when paying once a year instead of every three months.
- CO₂-based elements in the MRB:
 - As with the BPM, very fuel efficient cars are exempted from MRB. For diesel cars the maximum emission is 95 g/km, while for petrol/LPG cars a maximum emission of 110 g/km applies (year 2012). From 1 January 2014, however, this exemption will expire – both for new cars as well as for “existing” cars.
 - To further stimulate the development and purchase of next generation fuel efficient cars, passenger cars with a CO₂ emission of less than 50 g/km will be exempted from MRB until the end of 2015.

Taxation of private use of company cars

- The private use of a company car is taxed by adding a percentage of the new car list price to the employee’s gross income. The standard percentage is 25%. Income tax and social security fees are paid over this additional income.
- The use of fuel efficient company cars is stimulated by means of a CO₂ differentiation in the percentage of the of the new car list price that is added to the income. The different bands for which different percentages apply are illustrated in Table 4.

Table 4 | Share of the new car price added to the gross income as function of the car’s CO₂ emission in g/km (2011-2015)

PETROL	2011	01/01/2012	01/07/2012	2013	2014	2015
14% addition	<111	<111	<103	<96	<89	<83
20% addition	111-140	111-140	103-132	96-124	89-117	83-110
25% addition	>140	>140	>132	>124	>117	>110
DIESEL	2011	01/01/2012	01/07/2012	2013	2014	2015
14% addition	<96	<96	<92	<89	<86	<83
20% addition	96-155	96-155	92-143	89-131	86-120	83-110
25% addition	156-232	156-232	144-211	132-192	121-175	111-160

- For cars purchased before July 1st 2012, for which an addition of 20% or 14% applies, the incentive is valid until the car changes owner and user. For cars purchased before July 1st 2012, for which an addition of 20% or 14% applies, the incentive is valid for a period of 60 months.
- For cars purchased before July 1st 2012, for which an addition of 20% or 14% applies, the incentive is valid until the car changes owner and user. For cars purchased before July 1st 2012, for which an addition of 20% or 14% applies, the incentive is valid for a period of 60 months.

- Additional incentives are provided for using electric and plug-in hybrids as company cars. For passenger cars emitting less than 50 g/km, purchased between January 1st 2012 and December 31st 2013, no income addition is required for a period of 60 months. For cars emitting less than 50 g/km, which were purchased before January 1st 2012, no income addition is required until January 1st 2017. For cars emitting less than 50 g/km, which are purchased between January 1st 2014 and December 31st 2015, 7% of the new car price must be added to the user's income during a period of 60 months. Cars emitting zero CO₂ during driving (electric vehicles) remain exempted from company car tax until 2015. It is currently not clear how long this incentive will be continued.

Fiscal incentives for sustainable investments by companies

- The net costs of investments in a selected set of sustainable means of production by companies is reduced by a range of fiscal measures:
 - VAMIL: offers the possibility for reducing company tax through arbitrary / unrestricted amortisation of 75% of the investment costs.
 - MIA: additional option to deduct 13.5%, 27% or 36% of the investment costs from the profit in the year of purchasing the sustainable technology.
 - KIA: fiscal stimulation of investments by small and medium sized companies (SMEs).
- The essence of all three measures is that the additional part of the investment that can be deducted from the company's profit in a given year leads to a lower profit tax to be paid in that year.
- Year by year the Dutch government selects technologies which are eligible for this kind of tax reduction. In 2012 the following examples of CO₂ reducing technologies were eligible for one or more of the above fiscal incentives:
 - sustainable propulsion for inland shipping, including CNG and LNG systems, electric or hybrid propulsion, and systems for reduction of PM and NO_x emissions
 - fuel cell systems for mobile machineries and transport means
 - electric vehicles and plug-in hybrid vehicles (type approval CO₂ < 50 g/km)
 - electric mopeds with lithium battery
 - lithium batteries for vehicles or mobile machinery
 - hybrid trucks and buses
 - very efficient conventional passenger cars (petrol < 102 g/km, diesel < 91 g/km)
 - natural gas vehicles for professional use
 - adaptive cruise control for trucks
 - driving simulators for driving education
 - liquid CO₂- or N₂-filling stations for use in cooled transport
 - hydrogen filling stations, charging points and battery-swap stations for electric vehicles, and fuelling stations for natural gas and for high-blend biofuels

