

Jobs in green and healthy transport: Making the green shift

International Labour Organisation (ILO) Green Jobs Unit and Research Department for the Transport, Health and Environment Pan-European Programme extended Bureau meeting

Introduction

1. The PEP Partnerships provide THE PEP with an effective mechanism to support the implementation of the workplan in aspects related to the development of tools and methods as well as to provide technical capacity to support member States in implementing THE PEP at the national level. At its fifteenth session, the Steering Committee decided to continue exploring the potential of green transport for job creation and decided to create a steering group to support the identification of the scope of the third phase of the Partnership, bearing in mind cost and time constraints.
2. On 20 March 2018 the Steering Group held its inaugural meeting in Paris. The summary of this meeting, including the methodology and discussions surrounding the study, is included in Annex I. Based on the results of this meeting, the ILO has prepared a draft outline for the study. The Bureau may wish to provide further guidance on the outline set out below. Following further technical discussions, the secretariat and ILO will prepare a list of possible scenarios to be modelled for Bureau members to review and comment before the model runs are actually undertaken.

Annotated Outline of the study

I. Executive summary

3. The executive summary will summarise the areas and conclusions of the study, highlighting:
 - (a) the importance of advancing sustainability in the transport sector,
 - (b) what sustainability in the transport sector looks like, with a special focus on public transport and the electrification of private transport,
 - (c) a brief explanation of the scenarios that have been modelled
 - (d) the employment impact of advancing sustainability in these two focus areas, and
 - (e) policy implications to ensure that the transition to sustainability in the transport sector is just.

II. Introduction

4. The introduction will set out the background and context to the study and how it fits into the activities of THE PEP. This section will identify what is the problem that is seeking

to be addressed with this study and highlight the importance of a tripartite approach to sustainability and in particular in relation to job creation. It will also highlight important parallels that can be drawn with other industries that have created green jobs and how similar analysis that has been undertaken in this area can feed the work to be carried out in relation to green transport jobs. Finally this section will also briefly highlight the negative effects if nothing is done to create more green and healthy jobs in transport.

III. The urgency of sustainability in the transport sector

5. This section will describe the environmental, health and economic impacts of the current transport sector. It will highlight how the transport of goods and services is at the heart of the current economic model of development, underscoring how the transport sector is a key sector to achieve global environmental sustainability. The estimates, based on work already undertaken by international organisations and academic literature will set the foundation and baseline for the analysis to follow in later sections.

IV. Green and healthy transport in 2030 and beyond

6. This section will outline the key tenets of what green and healthy transport means. It will provide an overview of the different challenges of relevance to this study, affecting all transport modes before focusing, in more detail, on the expansion of public transport and the electrification of private transport (seen as a proxy for modelling a change in travel behaviour and urban freight decisions).

7. The main scenarios and policy objectives (once agreed with the Steering Group) will be set out within this section, including an overview of the methodology (with full details in an accompanying Appendix). While the initial analysis will focus on a projection to 2030, it is clear that the majority of changes and their impacts will be felt until well beyond that year. Based on the scenarios that are chosen, an appropriate time horizon will be selected in conjunction with the Steering Group to most accurately reflect the scenario outcomes noting that all estimations beyond 2030 will have a degree of certainty much lower than projections up to 2030 because of the uncertainty in longer term input variables. This section will also provide a number of case studies highlighting the evolution towards green and healthy jobs in transport in countries of the region based on information provided by member States.

A. The expansion of public transport

8. This section will describe the importance of the expansion of public transport to achieve green and healthy transport. It will identify what the trends are in public transport across the region and thus facilitate the understanding of what future changes could take place. The expansion of public transport in the ECE region can have worldwide implications given that the vehicles that are used in public transport are not only produced and sourced within the ECE region and thus an expansion of public transport within the region affects employment (positively and negatively) within the region but also in the rest of the world. For example, trains within the region are increasingly being sourced from China, thus shifting employment from Europe to Asia. Based on this input and case study examples, this section will set out how the expansion of public transport will be modelled to assess its employment impact.

B. Electrification of private transport

9. As set out at the Steering Group session, this approach seeks to identify what a change in travel behaviour (both for passengers and freight) will have on green and healthy jobs. As

travel behaviour is very difficult to model the proxy of the electrification of private transport has been chosen to simulate the effects of this change in travel behaviour. This analysis will cover electrification of private passenger transport as well as private freight transport as an equally significant element of urban transport traffic. This section of the study will describe how the electrification of private transport can contribute to green and healthy transport. It will set out how changes in the ECE region will have impacts inside and outside the region in employment terms.

