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TREMOVE Contact Group Meeting 27-28 May 04 Minutes

Editors: Bart Van Herbruggen, Griet De Ceuster

Thursday 27 May: Transport demand model and baseline

Agenda & presentations

1. TREMOVE and DG ENV policies,
Jacques Delsalle, DG ENV
27 Thu 1 Jacques Delsalle.pdf

2. TREMOVE project overview
Griet De Ceuster, TML
27 Thu 2 Project Overview.pdf

3. The Transport Demand Module in TREMOVE
Steven Logghe, TML
27 Thu 3 Transport Demand.pdf

4. The SCENES model
Ian Williams, WSP & Angelo Martino, TRT
27 Thu 4 The SCENES model in TREMOVE.pdf

5. TREMOVE transport demand results
Steven Logghe, TML
27 Thu 5 Transport Demand.pdf

6. Comparison with other European sources (PRIMES)
Ian William, WSP
27 Thu 6 PRIMES_SCENES_Compare.pdf

7. National data
Jan Kasík, *DHV CR*
27 Thu Jan Kasik.pdf

8. Conclusions and closure of the meeting
Jacques Delsalle, DG ENV
27 Thu 1 Jacques Delsalle.pdf

COMMENTS

Questions for clarification (incomplete list)

- Marion LeLouarn: why are business passenger trips modelled in the business tree?
  Answer: the business tree includes all decisions made by firms, the passenger tree all decisions made by households.

- Stane Božicnik: Why only these 3 freight commodities?
  Answer: most logical aggregation of the 13 in the SCENES model. More commodities would make the model too complex.

- Stefan Larsson: truck types changed compared to previous model?
  Answer: transport demand model differentiates between -12 (small truck = freight-LDV + HDV) and + 12 (large truck = HDV). The passenger-LDVs are classified under large cars.

- Janusz Cofala, Panayotis Christidis: how are the EOS estimated?
  Answer: This has been done by Stef Proost based on literature and expert judgement. The resulting price elasticities were checked with other sources. However, the elasticities did no feed back into SCENES. The TREMOVE final report will include a detailed explanation of the sources and methodologies used.

- Neville Thompson expressed concern that the same costs were used for rail gasoil as for road diesel.
  Answer: These costs should be clarified.

- Stefan Larsson: does GDP growth differ per country?
  Answer: yes.

- Günther Lichtblau, Stefan Larsson: how will TREMOVE take into account national forecasts, what is the procedure, same as RAINS?
  Answer: No, we did not foresee a country by country procedure. In the TREMOVE project there are "contact group meetings" and "stakeholder meetings", in which comments can be given. We will take into account these comments. TREMOVE will not directly be used for the NEC. It will be used for EU wide policies, as car technology etc. Therefore EU consistency is more important than national consistency.
  It is a good suggestion to have some better/smoother contact with the member states. We will send out the list of important issues and a data request to the countries, taking into account what has been already provided e.g. in the context of RAINS baseline.

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<u>General comments</u>

- Stefan Larsson: Suggestion to include rail track congestion for freight trains, e.g. by setting a maximum on rail freight volumes.
  Answer of the TREMOVE team: good suggestion but not obvious, we'll have a look at the possibilities.

- Stefan Larsson: Suggestion to classify goods by value.
  Answer: cannot be done within current model scope.

- Stefan Larsson: Better define load factors in volume terms.
  Answer of the TREMOVE team (WSP): this is partly incorporated in SCENES which uses more detailed commodity disaggregation as TREMOVE

- Stefan Larsson: Suggestion to change load factors over time.
  Answer of the TREMOVE team: TML and WSP will work on this.

- Stefan Larsson: Suggestion to take higher load factors non-urban than urban (urban: forth full and back empty; non –urban full back and forth)
  Answer of the TREMOVE team: TML and WSP will work on this.

- Stefan Larsson: Car ownership for FR, IT in SCENES is not modelled well.
  Answer of the TREMOVE team: we'll have a look at it.