3. Private sector and/or local and regional government initiatives.

Covenant between sector and national government

- As part of the government program “Clean & Efficient” in December 2008 a large number of branch organisations and private stakeholders from the transport and mobility sector have signed a covenant / voluntary agreement for the period 2008-2015 with the Dutch government called “Sustainability in motion”¹. Partners in this agreement are: ANWB, RAI, BOVAG, VNA, KNV, TLN, EVO, CBRB, NS reizigers, Havenbedrijf Rotterdam, Schiphol Group, KLM, PDM. In this agreement the sector commits itself to the goals defined in the program and promises to take up a range of specified actions that will contribute to reaching these goals.
- Some elements of the agreement are:
 - Support from the sector for introduction of a road charging scheme
 - Promotion of ITS applications
 - Support for the introduction of electric vehicles
 - Promotion of behavioural change, including fuel efficient driving styles
 - Initiatives for greener lease vehicle fleets
 - A task force for promoting and implementing mobility management
 - Realising 250 filling stations for biogas and biodiesel
 - Promotion of a modal shift towards rail (passengers and freight) and water (freight)
 - Improving the sustainability of the mainports Schiphol airport and Rotterdam harbour
 - Promotion of CO₂ reduction in the logistics sector, a.o. by carrying out pilots with city distribution, sustainable gateways and the Lean & Green program (in which transport companies commit themselves to take a set of measures for realizing 20% CO₂ reduction)
- The initiative for these actions is with the sectoral stakeholders, but in many instances the government provides some form of support (e.g. sponsoring the Lean & Green program). Also actions by the stakeholders may be in support of government initiatives (e.g. for electric vehicles).
- Despite changes in government and amendments of some government policies this covenant is formally still valid and operational.

Mobility management

- In the Netherlands a wide range of initiatives take place in the field of mobility management. These initiatives are supported by government programs and subsidies.
- Subsidies have been available for the development of innovative services for mobility management. A program on innovative travel aims to improve the accessibility and attractiveness of public transport, e.g. by promoting innovative last mile solutions. These include e.g. bicycle and moped rental at train stations and other strategic locations and new car rental and sharing initiatives.
- As a follow-up of an earlier Taskforce Mobility Management, the platform “Smart working, smart travel” coordinates and connects private sector initiatives. A group of 50 frontrunner companies play a crucial role by piloting innovative solutions with respect to ICT, working conditions,

¹ “Duurzaamheid in beweging”

offices, culture and behavioural change, and mobility concepts. The main goal of the program is to reduce congestion by reducing the need to travel to work or by changing work-related travel behaviour. Sustainability advantages are an important side-effect.

- See e.g.:
 - <http://www.slimwerkenslimreizen.nl/>
 - <http://www.agentschapnl.nl/onderwerp/mobiliteitsmanagement>

C,mm,nCargo²

- The Dutch environmental NGO Natuur & Milieu coordinates a program aimed at accelerating innovations that could help achieve a 60% reduction in CO₂ emissions from goods transport & logistics by 2035.
- Partners are the Ministry of Infrastructure and Environment, RAI vereniging (association of car importers and dealers), Havenbedrijf Rotterdam, TNO, Logica, the technical universities of Delft, Eindhoven, and Twente, and the Hogeschool Rotterdam.
- The program supports the development of long term visions and roadmaps as well as a range of concrete research projects, largely carried out by students at participating universities.
- See: <http://www.cmmncargo.org/>

Thematic team supporting municipalities in realising sustainable mobility

- A “thematic team Sustainable Mobility” has been established to assist municipalities in implementing and accelerating local initiatives with respect to regular and more innovative measures for sustainable mobility. The team is led by an alderman of one the participating cities, who acts as “climate ambassador for sustainable mobility”.
- Different aspects are covered: clean fleets (e.g. biogas), concessions for clean public transport and taxi’s, mobility management (incl. large park & ride facilities), biking policies, electric transport, city logistics, and dynamic traffic management.
- Municipalities bring in projects which receive support and can be copied by other municipalities.
- Generated knowledge is disseminated to participating municipalities and to a network of associated stakeholder organisations.
 - E.g. a Guide on sustainable mobility for municipalities: http://www.agentschapnl.nl/sites/default/files/bijlagen/handreiking_klimaat_en_mobiliteit_gemeenten_0.pdf
- Participating cities: Amsterdam, Eindhoven, Groningen, Haarlem, Houten, Leeuwarden, Nijmegen, Utrecht, Venlo en Zaanstad.