10. As a key input into the analysis in this section case studies will be provided based on information provided by member States. From these case studies and other information sources the electrification of private transport will be modelled showing the impact that it will have on employment and the provision of green and healthy jobs.

V. The employment impact of green and healthy transport

11. This section will describe the results of the scenarios modelled and will distinguish between the employment effects inside and outside the ECE region. The results will highlight the industries that stand to gain the most employment and those that may lose employment, underscoring that sustainability in the transport sector entails a reallocation of production across industries and countries. Results will offer insight into the effects on the distribution of employment by gender and skill level. A brief section will present differences in CO₂ and PM 2.5 emissions between scenarios as outputted by the model.

VI. Conclusions and policy recommendations

12. The conclusions and recommendations section will summarise the results of the study and explain what this means for green and healthy jobs going forward. These results will point to some key recommendations that will be included in this section. Some of these recommendations will be implementable within the framework of the activities of THE PEP while others will need to be complementary policies that will need to be undertaken in parallel. Examples of where similar policy initiatives have already been introduced (based on information provided by member States) will be used as evidence to highlight where certain actions can work effectively.

VII. Appendix: Methodology

13. The appendix will provide details on the methodological approach used to estimate the employment impact of green and healthy transport using projected multi-regional input-output tables. It will also provide details on the source of the coefficients used in the estimation and provide insight on any assumptions made.

Next steps

14. Given the information provided above, and the draft outline for the study, the Bureau may wish to provide guidance on next steps in the implementation of the project. It should be noted that further technical meetings will take place in the coming weeks between the secretariat and ILO in order to better define the possible set of scenarios to be presented to the Steering Group for comment. Bureau members may already wish to share relevant case studies to inform the paper.

Partnership for jobs in green and healthy transport

First meeting of the Steering Group

on “Jobs in green and healthy transport: making the green shift”

20 March 2018, Paris, France

I. Meeting Conclusions

1. The Steering Group on the assessment of the employment effects of sustainable and healthy transport held its first meeting in Paris on March 20, 2018, hosted by the French Government.
2. Participants highlighted that, the work to be undertaken was the third phase in the activity already undertaken in relation to the employment impact of green and healthy transport.
3. On the structure of the study, the steering group agreed in principle that the study would be based on a scenario-based quantitative approach, complemented with case studies/best case qualitative approach. It was suggested that case studies were to be provided by member States.
4. The ILO and NTNU introduced the modelling approach. A fruitful discussion with the participants, led to the suggestion that the project continue with the following directives:
 - Focus scenario analysis on two sectors that effectively combine environmental sustainability and improved health outcomes: rail and road public transport and the electrification of private road transport.
 - Scenarios should draw on literature that has already explored projections in the transport sector or have already developed scenarios. Where possible, evaluate a realistic scenario, a moderate scenario and an ambitious scenario determined by projections, decisions taken and public targets. If unavailable, they could rely on the characteristics of a particular UNECE country, for others to follow, assuming growth rates capped at a maximum determined by this country. Scenarios will be developed to a medium-term (2030) and evaluated against the IEA’s 6-degree scenario as a business-as-usual benchmark. Participants asked that this be extended beyond 2030 to take full account of the longer-term effects.
 - Changes to the input structure should rely on existing literature, academic or consultant firms, to avoid arbitrarily changing the input structure of the IO table.
 - When determining the changes to the input structure associated to electrification of private transport, consider that electric vehicles are a family of technologies, including but not restricted to battery-powered electric vehicles and plug-in hybrids. ICCT, ECF reports are suggested as sources to

identify the input structure of these different technologies. Consider the geographic implications of the adoption of these technologies, as batteries are generally produced in Asia which will replace demand for car parts produced in Europe. Participants asked that, electrification of private transport should be considered as the tool to estimate changes in transport behaviour.

- When determining the changes to the input structure of transport services, the transport industry needs to distinguish passenger and freight transport. For rail, this could be achieved by identifying freight input coefficients from predominantly freight transport countries (e.g. USA) and the passenger train input coefficients from predominantly passenger transport countries (e.g. in Europe). For road transport, data from Eurostat and IRU can provide information on the employment requirements in each (e.g. freight vs. bus and coach). For urban public transport, which accounts for 85% of all trips, UICP and the Millenium Cities Database.
 - Outcome indicators should include employment (e.g. net employment creation by skill level and gender, CO2 emissions, NOx and PM2.5, among other environmental indicators).
 - Among others, employment outcomes will include the total number of jobs created by sustainability in transport. References to green jobs will follow official definitions adopted by the ILO and used by the United Nations and the World Bank
 - The output document should be kept simple with messages targeted to an audience of policy makers.
 - Complement the analysis with case studies highlighting best practice in the adoption of sustainable and healthy transport based on information provided by member States in those countries where relevant information exists.
 - The analysis would look at the net effects of employment, including where jobs were lost in some areas and added in others.
 - The Bureau is to be consulted on policies and scenarios to be tested.
5. Steering group members kindly offered to facilitate relevant data to ground the scenarios and the input structure associated to public transport and electrification. They also offered, where possible, forward relevant case studies and a critical review of the output documents.
6. The discussion offered insights on future research that could be developed if additional resources were made available or as a continuation of the current project. These include:
- Linking the results to the 2-degree scenarios. Identify the targets to be met (e.g. in terms of CO2 emissions, PM targets) and find the implications for transport and employment.
 - Consider country-specific targets and a country-specific analysis.
 - Identify the specific job characteristics and skills associated to jobs created and lost.

