Appendix C: Survey to stakeholders

Survey results

The response rate to the survey was about 17 per cent, resulting in 27 answers. The answers were evenly distributed among the three Baltic states, with the majority of respondents from academia (about 66 per cent), as illustrated in Figure 12.

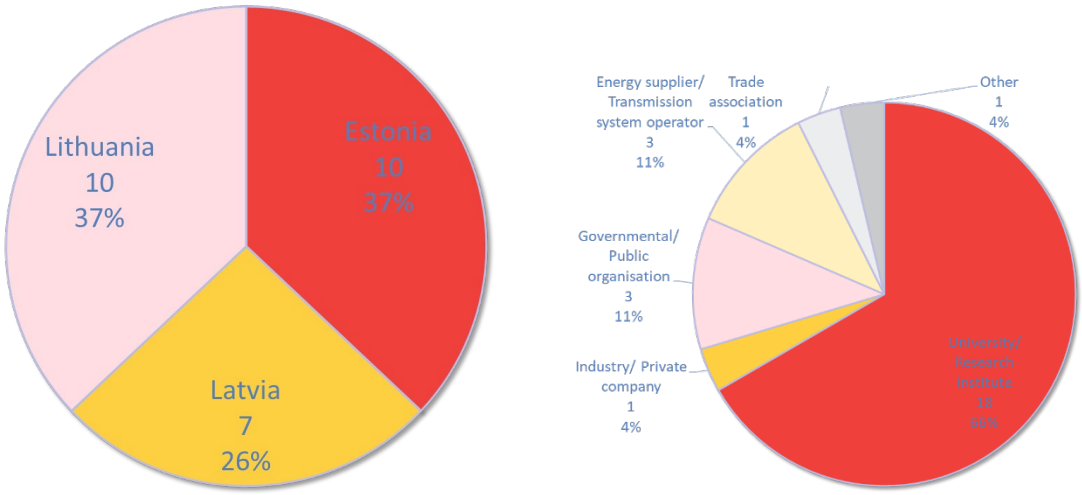


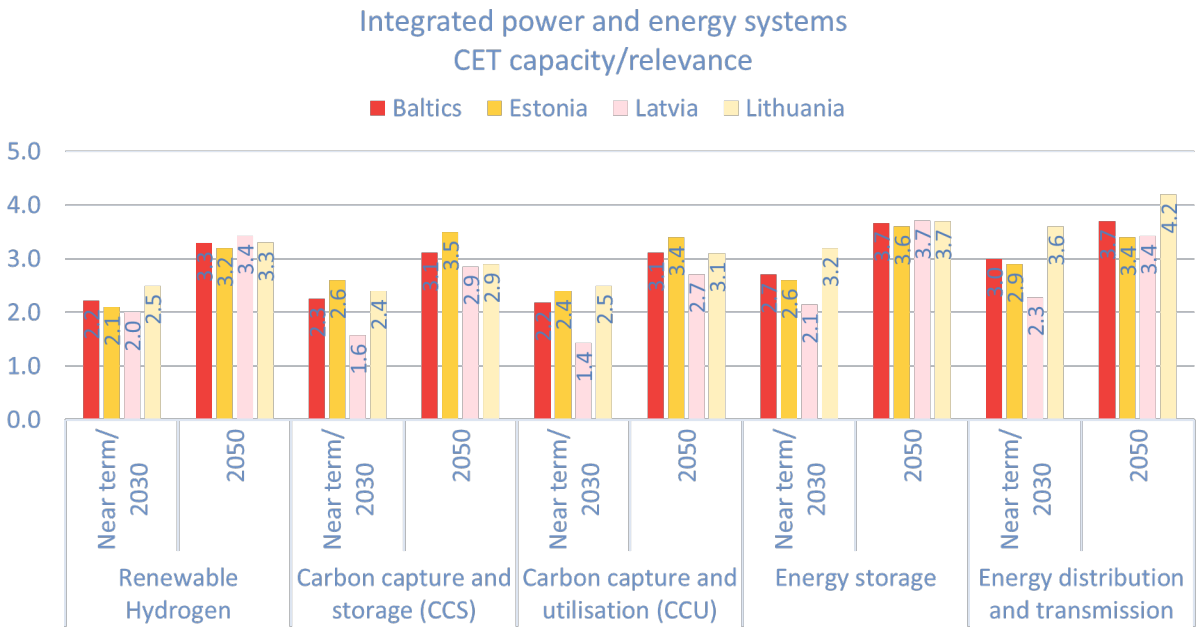
Figure 1: Country (left) and organisation (right) affiliation of the respondents to the survey. Category "Other" in the right pie diagram represented a digital innovation hub.

