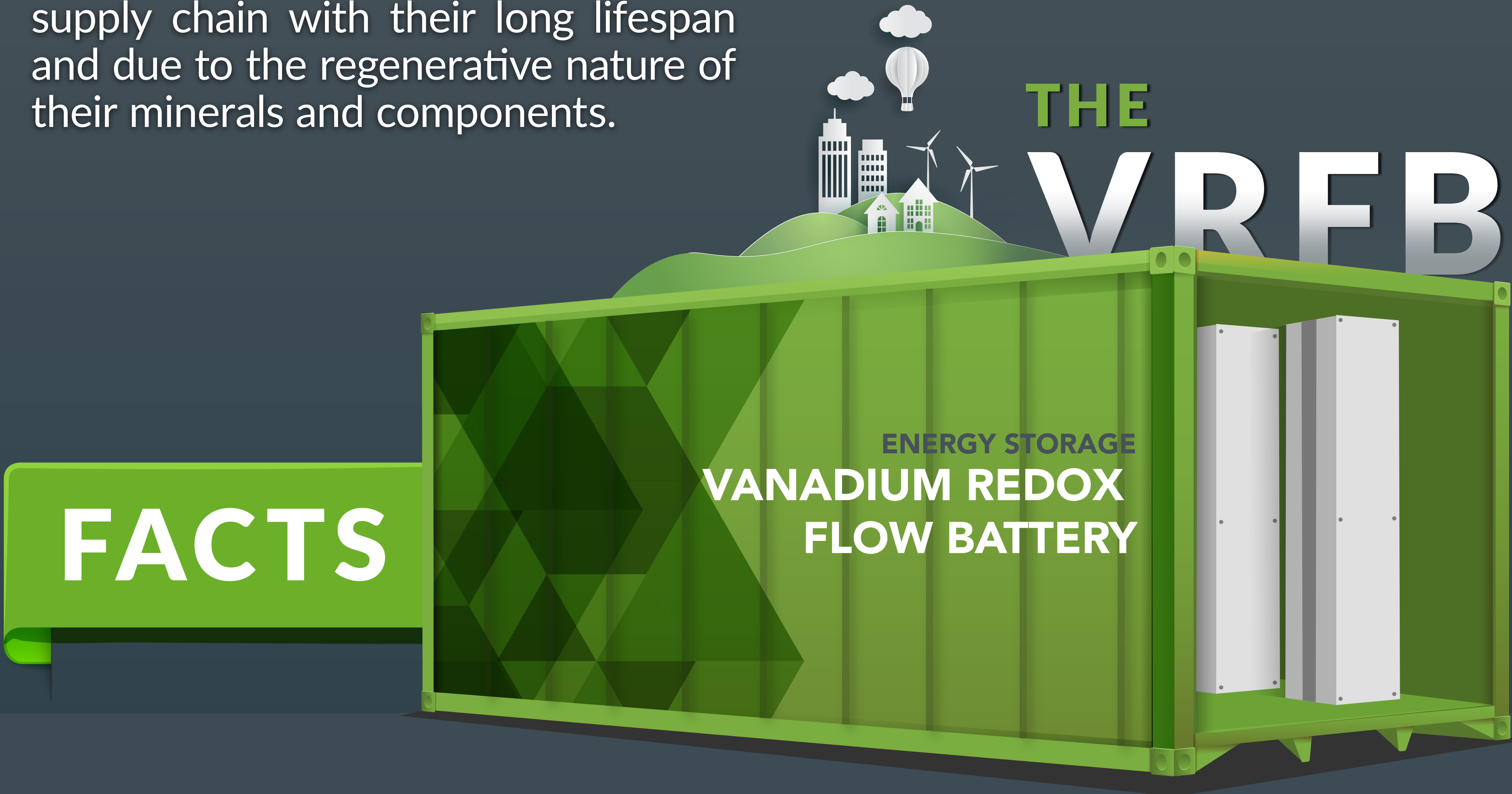


Vanadium redox flow batteries hold significant value in creating a circular supply chain with their long lifespan and due to the regenerative nature of their minerals and components.



## LONG LASTING

A VRFB, by its very nature, has a very **long lifespan of over 20+ years** on the components and 100+ years on the liquid vanadium electrolyte and is one of the most recyclable battery types, supporting the creation of a circular supply chain. When compared to other battery systems on the market, the long lifespan makes VRFBs one of the most inherently sustainable energy storage solutions.

