



# 95 E10 Petrol in Finland

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# List of Actions in Brief

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- ▶ Technical background studies by VTT regarding supply chain (started already 2007, a consortium, not FPF)
- ▶ Bio-fuel delivery obligation in Finland – participation to the law drafting 2009
- ▶ National E10 standard prepared because EN 228 revision delayed
- ▶ Competition rules assessed regarding acceptability of distribution recommendations of protection grade (E5)
- ▶ Labelling of pumps agreed
- ▶ Complaint preparedness assessed
- ▶ Preparation of external communication started 2009 – WG between automobile, motorist etc industries and the authorities
  - ▶ E10 websites
  - ▶ Media/public awareness
- ▶ Internal communications and training packages prepared
- ▶ Follow-up of market development

# Delivery obligation of bio-fuels up to 2020

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## Transport bio-fuel targets set by law up to 2020

- Previous obligation: 4 % of energy content renewable (in force 2008)
- Amendment of the delivery obligation law ([1420/2010](#))
- **6 % between 2011-2014 (required introduction of E10)**
- 8 % from 2015
- 10 % from 2016
- 12 % from 2017
- 15 % from 2018
- 18 % from 2019, and
- 20 % from 2020.

The bigger targets presume that there is enough production capacity of more advanced bio-fuels than the 1<sup>st</sup> generation (that can be double-calculated). New excise tax structure which entered into force at the same time (CO<sub>2</sub> & Energy component) promotes the target.

# Supporting measures etc.

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- ▶ More advanced bio-fuels (than the 1<sup>st</sup> generation) produced from wastes, remainders or non-food cellulose or ligno-cellulose can be double-calculated to cover the bio-fuel delivery obligation (energy content based)
- ▶ Bio-fuels must fulfil the sustainability criteria enacted in the RES Directive
- ▶ Change of the Excise tax structure also from 2011 (CO<sub>2</sub> & Energy component based fuel tax) promotes the bio-obligation
- ▶ The latest piece of legislation: National bio-fuels sustainability Act in force July, 2013 (verification of the sustainability scheme of the operator)
- ▶ **Fulfilment of the bigger targets towards 2020 requires enough 2<sup>nd</sup> generation bio-fuel production capacity in the country**

# Case E10 Petrol – Communications basis

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- ▶ Since 2008, the Finnish 95 octane petrol had an ethanol content of 0-5 % v/v and it was suitable for use in all engines.
- ▶ As from 1 January 2011, the 95 octane petrol contains 0-10 % v/v ethanol in order to ensure that the legislative transport bio-fuel obligations will be met in Finland. This petrol is suitable for use in about 73% of all petrol driven cars.
- ▶ Finland has long traditions of oxygen components in petrol, so the change from max. 5% v/v ethanol to max. 10% v/v was not a huge change as such
  - ▶ A fact that should have been told more clearly to the consumers
- ▶ E10 has long been in use in some other countries, too.
- ▶ There shouldn't be a doubt that the oil industry always distributes good quality products that meet all relevant standards and requirements and are suitable to their purpose of use.

# Requirements on supply chain

- ▶ Well before launching E10 the Technical Research Centre VTT conducted a project called "Impact of bio-fuels on the lifecycle of service station equipment (BIO-DISTRIBUTION)"
- ▶ The project was ordered by a consortium (certain oil companies, but not all of them, and some equipment suppliers) and carried out already in 2007 - 2008
- ▶ General findings were published in the research report but not the measurements regarding material compatibility
- ▶ Results of the study were included in the Service Station standard SFS 3352:2010 volume (new Annex D on "bio-distribution")
  - ▶ The study covered also E85, HVO and FAME
  - ▶ **The results indicated that petrol containing small amount of ethanol (up to 10 vol-%, E10) or HVO diesel oil do not require changing current practises, i.e. the materials are basically compatible**

# Tank Coatings

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- ▶ In Finland only epoxy paints used (in new tanks and also for years back)
- ▶ Fibre-glass coatings are not generally used (some resins used with fibre-glass can be problematic).
- ▶ Fibre-glass coatings may have been used in Finland only in some older tanks when renovated. It's agreed that the performance of these coatings have to be regularly monitored.
- ▶ In new tanks also the epoxy paint types have been changed by the manufacturers so that they are now ethanol resistant, due to E85 readiness mostly (not for E10).
- ▶ **No problems with tank coatings during the almost 10 years period when E5 has been in use. According to experts the step from E5 to E10 was not so big that it should have caused extra problems.**
- ▶ Tank coatings were discussed very briefly in the VTT study (page 22 of the report).
- ▶ In the Annex D to the Service Station standard SFS 3352 (2010) there is now following guideline: "På gamla cisterner ska ytbeläggningsens förenlighet med biobränslett kontrolleras. Också på nya cisterner ska man se till att tillverkarens försäkring täcker ytbeläggningsens förenlighet med den aktuella produkten i varje enskilt fall."

