

Robert Dominko (SI) - Abstract

Batteries are one of the key technologies in the electrification of the mobile sector. Further, we can expect increased use of batteries for the storage of renewable sources of energy. Lithium ion batteries are currently the most advanced technology. Although they are considered as zero CO₂ emission technology, their production is energetically too intense and cells are based on some critical raw materials. With continuous development, the quantity of some of the critical elements can be reduced or even eliminated while the energy for production is continuously decreased. With a focus on sustainability, new battery chemistries are in the development, or early commercialization phases. Additional chemistry with similar properties as Li-ion battery technology will have an impact on the depletion of resources and price fluctuation. This would be only valid if cells are comparable in terms of performance. Some new trends in sodium, magnesium, and aluminum batteries will be presented.