- Janusz Cofala: comparison of TRMEOVE and PRIMES fuel consumption should be done for 2000 (as this is real PRIMES base year, when it comes to fuel cons. statistics). Samaras proposes to use fuel cons statistics to "calibrate" TREMOVE with.
  Answer: good suggestion, the TREMOVE team will have a look at it.

- Several participants: the interpolation 1995-2020 should be improved, especially the national and/or European statistics for 1995-2003 should be represented well.
  Answer: we can use EU statistics for this, and the fact that (according to Janusz Cofala) growth rates in PRIMES differ each five years. At the moment we use "constant growth" to intyerpolate between 1995 and 2020, we did not use member state data yet

- Suggestion to model more metropolitan areas (not only capital city)
  There is no added value to modelling metropolitan regions if we are not looking into specific data for these regions. The scope of the model is 1 metropolitan area per country. But the model can handle more regions, if it would be needed in a project and if enough data is available.

Comments on SCENES

- Katri Kosonen and others: the perceived costs for users (tariffs) are assumed to be constant between 1995 and 2020 – why?
  Answer of TRT and WSP: This has been assumed because it is the clearest scenario. Other scenarios can be used, but they are probably also not politically agreed – a scenario that is agreed or is commonly known as the most realistic does not exist. In either case one would have discussions, that's why we chose the most clear one.
  The team will investigated this issue further. An option might be to use the TIPMAC/IASON cost scenario. Taxes/subsidies and net prices may vary, only the sum (tariffs or user costs) is modelled and is constant.

- Katri Kosonen and others: is car ownership in SCENES in line with TREMOVE?
  Answer: No, car ownership in TREMOVE is endogenous (derived from the number of vehicle km). In SCENES it is exogenous. There is no relation between each other. Making the ownership in SCENES dependable on the one from TREMOVE is not possible: the TREMOVE numbers are indirectly derivated from SCENES (through vkm).
  WSP needs country inputs to improve car ownership growth in SCENES.

- Panayotis Christidis: difference peak versus off-peak speeds is too small.
  Answer: The problem is that SCENES does not model peak / off-peak, only day, so off-peak is fairly correct. But there is room for improvement here.

- Zizis Samaras & Kari Mäkelä : HDV load factors / occupancy rates (=2) need to be improved.
  Answer of the TREMOVE team: we'll work on it.

- Low cost air carriers not modelled in SCENES (neither their cost and neither fact that they change the network by linking smaller airports that were'nt connected earlier)

- Question of Marion LeLouarn on competition rail-plane-coach.
  WSP : TEN influence is very important to explain how rail activity growth in SCENES compared to other forecasts (especially for DK, SP, PT)

Friday 28 May: Vehicle stock model and baseline

Agenda & presentations

1. Short overview of TREMOVE and DG ENV policies
Stef Proost, K.U.Leuven
28 Fri 1 Overview.pdf

2. The Vehicle Stock Module in TREMOVE
Bart Van Herbruggen, TML
28 Fri 2 Veh Stock Module.pdf

3. Rail Transport
Bart Van Herbruggen, TML
28 Fri 3 Rail Veh Stock.pdf

4. Maritime Transport
Griet De Ceuster, TML
28 Fri 4 Maritime Model.pdf

5. Inland waterway transport
Bart Van Herbruggen, TML
28 Fri 5 Inland Waterway Veh Stock.pdf

6. Road transport
Bart Van Herbruggen, TML & Jasper Knockaert, K.U.Leuven
28 Fri 6 Road Veh Stock.pdf
28 Fri Jasper Knockaert.pdf
28 Fri Kari Makala.pdf
28 Fri Zizis Samaras.pdf

7. Conclusions and closure of the meeting
Jacques Delsalle, DG ENV

COMMENTS

General

- Neville Thompson, Stefan Larsson: why did TREMOVE uses 1995 as a base year, and forecasts from there? 1996-2002/3 data is available, e.g. the ACEA monitoring reports.
  Answer: We use mainly TRENDS data. This is a project of DG TREN + EUROSTAT. TRENDS has very detail data on vehicle stocks in 1995. Data that is more recent is available on a EU scale, but not at the detailed level we need. However, we will check our "forecasts" for 1996-2002 with some observed data.
  We have a copy of the ACEA monitoring reports and we use them.