# National E10 standard before new EN 228

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- ▶ The revision of the European EN 228 for E10 was remarkably delayed compared to the new Finnish legislation on distribution obligation which entered into force in January 2011
- ▶ Proposed by FPF and the Finnish Standardisation Association SFS, CEN considered that there were substantial grounds for exemption from the "standstill" for a national standard
- ▶ => a national E10 standard based on the prEN 228 was then prepared and adopted (withdrawn now because the new EN 228 was finally adopted)



# Distribution of protection grade (E5) and the competition rules

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- ▶ In Finland service stations are usually equipped to distribute two petrol grades (storage tanks & forecourt)
  - ▶ Increasing more fuel grades for retail would have meant remarkable investment which would not be the customers' benefit, either
  - ▶ In fact the infrastructure limits the station's petrol choice for 2 grades in most cases
- ▶ A nation-wide "protection grade" (E5 petrol) policy was seen to be consumers' benefit
- ▶ According to a self-assessment of the competition rules (consulted by a competition lawyer) the industry's common guideline was to combine the 98 octane requirement and E5 protection grade (98 E5)
- ▶ The industry guideline was considered as acceptable horizontal cooperation with regard to the competition rules because it
  - ▶ could be compared to standardisation
  - ▶ benefits most of the consumers because the logistics remain simple, and
  - ▶ does not hinder companies offering also **95 E5** grade if seen appropriate
- ▶ The policy was also presented to the Competition Authority

# Background for 98 E5 distribution arrangements

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- ▶ 2010 E10 compatible car population 70 %, potential consumption share was even 78 %, in 2013 82 % and 2020 estimate 92,5 %
- ▶ So, for the time being there is need for an alternative “protection grade” which suits to all engines
- ▶ Also required by law (Fuel Quality Decree)
- ▶ Alternatives either 95 E5 or 98 E5; **easy to go for 98 octane grade as protection grade:**
- ▶ 98 octane petrol necessary also in future in the market anyway
- ▶ If the protection grade was diverged between 95 and 98 grade in the domestic market that would have caused negative impact compared the prevailing situation:
  - ▶ Remarkable rise in the logistics costs because of investments to distribution and storage (to departing product/technology)
  - ▶ Rise of 98 octane petrol price
  - ▶ More difficult consumer information etc.

# Fuel consumption tests

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- ▶ First no consumption tests beforehand because the consumption difference can be reliably estimated based on the difference between the caloric value of the fuels
- ▶ However, public distrust, fed by the media, social media, so called "experts" etc. forced to carry out tests because the sales of E10 sank
- ▶ Most important test was executed by Technical Research Centre of Finland VTT ([reported 3.6.2011](#))
- ▶ According to the dynamometer tests (FTP72 driving program) and measuring results the consumption of 95 E10 was approximately **1 %** more than 98 E5
- ▶ **After these results were published 95 E10 sales started gradually increase**
- ▶ Also some motorist magazines ("Teknikens Värld", Tuulilasi) made their own tests with parallel results

# 95E10 vs 98E5 – VTT's tests

Car	Consumption, 95E10 L/100km	Consumption, 98E5 L/100km	95 vs. 98	95 vs. 98	spread ±	
			difference L/100 km	difference %	95E10 %	98E5 %
Peugeot	9.59	9.60	-0.01	-0.1 %	0.7 %	1.0 %
Alfa Romeo	14.51	14.50	0.01	0.1 %	0.1 %	0.2 %
Saab	10.95	10.95	0.00	0.0 %	0.1 %	0.2 %
Honda	10.05	9.94	0.11	1.1 %	0.7 %	1.1 %
Nissan	7.92	7.68	0.24	3.1 %	0.6 %	1.8 %
Audi	8.78	8.68	0.09	1.1 %	0.1 %	0.4 %
On average	10.30	10.23	0.07	0.7 %	0.4 %	0.8 %



