

再エネのさらなる導入拡大、地域分散電源化に向けて 安全、安心で環境にやさしく、持続可能な社会を支える、東芝の様々なエネルギー技術

Toshiba's various energy technologies that support a safe, secure, environmentally friendly and sustainable society contribute to the further expansion of renewable energy and distributed power sources

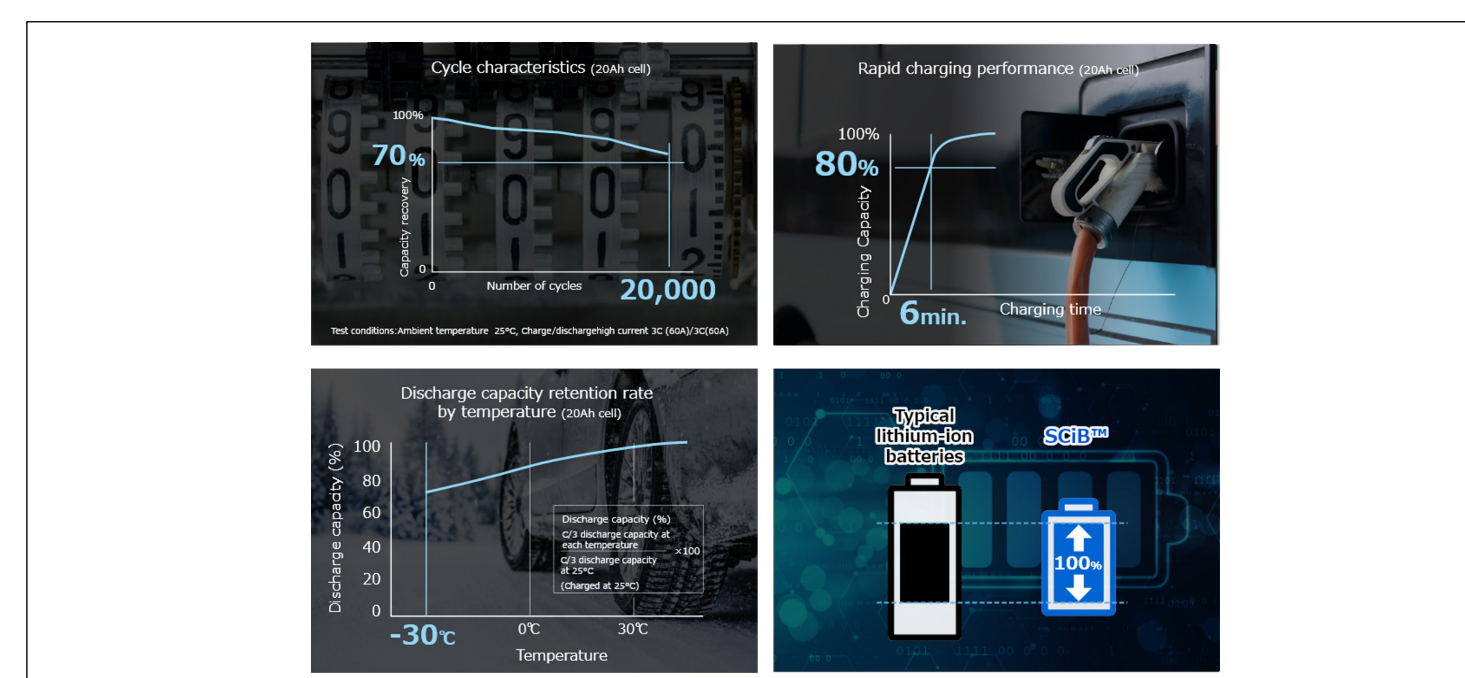
エネルギーや資源を無駄なく使い、地域のアセットを活かして、カーボンニュートラルな暮らしを目指します
Make effective use of energy and resources, take advantage of local assets to achieve a carbon-neutral lifestyle