A weighted average for each CET was calculated based on the frequency of answers per ranking (0 to 5) and the total number of answers for both questions. This was done for the Baltics as a whole, as well as for each the three countries.

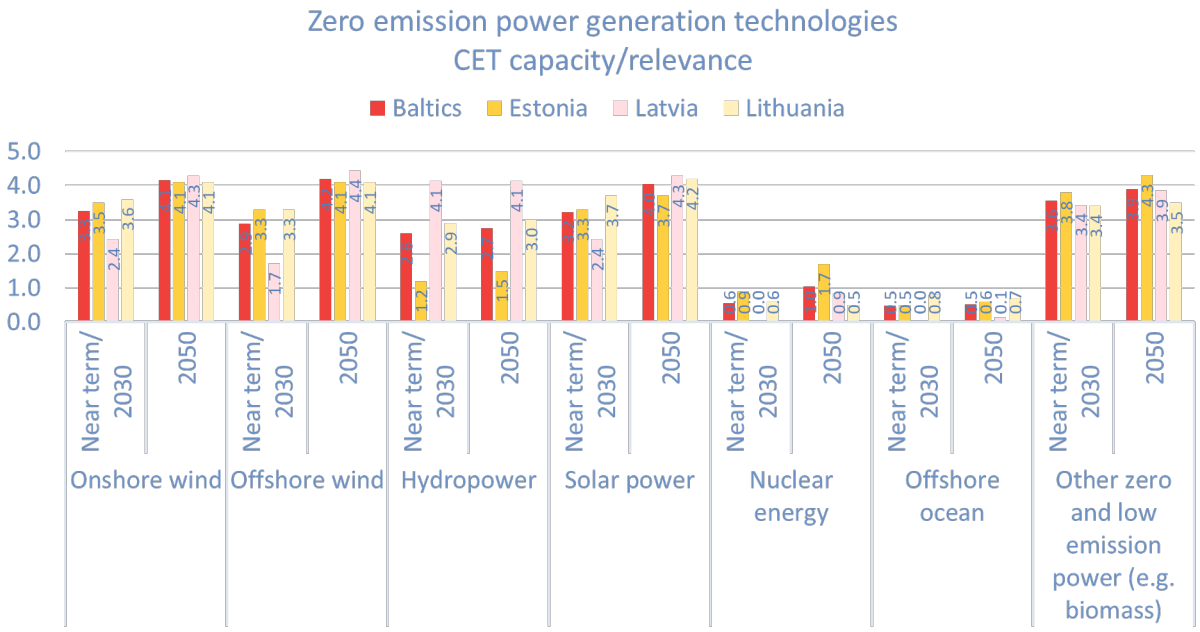
The results and comments given for each CET category are presented on the following pages. An interpretation of the answers for each CET category is integrated in Chapter 4 of the report, where the figures also are presented.

Some general aspects to be highlighted for the interpretation of the results are:

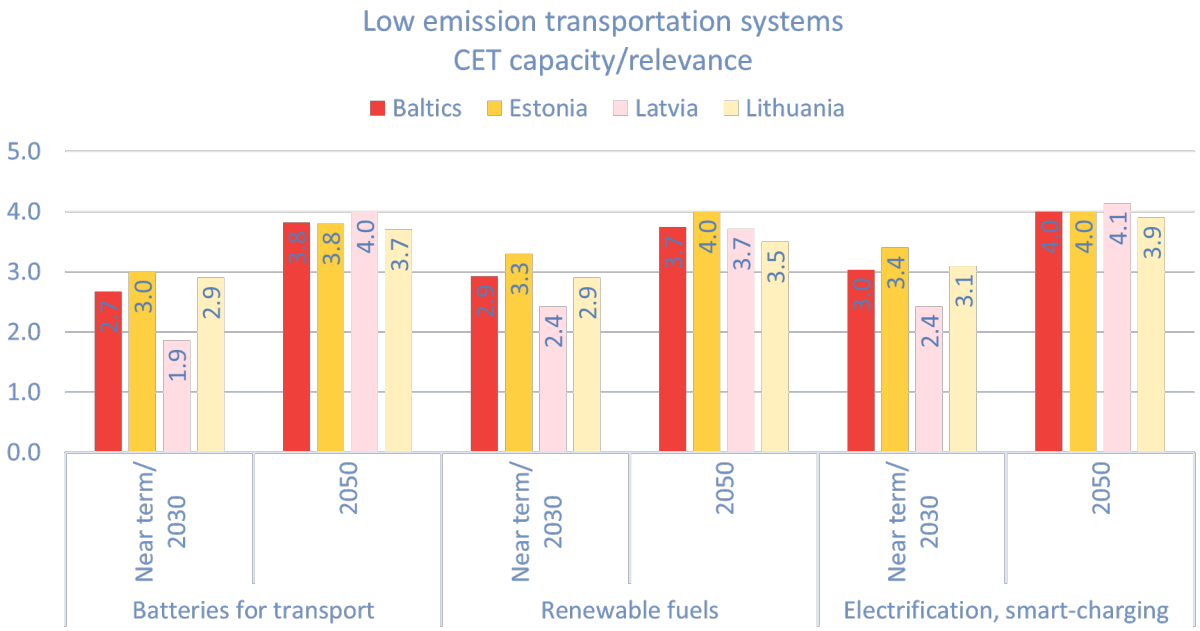
- The scaling for Latvia is at a lower level in relation to the other Baltic states for almost all CETs / CET categories in general. This probably is not a pure fact but a trend for interpreting the scale differently.
- The two questions might both have been interpreted as asking for the relevance of a specific CET, e.g. the near-term/2030 capacity for electrification/smart-charging in the CET category "Low emission transportation systems" is ranked at 3 (medium) for the Baltics as a whole, whereas the actual capacity in the near term can perhaps be considered rather low. This introduces some uncertainty in the interpretation of the results. The figures for illustrating the survey answers also might be ambiguously interpreted, combining capacity and relevance, but this has been done for the ease of having fewer complex figures.
- The results show clear country-specific differences across all CET categories for the near-term/2030 perspective, whereas the results are more harmonised across the three states for the long-term perspective (2050).



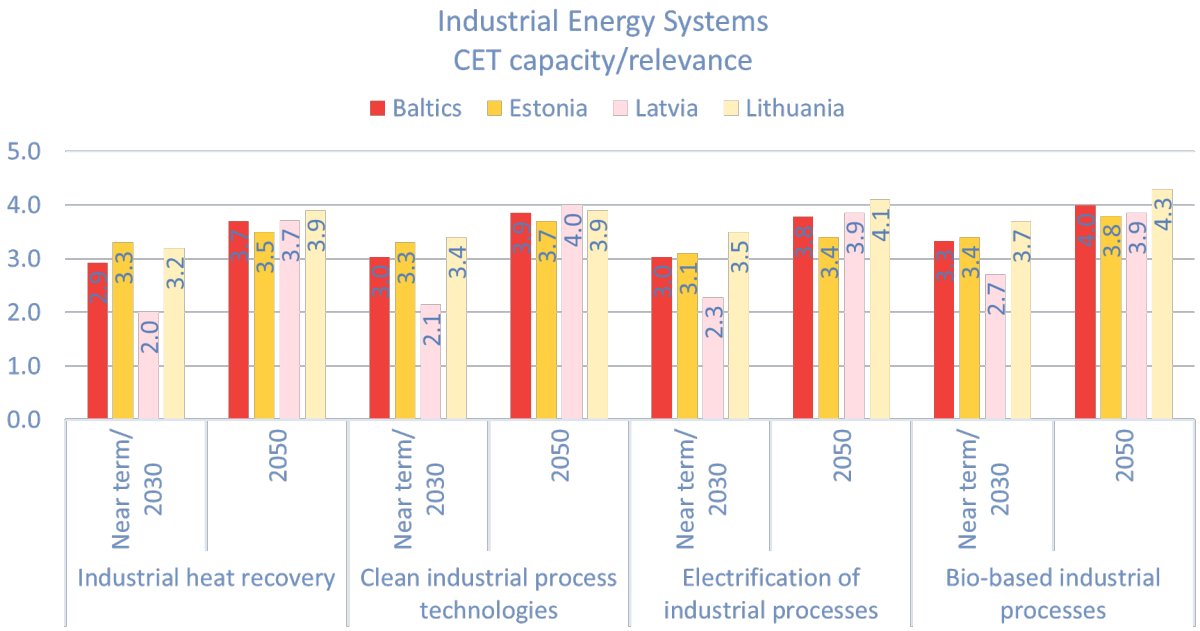
Respondents' comments *Integrated power and energy systems*	
Estonia	• Enough well developed.
Latvia	• Lack of experience in the introduction of these innovative technologies and their high cost are the main barriers for their implementation. • Key barrier is lack of ambitions and clear policy driven by hereditary gas infrastructure and high stake of state ownership in energy production and distribution infrastructure, thus very conservative approach to innovations and novelties.
Lithuania	• Details : https://lrv.lt/uploads/main/documents/files/NECP%2012_31.pdf (Lithuanian NECP)



