

BIOGRAPHICAL SKETCH



JAMES FRITH- PH.D.

BloombergNEF | London, England

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Mar 2022

If you enjoy staying up to date on the current trends in energy storage, you most likely will have come across James Frith in your newsfeed. With a Ph.D. in Chemistry from Southampton University in the UK, James has been the head of the energy storage team at Bloomberg NEF for the past two years. He led the company's coverage on energy storage technologies, prices, and status of related supply chains. The work made essential connections between the technical aspects of energy storage to modern markets, policies, and regulations. The insights give everyone an opportunity, including the most devout scientists/engineers, to see how their research may fit into the future of sustainable energy. James continues to actively comment and discuss the field on social media in almost real-time.

James originally wanted to go into the film industry like his family but had great chemistry teachers early on that encouraged him to further his studies at university. At Southampton, unbeknownst to him, had robust electrochemistry courses, where he got hands-on experience working with lithium batteries. Motivated by his interest in the field and the potential for his work to be adopted into society, he took the opportunity to start his Ph.D. at the same institution. There he spent time researching lithium-oxygen batteries, trying to overcome the technical challenges associated with that cell type. The work carried on for two more years as a research fellow. James remarks on how one of the most important lessons he learned was maintaining consistency in your work, even if the results may not be as you expected.

Desiring a change from formal research and general academia, James looked for new opportunities but wanted to stay in the energy storage space. After attending a workshop on moving lab research into the market, James realized there was little market analysis done for the battery market, or at least not keeping up with the pace of change. Something to help guide researchers into what specific challenges to focus on while also providing the economic and societal analysis. Luckily at the same time, BloombergNEF was looking for an analyst with battery expertise, and James took the opportunity.

James describes the job as a junior analyst simply as writing a literature review every two months for clients. However, you get the chance to reach out to companies, academics, and governments, allowing for an actual deep dive into the field. The real challenge is to figure out the details that you cannot find online and back them up with technical/scientific knowledge. As the analyst's role grows, you may have the chance to develop datasets, develop tools or programs to help analyze the data on a large scale. Having some data science skills is helpful in this aspect. But one of the best parts of the

job is that you get to talk to the clients and people in the field at the forefront. Even though we are becoming more digital, the importance of having interpersonal skills cannot be understated in today's modern world. As James became the head of the department at BloombergNEF, he also became the editor at large for the other junior analysts and is responsible for liaison with the broader company. Admittedly this meant he spent less of his time on his analysis, but still enjoyed getting the chance to travel and educate his clients/others on the fundamentals of batteries.

Although he is not in the lab anymore, many of the skills he learned as a graduate student and postdoc are vital for producing technical reports. It also comes in handy when discerning the validity and claims from start-ups. Given the demand for batteries is continually growing, it's essential to follow up with the data on any sensational claims. Lastly, the job of an analyst is also to forecast possible trends in all areas of technology and related fields. For example, he highlights the differences in battery demand to battery materials produced over time.

To succeed in this field, the key is to have a love for the industry. It's also important to remember that it's rare to find a role where you don't have some downsides but remaining excited is crucial. In a fast-moving industry like batteries/energy storage, it's essential to learn about related fields, like the electric vehicle market. His job at Bloomberg required adapting analysis to address significant societal changes, like a pandemic. Even though for most industries, the economics slowed, for energy storage, the pace ramped up. Having the skills to be flexible and technically up to date is essential for a role as an analyst.

For James, the most significant advice to give graduate students and early-career individuals in the battery/energy storage space is to think about what you want. The battery field has grown exponentially, meaning that there are many opportunities to find a role to suit you. In short, your skills are in demand, so you should take advantage of the unique power you possess. It's hard to do, but it's also essential to think long-term and envision the general direction you want to go.

As most of us have experienced how quickly life can change in a short amount of time, it's essential to know that there will always be unexpected events that may change your plans. However, it's necessary always to take the time to reassess and think about what's the next best option for you. There is no doubt that this was probably playing on James' mind when we spoke, and that this type of reassessment led to James moving on from Bloomberg at the beginning of 2022 to Join Volta Energy Technologies. Building on his existing technical background and market experience James now plans to develop his financial understanding of the battery sector.