# Labelling of petrol dispensers

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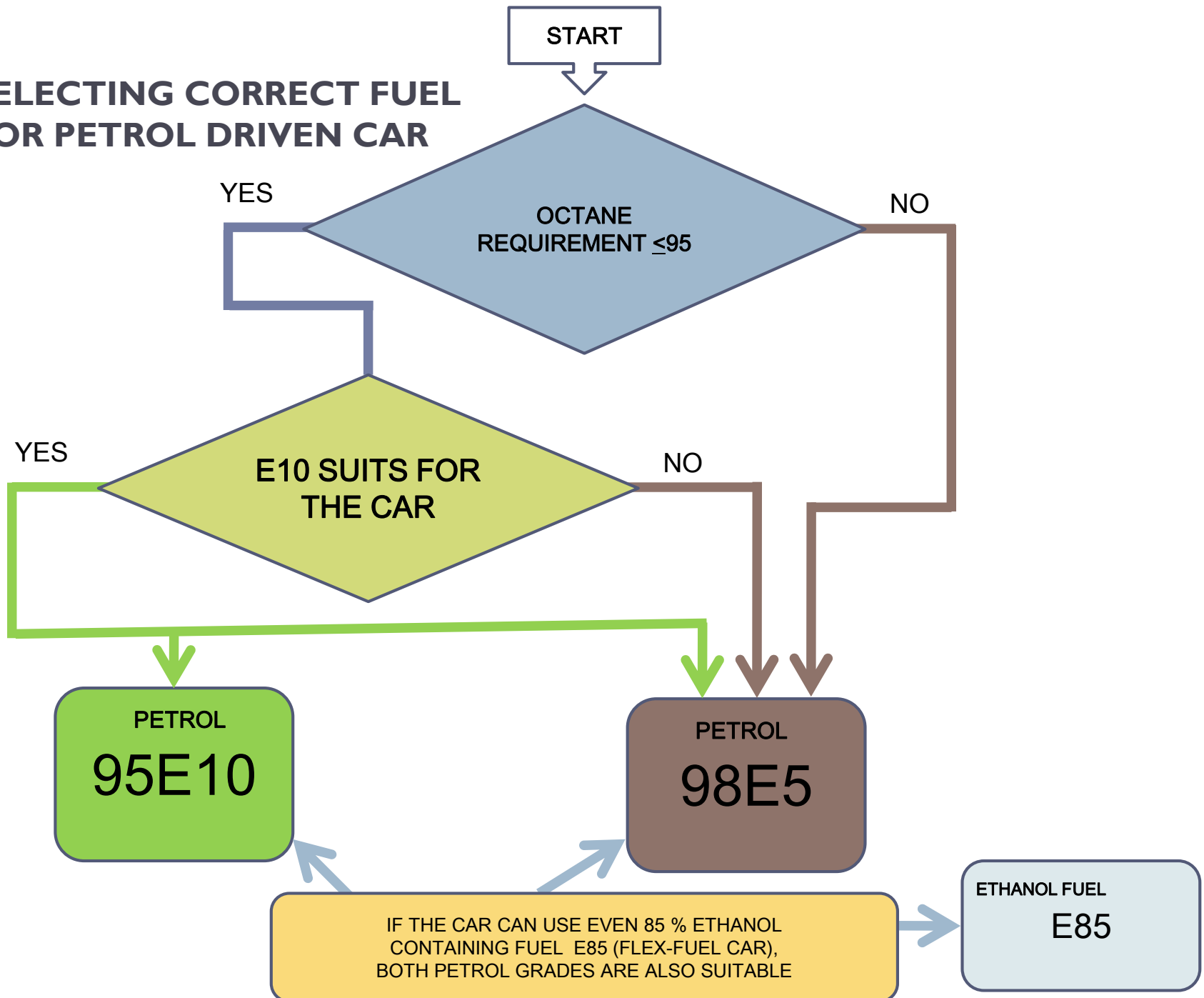
- ▶ Petrol have been labeled in Finland by **95 E10** and **98 E5** from January 2011 when E10 was introduced to the market
- ▶ The national SFS 5979 E10-standard required labeling of E10-grade with “E10”, RON octane number and possible metallic additives
- ▶ **Oil retailers decided to label both E10 and E5** in order to keep the same approach for the both grades. Metallic additives are not used in Finland.
- ▶ **In addition to the large-font 95E10 and 98E5 labels a smaller font text is posted to the pumps in national languages Finnish and Swedish:**
  - ▶ **95E10: “For engines which are able to use gasoline containing 10 % ethanol”**
  - ▶ **98E5: “For all gasoline driven engines”**
- ▶ The text refers to engines in order to cover also 2-wheelers, boats, gardening tools, chainsaws etc. in addition to cars and vans