Green deals

- The Dutch government is establishing so-called “Green Deals” with stakeholders from the private sector, regions and municipalities. These deals contain agreements on how the national government supports or facilitates initiatives from the sector as well as the ambitions and responsibilities of the other participants. Some relevant examples are:

² Pronounced as: Common Cargo

- Charging points for electric transport. Deal with the regions Brabant, Friesland and Rotterdam with the aim to have 10,000 smart charging points and 100 fast charging points by 2012.
- Development of biogas hubs in the provinces of Friesland, Groningen, Drenthe, Noord-Holland and Gelderland.
- Promotion of regenerative braking in trains by Railforum, NS, and Veolia.
- Green deal for a broad approach towards sustainable mobility in the province of Utrecht.
- Promotion of electric vehicle innovations by small and medium sized companies, by D-Incert (the Dutch Consortium for Electric Road Transport, a cooperation between universities and other organisations), DOET (Dutch Organisation for Electric Transport, a branche organisation), Syntens, and Automotive.NL.
- Zero-emission bus transport(ZEB) foundation, a cooperation of a wide range of stakeholders aiming to achieve zero emission public transport in cities by 2025 by facilitating and promoting the use of zero-emission buses.
- See: <http://ondernemendgroen.nl/greendeal>

Policies related to spatial planning and the use of travel modes other than road transport

- City and regional planning, public transport, biking and walking are important elements of Dutch transport policy but originally for other reasons than greenhouse gas abatement.
 - Policies with respect to spatial planning and public transport are developed at the national as well as at the regional and local level.
- The amount of regional and local policies on these subjects is extremely large and diverse, and information sources are many and dispersed. It is therefore not possible to condense them into a short summary without it resulting in more or less meaningless generalizations.

4. Research programs

In the Netherlands no structural research programs exist that support the development of instruments and measures for the abatement of GHG in the transport sector. The Dutch government does have a wide knowledge infrastructure at its disposal that is consulted for specific questions and projects. Some relevant institutes are listed in chapter 6 on *Contact details of relevant government commission/committee and of academia/think-tanks of interest*. Below some possibly relevant examples of recent projects are listed:

EU Transport GHG: Routes to 2050

- Two projects funded by the European Commission (DG Climate Action), which aimed to assess technical and policy options and to stimulate a debate about the actions that need to be taken in the medium- to long-term (particularly between 2020 and 2050) to reduce greenhouse gas emissions from the transport sector in the EU.
- Carried out by AEA and Dutch institutes TNO and CE Delft
- <http://www.eutransportghg2050.eu>

Netherlands organisation for applied scientific research (TNO)

- A wide range of projects and programs related to technical, behavioural and policy aspects of sustainable mobility, including framework contracts with the Ministry of Infrastructure and Environment on emission testing of road vehicles. modelling of emission factors and ad-hoc consulting on issues related to vehicles, fuels and emissions.
 - http://www.tno.nl/content.cfm?context=kennis&content=expertisegroep&laag1=3&item_id=106&Taal=2
 - http://www.tno.nl/content.cfm?context=thema&content=propositie&laag1=894&laag2=914&laag3=105&item_id=105&Taal=2

Netherlands Environmental Assessment Agency (PBL)

- Recent relevant reports
 - Getting into the Right Lane for 2050
 - <http://www.pbl.nl/sites/default/files/cms/publicaties/500159001.pdf>
 - Evaluation of mobility-related measures in the Dutch “Clean and Efficient” program (Verkeer en vervoer in de Referentieraming Energie en Emissies 2010-2020. Broeikasgassen en luchtverontreinigende stoffen)
 - <http://pbl.nl/sites/default/files/cms/publicaties/pbl-2010-verkeer-en-vervoer-in-de-referentieraming-energie-en-emissies-2010-2020-broeikasgassen-en-luchtverontreinigende-stoffen-500161003.pdf>

Energy research Centre of the Netherlands (ECN)

- Recent relevant reports
 - Timing of technology roll-out for climate targets in transport
 - <http://www.ecn.nl/publicaties/PdfFetch.aspx?nr=ECN-E--11-055>
 - Well-To-Wheel based fiscal systems. Can a WTW fiscal basis accelerate the introduction of alternative fuels?

