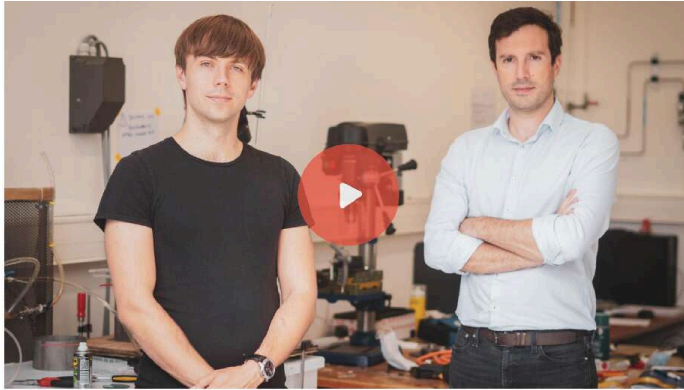


AIRTHIUM (YC S17)

## 100x cheaper battery to stop Climate Change

[PITCH VIDEO](#) [INVESTOR PANEL](#)



[airthium.com](http://airthium.com) Wilmington DE

[Technology](#) [Infrastructure](#) [Hardware](#) [Moonshots](#) [Science](#)

### Highlights

- 1 \$50B/year Total Addressable Market
- 2 The world needs 2.4 PWh (2.4 million GWh) of storage by 2050
- 3 Most of those 2.4 PWh require batteries that are 100x cheaper than today
- 4 We are building the only 100x cheaper battery that can scale
- 5 Y Combinator alum, \$500k raised, 2 PhDs from top French unis

### Our Team



**Andrei Klochko** CEO and cofounder

PhD in plasma physics from Ecole Polytechnique (French top 2 uni), researched the science behind Airthium for 5 years. Went through Y Combinator with Franck in 2017.

We can only impact climate change if we make solar and wind better than fossil fuels in "every" way. The lack of cheap seasonal energy storage is the last thing holding renewables back from engulfing the world and stopping CO2 emissions. By unlocking renewables, we are tapping a \$50B/year business opportunity.



**Franck Lahaye** COO and cofounder

Ex-EMEA Sales director at Intelsat, one of the world's largest telecommunications satellite operator, he then ran his own satellite capacity brokerage company for several years



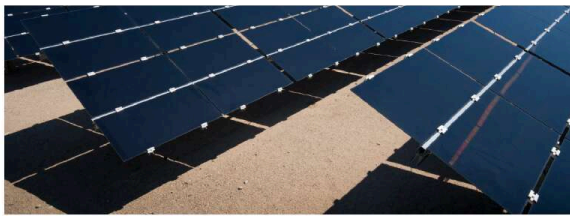
**Franck Lahaye** COO and cofounder

Ex-EMEA Sales director at Intelsat, one of the world's largest telecommunications satellite operator, he then ran his own satellite capacity brokerage company for several years

## We are enabling our world to live on solar and wind energy alone. And it's cheaper than all fossil fuels.

A 100% renewable energy world used to be impossible. We designed a long-duration battery that is so cheap that it makes 100% renewables cheaper than coal, gas, and nuclear. Our team with 2 PhDs raised a \$500K pre-seed from Y Combinator, DCVC, and more.





What if solar and wind farms provided all of our electricity?

### 🔋 Our battery can store 100x more energy for the same cost.

Lithium-ion batteries are the only storage system that can be deployed economically anywhere today. They can store solar and wind energy, but they are limited and expensive — at \$200/kWh, it only takes a few hours of discharge to deplete a lithium-ion battery.

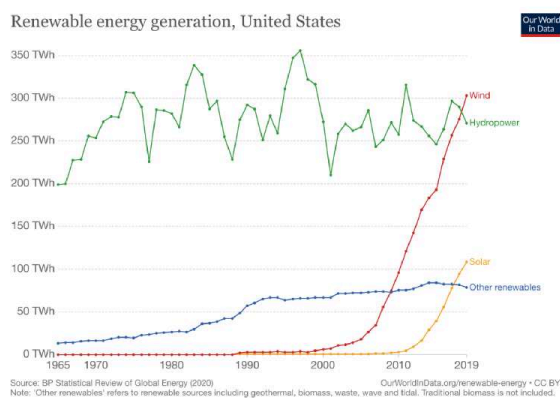
Once depleted, recharging isn't always possible as it's not always sunny nor windy. Sometimes, such "droughts" can last weeks, or hundreds of hours. That's why we made a battery that can store 100x more energy for the same cost, at \$2/kWh.



The core of our battery: a large scale liquid ammonia tank. Credit: TIW Steel Platework Inc.

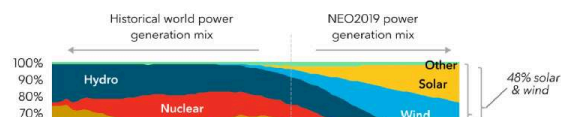
### ☀️ We are on track to be first in the world to provide affordable, guaranteed 24/7 renewables.

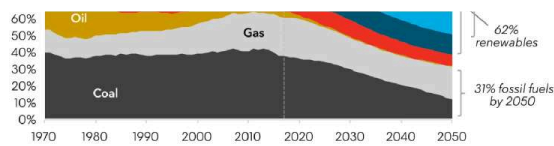
As the demand for renewable electricity surges, so too does the demand for cheap, safe, and sustainable storage. Whereas lithium-ion can only store and deliver *sometimes*, we *guarantee* the availability of renewable energy 24/7, and enable fossil plants to fully retire.



### 💰 This is a \$50B/year market — and we're still 5 years ahead.

Solar and wind will actually grow so much in the next 30 years, they will supply almost half of our worldwide electricity demand. By then, seasonal storage will become a major, unavoidable player in our electrical grid. Until then, we estimate (yet cannot guarantee) that the world's utilities will spend \$50B/year building it from zero. That is our market.

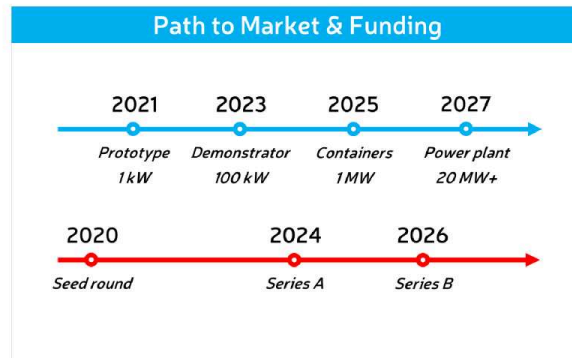




Global electricity generation share by source - history and projection to 2050 (Source: Bloomberg New Energy Finance, New Energy Outlook 2019). Note: this is a forward-looking projection and not guaranteed

### 👉 3 years in development and a world-class team.

Our work has received several national awards, including the Prix G rondeau by Zodiac Aerospace, Prix des innovateurs by ArcelorMittal, and the Concours Mondial de l'Innovation. We went through Y Combinator in 2017 and confirmed the patentability of our system in early 2020.



This is how we plan to get to market. Note: this is a forward looking projection and not guaranteed



The Airthium team (YC S17) has won numerous grants and prizes

### 🌍 Help us heal our planet — before it's too late!

We humans are stewards of the Earth, yet we are covering it in all kinds of pollutants, from plastics to CO2. This cannot be undone unless clean energy and recycling (powered by it) become cheaper than fossil fuels and landfilling. Our battery is instrumental in reaching this goal, and time is running out. Help us heal the Earth faster than it is destroyed!



The Airthium team. Left to right: Houssam, Lea, Franck, Simon, and Andrei