# Complaint preparedness

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- ▶ So far no real product liability cases have become evident
- ▶ Possible liabilities of different parties like the oil industry, car, boat and other technical wholesale sectors and also the product user/consumer were studied
  - ▶ Guideline for managing a possible fault/defect
- ▶ Basic customer piece of advise: **"If you don't know, do not act."**

# SELECTING CORRECT FUEL FOR PETROL DRIVEN CAR



# Case E10 - External Communications

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- ▶ In 2009, a cooperation body was formed representing the oil industry, the automobile industry, the motorist association and the authorities. Its first E10 media release of 30 November 2009 didn't arise much interest amongst the media as January 2011 was seen by them to be "too far along into the future".
- ▶ To prepare for the actual communications, the automobile industry conducted a survey amongst vehicle manufacturers and compiled a list of vehicle makes and models that would be compatible with E10 petrol.
- ▶ With the support of the Ministry of Employment and the Economy, steps were taken to create an E10 Website to run on the server of Motiva Oy, a government based agency promoting energy efficiency in Finland.
- ▶ The website was launched in a media conference on 26 May 2010, at which was published the first listing of E10 compatible vehicles. This gained extensive media coverage, even in the television news.
- ▶ The cooperation body was expanded during the year as the Finnish Marine Industries Federation Finnboat and the association of small engine industry joined in.
- ▶ In 2010, the various actors, incl. the oil companies, carried out communications (news releases, replies to inquiries) **but no actual "advertising campaigns"**.
- ▶ **The final Press Conference on 7 December 2010 was attended by a Cabinet Minister.**



# Case E10 - Internal Communications

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- ▶ The cooperation group first set up a working group to put together a basic [training package](#).
- ▶ The package was placed in the E10 Intranet and sent directly to the various target groups to ensure that the oil and automobile industry actors could use it in their 2010 internal training as a supplement to their own materials.
- ▶ The FPF was unable to monitor closely enough how the internal training process was actually run so the monitoring was left to the various actors themselves.
- ▶ The training package was updated along the year as necessary.

# Case E10 petrol – Observations (I)

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- ▶ Unlike fuels for the most part, case E10 has stirred up passionate feelings amongst the motorists.
- ▶ Increasing suspicion/opposition against bio-fuels became apparent and reflected also on E10.
- ▶ Personal beliefs and opinions not based on facts were dominating the Internet discussions throughout the change of the year 2010-2011 and still thereafter expressing strong mistrust towards the new fuel.
- ▶ Motorists have been conducting their own "tests" under all but actual test conditions.
- ▶ **The media was busy quoting the Internet discussions whereby personal beliefs and opinions without factual basis have easily been turned into truths.**
- ▶ Additionally, here too, shocking headlines have too often taken the story astray.
- ▶ In the E10 issue, the messages of the oil industry may not necessarily be trusted.

# Case E10 petrol – Observations (2)

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- ▶ Would it have helped if the product had been launched in the summer rather than in the winter? Would an earlier joint E10 product testing have helped?
- ▶ On the whole, the oil sector (FPF, member companies) probably did not realise:
  - ▶ How sensitive this matter was for the consumers
  - ▶ That so many people have very strong feelings against everything that is told by oil companies, authorities and experts from research institutes, but instead
  - ▶ They want to listen fellow citizens in social media: “I do not trust what these so called experts are trying to make me believe in”, and: There are “real” experts like a car repair shop keeper from Karleby who says that...and: I am against everything coming from the EU...