SCiB™ 6つの特長とEVバスユースケース

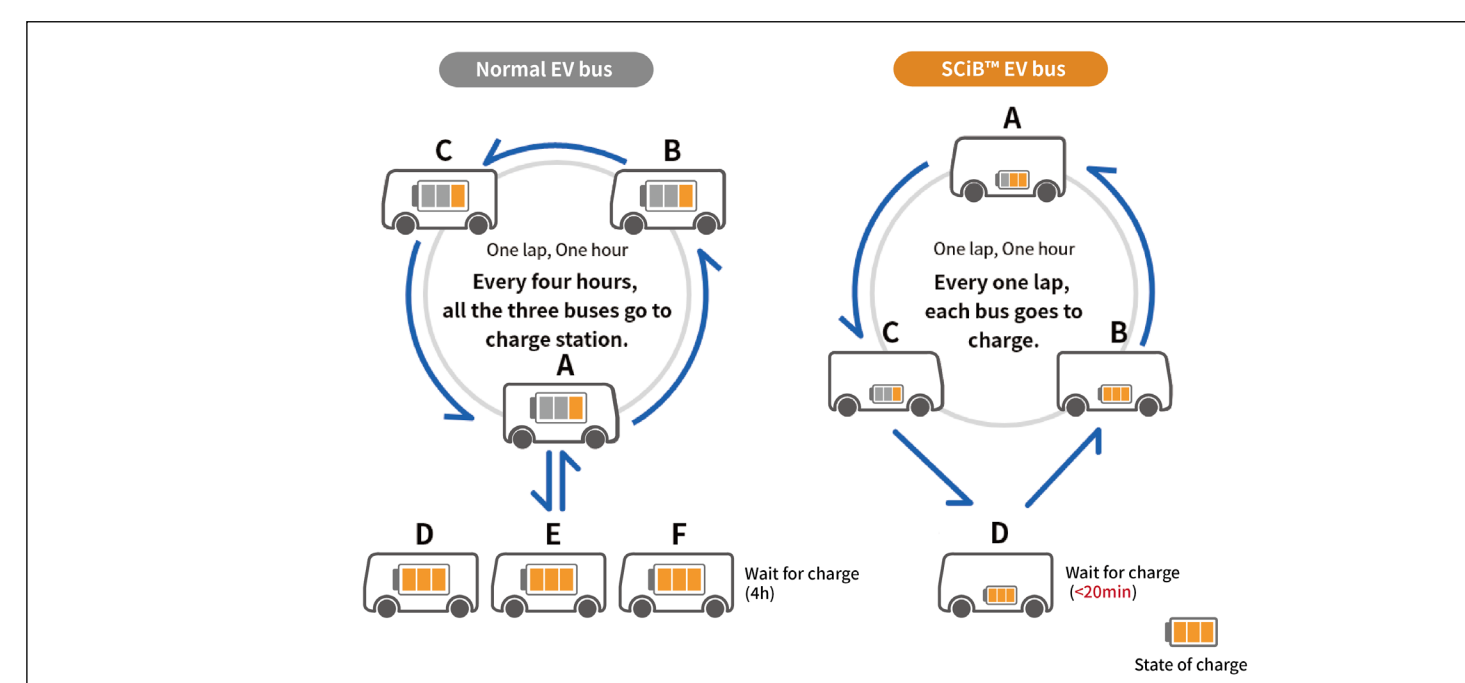
SCiB™ Six outstanding features and a use case for EV Bus

SCiB™は負極にチタン酸リチウムを使うことで、画像キャプションにあるような6つの特長を実現しています。これら特長を活用することで、例えばEVバスへの展開ではバス台数や電池量を削減、ライフサイクルコストや資源消費を抑えることが可能です。電池の果たす役割が大きくなる中で、SCiB™は社会課題の解決に貢献します。

SCiB™ uses lithium titanium oxide(LTO) in its anode to achieve excellent characteristics as shown in the caption of the graphic. Applying the multiple advantages to EV buses, the number of buses and battery capacity can be reduced, thereby reducing lifecycle costs and resource consumption. As batteries play an increasingly important role, SCiB™ contributes to solving social issues.



①破裂・発火しにくい安全設計、②2万回の充放電後も高容量を維持、③6分間で容量約80%を急速充電、④-30°Cでも使用可能、⑤短時間に大きなパワーを出し入れ可能、⑥充電状態0-100%まで使用可能。
(1)Extremely low risk of fire or explosion, (2)Cycle life of 20,000times or more, (3)Rapidly charges to about 80% of the capacity in 6min, (4)Usable even at -30°C, (5)Large current for both input and output and (6)Available SOC range of 0% to 100% SOC: State of charge



急速充電で運用効率を上げれば、バス台数が減らせるだけでなく、1台当たりの電池数も削減可能。希少資源を節約、車内スペースを広げ、軽量化することで電費も改善。高稼働率でも、長寿命なので電池交換の頻度も低減します。
By boosting the operating efficiency by rapid charging, both the number of buses and the battery capacity can be reduced. We expect larger cabins and improved energy consumption costs through weight reduction, resulting in saving rare metals. Moreover, long-life reduces the frequency of battery replacement, even at high operating rates.