Rail

- Scrappage rate for rail needs to be improved. There was a suggestion to take different scrappage age for electric vs diesel trains. Suggestion to take lower scrappage age for HSTs.
  TREMOVE team will look into this and asked for info on this to stakeholders.

- Discussion on diesel share in 2020: statistics for 2003 to be checked (via Rolf Tuchard, DG TREN).

- Peter Mistiaen: Rail competition will probably lead to more diesel because new operators prefer diesel, e.g. Ikea. It is cheaper and easier.

- Large growth in rail in some countries?
  Gordon Deane: this is because we modelled the TEN scenario in SCENES. In some countries a large amount of HST will be build in 2020 according to the TEN.

- Freight trains stocks also grow rapidly.
  Ian Williams: this is due to the "constant tariffs" scenario in SCENES. Rail freight grows then with app. the same rate as road freight. More realistic would be that the rail tariffs remain constant while road tariffs drop. SCENES can model that. The question is: what tariff evolution should be used?

Maritime

- Clarifications:
  Fishing and military vessels will not be modelled.
  Ferries are not included yet.
  All martime transport to/from EU is modelled, both short sea and deep sea.
  No modal shift or competition with other modes is modelled: too complex and not very relevant (exept for a small part of short sea).

- Kari Mäkelä suggested a data source: the Baltic sea traffic is on a Finnish website (even in English).

- Stefan Larsson: substitution between land transport and coastal shipping not modelled.
  TREMOVE team: We would need data on short versus long distance shipping. With this we could model a mode substitution between short sea shipping an land transport. Unfortunately, this data is not available in an structured way.

- Janusz Cofala: National emission inventories are more limited, thus not comparable with TREMOVE.

- Janusz Cofala has some useful data on controlling options.

- Matti Vainio pointed out that maritime ships are an important issue wrt CO2 emissions.

Inland waterways

- Hilde Bollen pointed out that the Dutch data might not be sufficient to extrapolate. She suggested some data sources and will send them to the team.

Road

- CONCAWE (Neville Thompson): we can't produce that much diesel. Discussion followed. F. Lantz (Institut Francais du Petrol) notes that they do not see short term problem (EU can export gasoline to US and import diesel from US).
  Conclusion: TREMOVE can model a shortage of diesel fuel by including a supply function for diesel fuel that gives the price increase for higher volumes of diesel. All data are welcome and we hope we get some insights from

Institut Francais du Petrol. The TREMOVE team repeats that they do not forecast diesel shares, they use a model to know what would happen if there is no policy change. If some policy changes like high diesel shares are really problematic, policy may react by changing relative taxes for diesel and gasoline and the realised outcome will be different. If we assume away the problem from the start, the whole modelling exercise is pointless.

- The use of dummy variables in the new logit model has been discussed. No improvements are suggested. *Obviously it is always better if we can reduce the number of dummies and replace them by another explanatory variable. But it happens that the member countries reacted differently to cost and power differences between gasoline and diesel. The dummies do not influence the model coefficients significantly (except for Finland). Power is the most important parameter (besides costs). Power is a proxy for acceleration; it is used because more information on power is available then on acceleration. We will work on this issue by checking the relation between power and acceleration on a more limited data set, by looking for more data and by comparing with other studies.*

- Small diesel cars issue.
  They are hard to model because they are only sold since 2003/4. The current 2.0 version of TREMOVE is based on too little data; the improved car stock logit model will have a larger base.