# Case E10 petrol – Observations (3)

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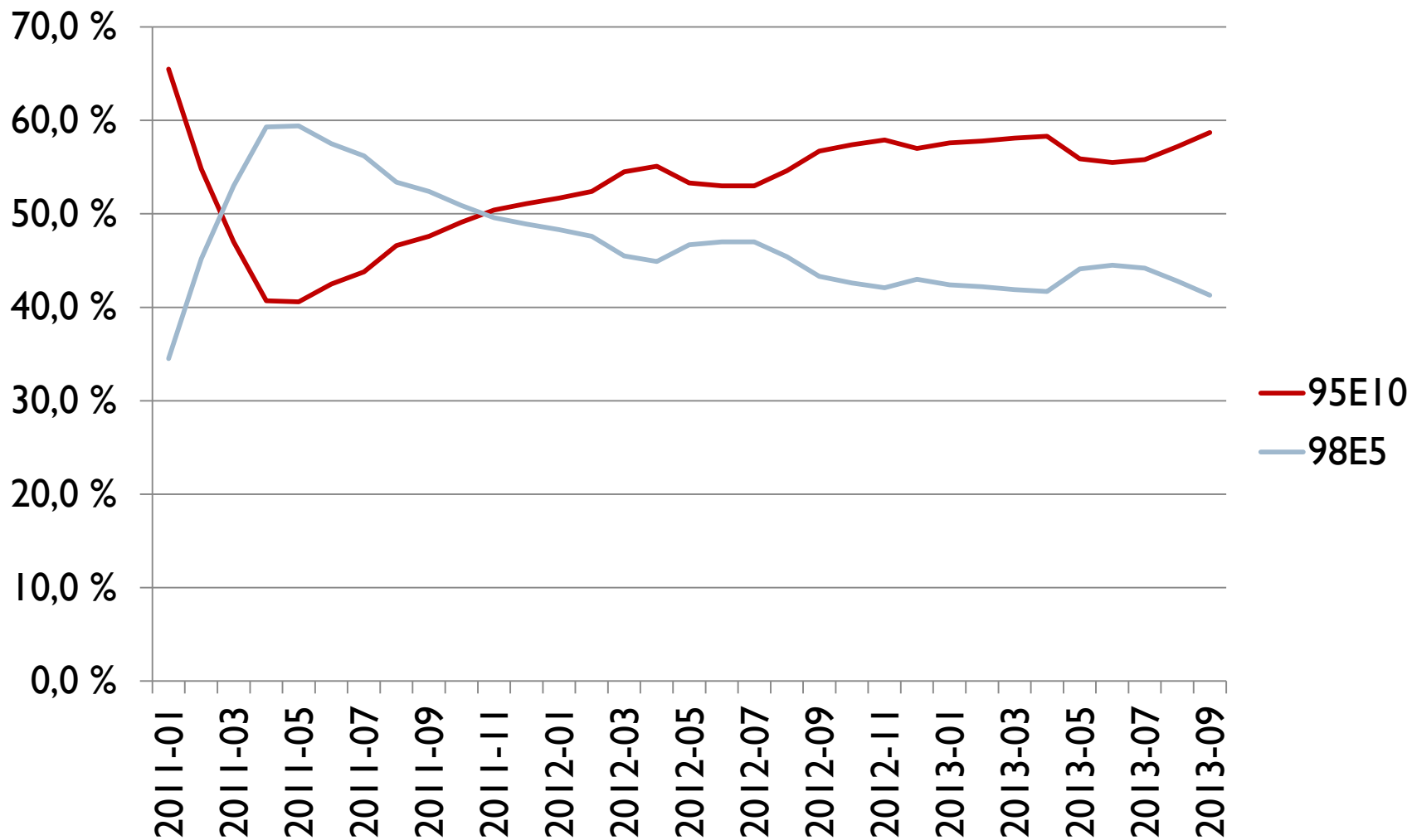
- ▶ FPF did not have a special media budget for E10 launching project - if we had invested more:
  - ▶ An opinion poll among car owners, a good time ahead before E10 was launched, would have been helpful when planning the communications
  - ▶ Should we have invested also in a direct mail campaign to the end customers
  - ▶ Member companies were using social media (the FPF not), could it have been used more effectively?
  - ▶ It would have been wise to have had an advertising/communication company to deal with the whole campaign (outsiders view)

# Communication cooperation network

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- ▶ Finnish Petroleum Federation (chair) and members
- ▶ Association of Automobile Importers in Finland
- ▶ Finnish Central Organisation of Motor Traders and Repairs and its affiliates
- ▶ Ministry of Employment and the Economy
- ▶ Motiva Ltd (Gov material and energy efficiency promoting agency)
- ▶ Ministry of the Environment
- ▶ Finnish Transport Safety Agency Trafi
- ▶ Association of Finnish Technical Traders
- ▶ Finnish Marine Industries Federation Finnboat
- ▶ Automobile and Touring Club of Finland
- ▶ Service Station Dealer Association (SBL)
- ▶ Finnish Competition and Consumer Authority

# The share of E10 between 1/11-9/13





# More information

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**E10 Petrol websites:**

<http://www.e10bensini.fi/en>