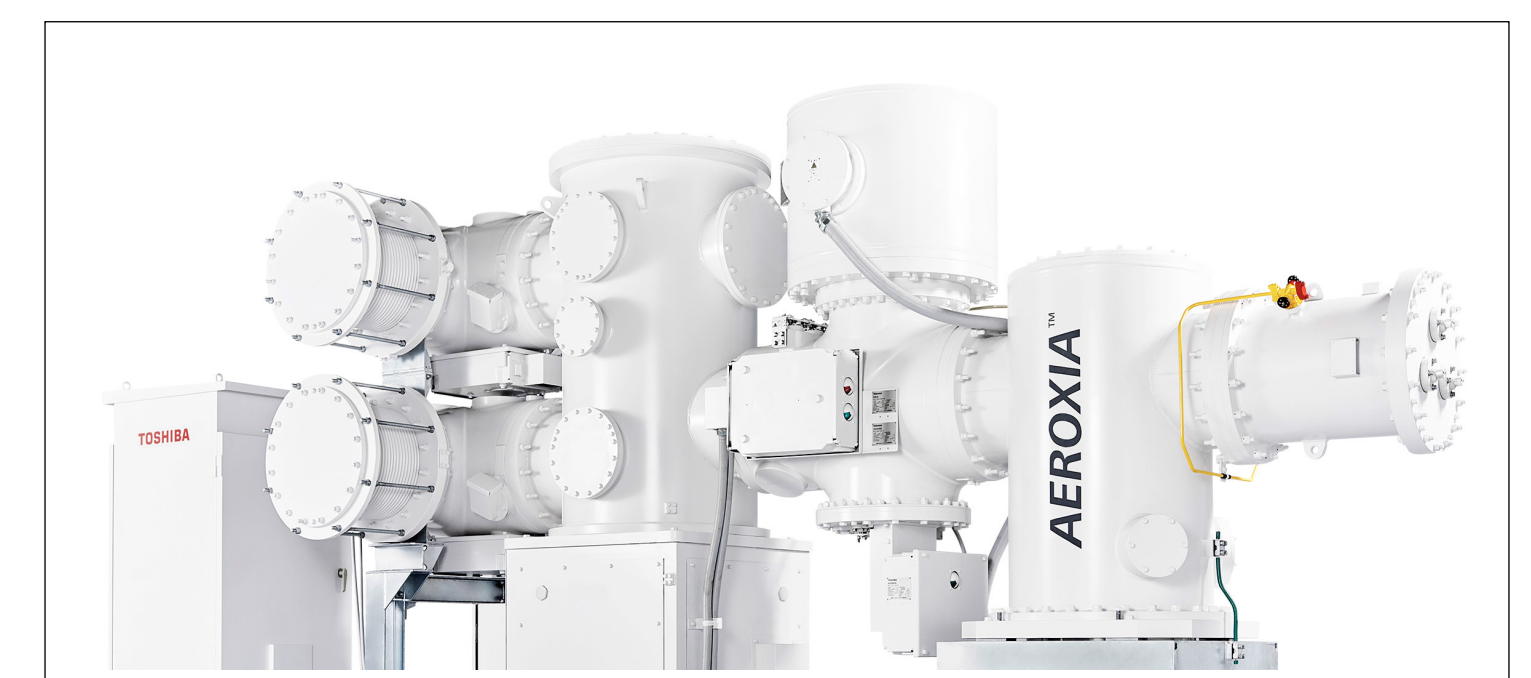
温室効果ガスを、置き換える、資源に変える!?

Replacing GHG, turning GHG into resources!?

温室効果の高いSF₆(六フッ化硫黄)ガスを自然由来ガスに置き換えた、クリーンでスマートな電力設備『AEROXIA™』が、分散電源化が進む社会の中で、地域に溶け込み、社会を支えています。