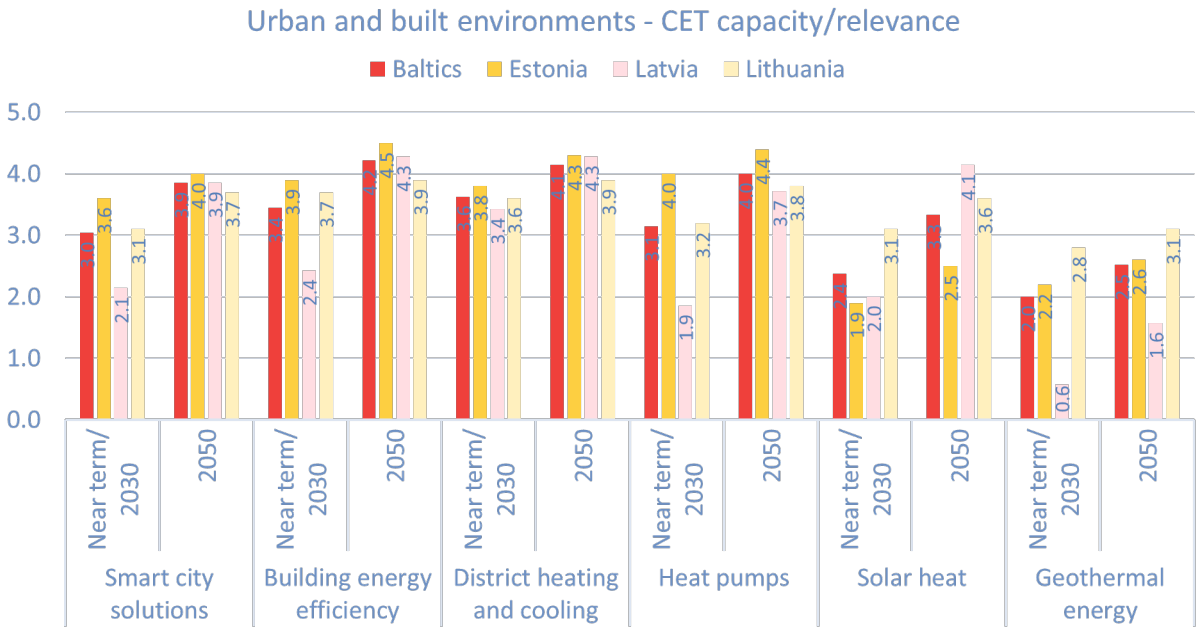
Respondents' comments *Zero emission power generation technologies*	
Estonia	• We are at the very beginning of hydrogen technologies. Seems, that we can't imagine what zero emission technologies are.
Latvia	• Biomass is more often used as fuel for HOB, as well as CHP. Latvia has broad perspectives and is ready to build wind turbine installations. • "The country has excellent potential for the development of wind power, both onshore and offshore. With enabling policies from the state, these can be tapped fairly quickly and would attract necessary investments as well. Solar also has good potential, along with biomass for decentralised energy solutions. Potential development of wind, solar and biomass can lead to the countries becoming 100 per cent self-sustaining in the production of green energy (electrical and heat) and could even lead to surplus energy production, which could be turned into export-oriented energy carriers (H_2, H_2 derivatives, biofuels etc.)"
Lithuania	• Measures are being implemented to increase the share of electricity generating (mainly solar) consumers (in individual houses and blocks of flats) to 30 per cent of the total number of electricity consumers by 2030.