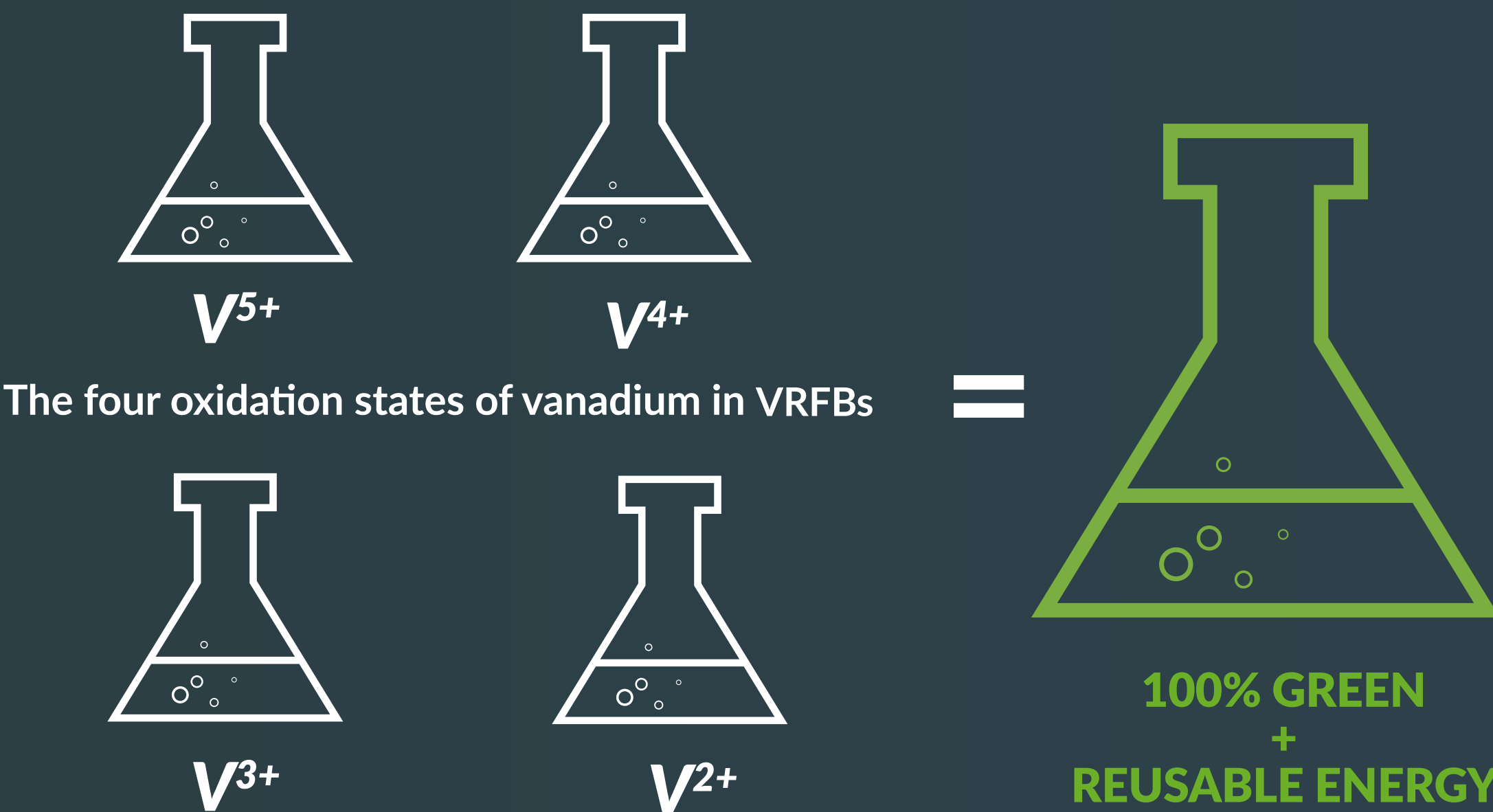


## LIQUID POWER

The **liquid vanadium electrolyte** is a vital component of a VRFB, acting as the battery's energy storage medium. Comprising majority water and vanadium, the electrolyte is non-toxic and does not contain potentially toxic metals like lead, cadmium, zinc, and nickel – which could contaminate the environment. This makes VRFBs far more greener than other energy storage batteries currently available.

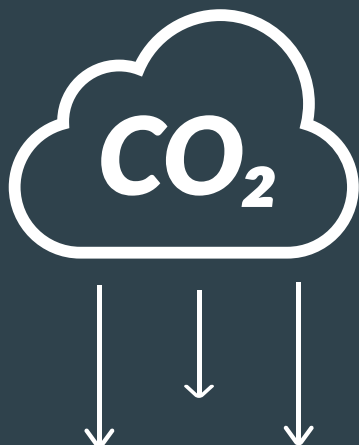
## 100% RECOVERABLE

Not only is the vanadium electrolyte itself reusable and recyclable, **nearly 100% of the non-electrolyte components within a VRFB can be fully recycled at the end of life.** Comprising HDPE plastic, PVC, steel, copper, aluminium and rubber, among others, the components are either reusable, recyclable or both. This means that VRFBs including their minerals and components are capable of a continuous cycle of use, reuse and recycling making the environmental impact of a VRFB significantly less than other battery technologies.



## NON DEGRADABLE

The vanadium electrolyte is the most expensive component of a VRFB and accounts for more than 50% of the cost of a VRFB. Although the most expensive component, **the electrolyte doesn't degrade and can be reused in another VRFB system time and again.** Alternatively, the vanadium can be extracted and recycled for significant commodity value at the end of life, enabling the continued reuse of the vanadium into perpetuity.



## SUPPORTS SUSTAINABILITY

Although vanadium is a readily available material and abundant in the earth, it can also be sourced and recovered from various combustion and chemical waste streams and recovered from recycled steel. Manufacturing VRFBs from vanadium that has been r ecovered from recycled steel and petrochemical waste dramatically improves the **environmental footprint** of VRFBs and further supports the sustainability effort of VRFBs in meeting the low carbon energy needs of the future.