- <http://www.ecn.nl/publicaties/PdfFetch.aspx?nr=ECN-E--11-038>
- Alternative fuels and technologies: Policies for successful introduction
 - <http://www.ecn.nl/publicaties/PdfFetch.aspx?nr=ECN-L--11-037>
- Transition policy for sustainable mobility (in Dutch)
 - <http://www.ecn.nl/publicaties/default.aspx?nr=ECN-E--08-080>

5. Interesting proposals that have not (yet) resulted in government policy or action

Some possibly interesting initiatives are:

Action Plan for Driving on Hydrogen

- The ministry of Infrastructure and Environment is currently preparing an Action Plan for Driving on Hydrogen. A budget of 5 M€ is available. Elements of the plan would be the development of a more detailed vision on the roll-out of infrastructure, the establishment of some first hydrogen filling stations (partly funded by a recently awarded TEN-T project), market formation in selected regions, international cooperation and flanking measures e.g. related to safety issues and fiscal treatment of hydrogen and fuel cell vehicles. It is not yet clear whether and when the action plan will be implemented.

Ambitions from the coalition plan of the new government (since Nov. 2012)

- The plans of the recently formed new government include the following ambitions which have not yet been translated into concrete policy actions:
 - Further stimulation of electric vehicles through agreements with distribution system operators, energy companies and local governments about infrastructure.
 - Inventory of barriers for sustainable inland shipping and removal of these barriers in view of the important function of the Rotterdam harbour.

6. Contact details of relevant government commission/committee and of academia/think-tanks of interest

Ministry of Infrastructure and Environment

- program leader on vehicles and emissions
 - Rob Cuelenaere, rob.cuelenaere@minienm.nl
 - Petrouschka Werther, petrouschka.werther@minienm.nl
- program leader on fuels
 - Els de Wit, els.de.wit@minienm.nl
- project leader roadmap 2050 activity
 - Arjen Kapteijns, arjen.kapteijns@minienm.nl

Ministry of Economic Affairs

- project leader for electric vehicles
 - Julia Williams-Jacobs, j.g.f.m.williams@mineleni.nl

AgentschapNL (government agency coordinating e.g. pilot and subsidy programs for different Dutch ministries)

- <http://www.agentschap.nl>
- Vivienne Tersteeg, vivienne.tersteeg@agentschapnl.nl
- Dick Appels, dick.appels@agentschapnl.nl

RLI (Council for Living Environment and Infrastructure, an advisory board to the Dutch government)

- <http://www.rli.nl/publicaties/2012/advies/keep-moving-towards-sustainable-mobility>
- Folmer de Haan, f.w.dehaan@rli.nl

Relevant knowledge institutes

- KIM (Knowledge Institute for Mobility)
 - <http://www.rijksoverheid.nl/ministeries/ienm/kennisinstituut-voor-mobiliteitsbeleid>
 - Odette van de Riet, odette.vande.riet@minvenw.nl
- PBL (Netherlands Environmental Assessment Agency)
 - www.pbl.nl
 - Dorien Manting, dorien.manting@pbl.nl
 - Anco Hoen, anco.hoen@pbl.nl
- ECN (Energy Research Centre of the Netherlands)
 - www.ecn.nl
 - Martine Uyterlinde, uytterlinde@ecn.nl
- TNO (Netherlands organisation for applied scientific research)
 - www.tno.nl
 - http://www.tno.nl/content.cfm?context=thema&content=thema_hoofd&laag1=894&item_id=894&gclid=CNqfIN64lLQCFQ7LtAodtSYAAA

- Richard Smokers, richard.smokers@tno.nl

IvDM (Institute for Sustainable Mobility)

- coordinates many sectoral initiatives
- www.ivdm.nl
- Jos van den Broek, jos@ivdm.nl