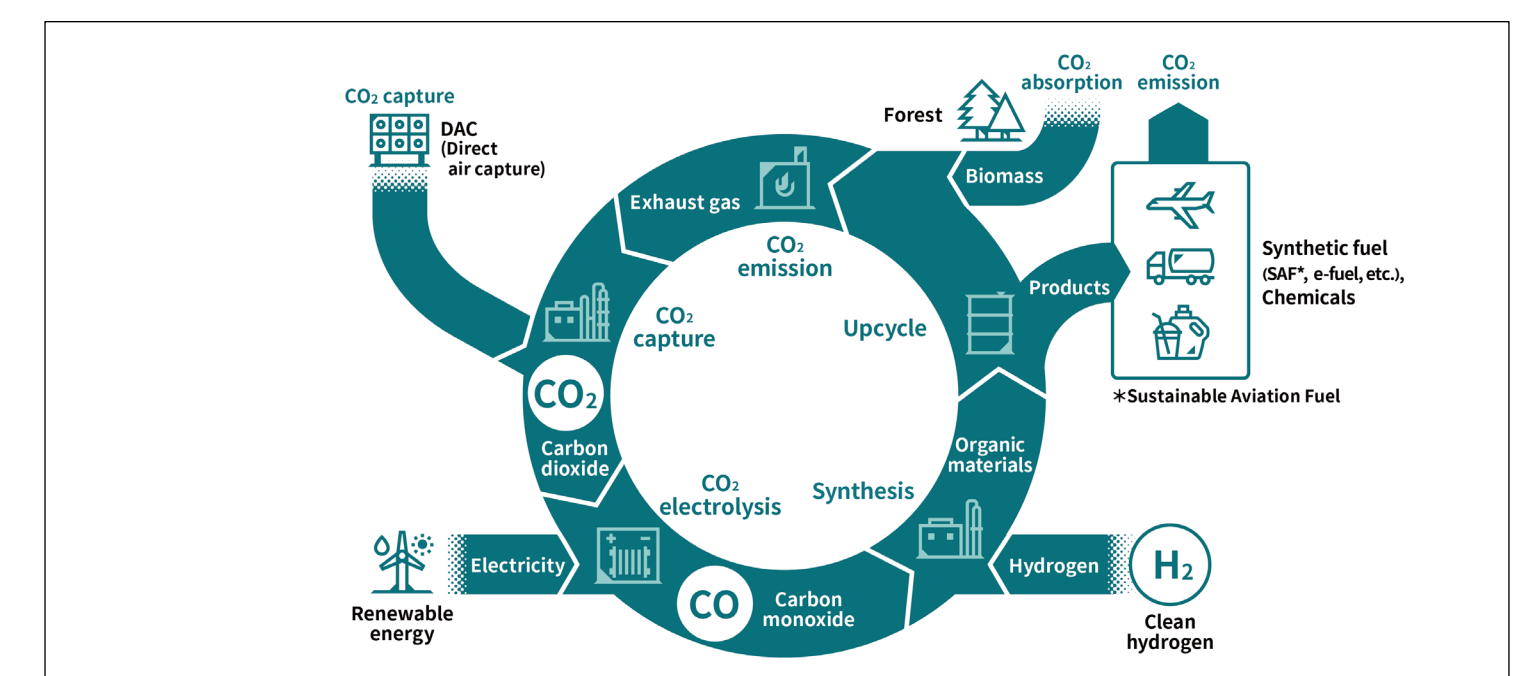
また、再エネでCO₂を資源に変える『P2C (Power to Chemicals)』で、生活に不可欠な燃料や化学製品を、CO₂から創り出す!? 夢のような技術が実現に近付いています。

AEROXIA™, a clean and smart electric power facility where SF₆ gas is replaced by natural-origin gas, will be embedded in the community and be a vital part of society as distributed energy resources are becoming more common. P2C (Power to Chemicals) which uses renewable energy to convert CO₂ into fuels and chemical products essential for our lives. This visionary technology is close to realization.



電力用送変電設備には、電気絶縁性能に優れたSF₆ガスが用いられてきました。しかしSF₆の温室効果はCO₂の2万倍以上。これを空気と同じ成分の自然由来ガスに置き換え、身近な地域の分散電源にも安心して使えます。

SF₆ gas, which has excellent electrical insulation, has been used in electric power facilities. However, the greenhouse effect of SF₆ is very high, thus now being replaced with a natural-origin gas, and being used safely for distributed energy resources in cities and towns.



炭素循環のカギは、再エネを使ってCO₂(二酸化炭素;化合しにくい安定物質)を、CO(-酸化炭素;化学合成の原料)に変換する「CO₂電解」。CCUのサプライチェーンをつないで、カーボンニュートラルなサイクルを実現します。

The key technology to the circular carbon society is CO₂ electrolysis, which uses renewable energy to convert CO₂ into CO (a raw material for chemical synthesis). P2C bridges the CCU supply chain.