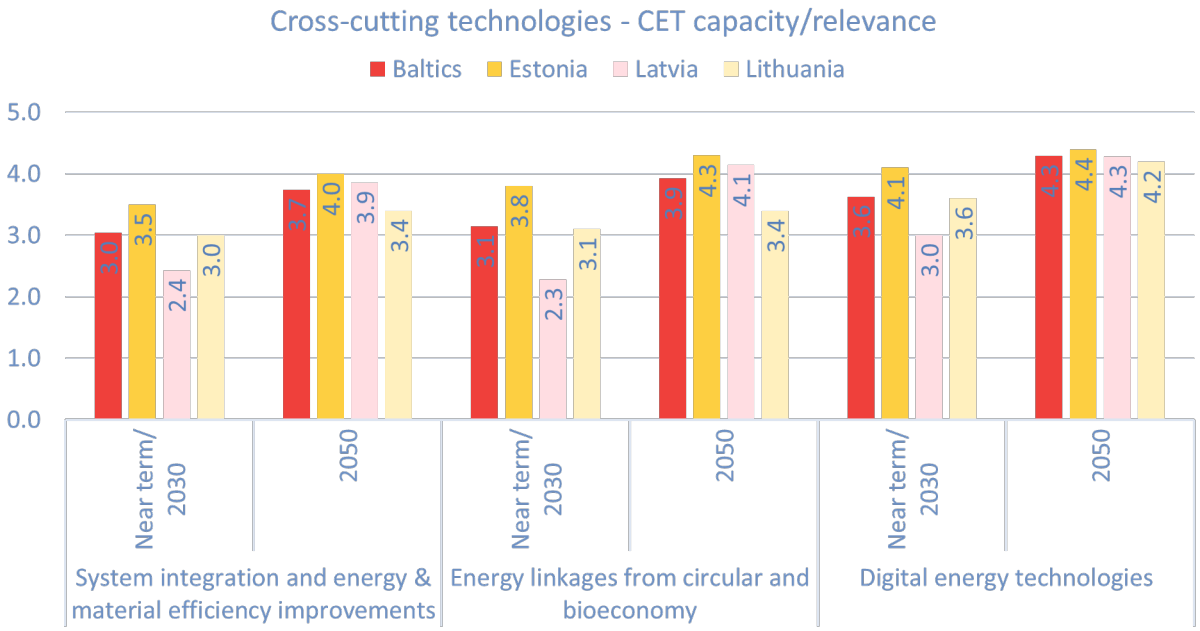
Respondents' comments *Low emission transport systems*	
Estonia	• Establishing low emission technologies is for Estonia still problem.
Latvia	• According to Latvian legislation, 5 per cent of biofuel is mixed into conventional fuels. The development of electric transport on a wider scale has now begun, and will be developed in line with European legislation. • "Lack of subsidies for BEVs for the commercial sector and limited subsidies for the private sector are serving as barriers for BEV introduction. Further up the value chain, there is no clarity on a national electrification strategy (e.g. feasible formation of energy communities) and hydrogen strategy in the form of a clear policy. Local plans in this regard are scattered, lacking a joint strategic approach and the drive to facilitate progress. State authorities are not acting as a sponsor or matchmaker for these initiatives, and the energy sector is mostly in the hands of state-owned shareholding companies. The Hydrogen Valley initiative is promoted and supported by the industry (our company (VNT)) and NGOs."
Lithuania	• Increased efforts by municipalities to change people's driving habits within the city (reducing car use or replacing it with sustainable mobility solutions) are also encouraging people to choose trains or buses for long-distance travel.



Respondents' comments *Industrial energy systems*	
Estonia	• We have a lack of big industry. There are some state-of-the-art technologies.
Latvia	• Industrial heat recovery is carried out in one company. Industrial symbiosis does not work if there are involved many interested parties. • Existing industrial processes to larger extent have a tradition of using the fossil-based natural gas supply. Barriers for the development towards the bio-based and non-bio-based (H_2) processes are the same as in the first question. Drivers include focus on biogas in national energy plans, but that also serves as a barrier, as other sectors are undermined (H_2, advanced biofuels, e-fuels).
Lithuania	• Public Service Obligations benefit for industrial enterprises. This measure was approved in 2019. It encourages large industrial companies to implement energy efficiency measures, thus reducing energy consumption. For this, companies will be allowed to recover part of the paid PSO funds. The plan is to save about 100 GWh of energy annually by 2030.



Respondents' comments *Urban and built environments*	
Estonia	• We have support for renovation of buildings. Activities for insulating buildings.
Latvia	• Latvia does not have a geothermal layer, so the answer is zero. We are at a very low level of development of involvement of the citizens in energy communities or the implementation of other energy democracy measures. Society distrusts the executive in general and each other as well; these are the main barriers. DH systems are well developed. Electricity has a high price, so HPs are not developed, but the installation of wind turbines is planned, which definitely will develop HPs installation. • Similar to the points outlined in "Low emission transportation system". Broader development needs more ambitions and knowledge on the municipal and state side.
Lithuania	• There are two programmes: 1. Multi-flat building renovation (modernisation) programme. 2. Programme for energy efficiency improvements in public buildings. Newly built buildings are subject to strict regulation.



Respondents' comments *Cross-cutting technologies*	
Estonia	• Estonia is too small to develop cross-cutting technologies. We have lack of industry.
Latvia	• Low level of information and the lag behind legislative initiatives at the national level are the main barriers. Currently, only economic incentives work well.
Lithuania	-