- Suggestion to check sensitivity of logit if discount rate is changed.
  We will continue to work on this issue by checking the implicit discount rate used by consumers (now a 4% real is used).

- Suggestion to include CNG/LPG vehicles in baseline logit.
  We will check the relevance and possibilities , in the past we experienced many statistical problems (mixing up gasoline and LPG) , by the way the potential for LNG is limited as it is a byproduct.

- Suggestion to include blended bio fuels in logit scrapped.
  Answer: This is not important, as the vehicles are the same; they only use different fuel in the same engine. This means that we take bio diesel into account when it comes to emissions not for the modelling of the car stock.

- Acceleration parameter instead of hp to be used for new technologies.
  This is being examined.

- Suggestion to model early penetration of PM traps (i.e. split in EURO III&IV with and without PM trap).
  TREMOVE allows for that. The problem will be to study the number of car makes that offer this early penetration.

- Stefan Larsson on HV trucks. Showed some slides from NEA study. There is a very large diff in +12t trucks (these go up to 70 tonnes). The largest trucks are most important when modelling substitution with rail, inland ship.
  Answer of Stef Proost: TREMOVE 2.0 freight modelling has already improved a lot compared to TREMOVE 1.3. The main issue on long distance trucking (now a separate category of freight coming from SCENES) is to get load factors and thus vkm per subcategory of trucks right. These load factors can be different (higher) for large international trucks. If useful we can test extra large trucks. The TREMOVE team can model this via a change in the load factor, costs and emissions within this category. The change in volume/weight in loads is more difficult to model in TREMOVE.

- Kari Mäkelä on Finish results. TREMOVE pkm are ok, vkm too low, thus occupancy rate too high. Diesel share Finland for 2003 importantly overestimated in TREMOVE. Average car age in Finland is much higher than EU average, thus slower stock turnover.
  Answer: We agree there are some odd things in our Finnish results. We will have a look at these.

- Zizis Samaras compared TREMOVE diesel share with a (much lower in general) extrapolation of historic trends. Proposes to look thoroughly on what our baseline implies wrt demand for different oil fractions.
  TREMOVE team is aware of the importance of the diesel share. It will continue to work on this issue.

Conclusions

CONSLUSIONS TRANSPORT DEMAND

1. In next TREMOVE reports, write clearly what has been improved compared to TREMOVE 1.3a
2. Consistent SCENES baseline to be built
   a. Realistic 2020 assumptions, well documented.
   b. 2002 statistics to be taken into account in 1995-2020 interpolation.
   c. An intermediate run for 2010 could be interesting.
3. Agreement needed on fuel price evolution, public transport subs evolution, car ownership evolution in SCENES baseline.
4. An ad-hoc consultation process to Member States (CAFE Baseline group) and to Contact Group will be undertaken, giving an opportunity to contribute to the definition of the consistent SCENES baseline. Deadline for member states: 15 July.
5. Other key issues:
   a. Freight value, volume, weight.
   b. Load factor and occupancy rates.

CONCLUSIONS VEHICLE STOCK

1. Vehicle stock module to be improved as presented.
2. Need to get input from rail sector.

GENERAL CONCLUSIONS

1. TREMOVE will send the draft minutes to participants,
2. SCENES should provide the list of the important input data they need from the member states.
3. IIASA should provide the comments already received from Member States in the context of PRIMES/RAINS baseline
4. Jacques Delsalle will send out a mail explaining the main outcome of the discussion and asking for contribution from Member States and Stakeholders for the building of the SCENES baseline.
5. Contact group meeting 21 June. We will focus only on emission factors (g/vkm), not on the emission baseline (in grams) as demand and vehicle stock baselines are not yet ready
6. Internal meeting in mid July needed to define consistent SCENES baseline (then in August rerun SCENES).
7. TREMOVE will be ready by end of October to simulate for CAFE and CO2.
8. Contact group meeting in September on policy scenarios and technological abatement options.