- Expanding the analysis to consider (non-urban) freight, air and maritime transport. Expanding the analysis to integrate health outcomes, notably by integrating the analysis to the HEAT project. Expanding the analysis to consider the financial costs of implementing the scenarios discussed. Expand the analysis to include active mobility and/or the service economy in transport. Expand the analysis to include automation, the digital economy and include the general technological change in the economy. Expand the analysis to consider a relocation of production closer to consumers, to reduce the need for transport.
7. The results of the study will be published and launched in the form of a THE PEP publication at the 5th High Level Meeting on Transport, Health and Environment, that is scheduled to take place in Vienna, Austria, most likely in 2019. A general detailed outline of the study will be prepared for the extended meeting of THE PEP Bureau in July 2018. A first complete draft of the study should be delivered in time for discussion at the Steering Committee's meeting in December 2018. The Steering Group may convene meetings in the interim period leading to the 5th High level meeting to support the timely preparation of the study.

II. Attendance

Participants to the meeting included:

1. Mrs. Yasmina BAABA, Ministry for an Ecological and Inclusive Transition, France
2. Mr. Xavier DELACHE, Assistant Director / General Engineer for Bridges, Water and Forests
3. DGITM/SAGS/EP, Ministry for an Ecological and Inclusive Transition, France
4. Mr. Silvano DOMERGUE, Head of Office for Mobility and Sustainable Planning Policies CGDD/SEEIDD/MA2, Ministry for an Ecological and Inclusive Transition, France
5. Mr. Julien FERNANDEZ, Chef du Bureau de la synthèse stratégique Sous-direction des études et de la prospective, Service de l'administration générale at de la stratégie Direction générale des infrastructures, de transports et de la Mer, France
6. Ms. Lionel KANIEWSKI, Engineer in Charge of Socio-Economic Studies, Ministry for an Ecological and Inclusive Transition, France
7. Mr. Rémy POCHEZ, Head of the Office / General Engineer for Bridges, Water and Forests DGITM/SAGS/EP2, Ministry for an Ecological and Inclusive Transition, France
8. Ms. Nathalie TESSIER, Head of Ecological Transition Trade Office CGDD/SEEIDD/REAE4 Ministry for an Ecological and Inclusive Transition, France
9. Mr. Matthias RINDERKNECHT, Advisor, International Affairs, Federal Office of Transport, Switzerland

10. Mr. Marek HARSDORFF, Economist, Green Jobs, International Labour Organization
 11. Mr. Guillermo MONTT, Senior Economist, Research Department, International Labour Organization
 12. Ms. Nino SHARASHIDZE, Consultant, WHO/Europe
 13. Mr. Dionisio GONZÁLEZ, Director, International Association of Public Transport (UITP)
 14. Ms. Acacia SMITH, Manager, Environmental Affairs, International Road Transport Union (IRU)
 15. Mr. Jean CHATEAU, Senior Economist / Principal Modeller, Organisation for Economic Co-operation and Development (OECD)
 16. Dr. Claus DOLL, Head of Mobility Business Unit, Fraunhofer Institute for Systems and Innovation Research (ISI)
 17. Ms. Luisa SIEVERS, Researcher, Sustainability and Infrastructure Systems, Fraunhofer Institute for Systems and Innovation Research (ISI)
 18. Prof. Werner ROTHENGATTER, Professor, Karlsruhe Institute of Technology
 19. Ms. Kirsten Svenja WIEBE, Researcher, Industrial Ecology Programme, Norwegian University of Science and Technology (NTNU) NTNU
 20. Prof. Christian BRAND, Associate Professor, Transport Studies Unit, University of Oxford
 21. Ms. Virginia FUSE, Environmental Affairs Officer, United Nations Economic Commission for Europe
 22. Mr. George GEORGIADIS, Sustainable Transport Division, United Nations Economic Commission for Europe
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