

CarbonQuota is a start-up looking to help companies respond to the climate crisis by equipping them with automated technology for swift decarbonisation. They allow businesses to accurately calculate and implement steps to reduce their carbon footprint. This allows clients to respond to the climate emergency by reducing carbon emissions throughout their operations and supply chains.

[According to AWS](#) in 2021, “83% of consumers say businesses should be actively shaping best practices around environmental, social, and governance (ESG) issues”. As part of our review of CarbonQuota’s AWS environment we advocated for the implementation of right-sizing instances and horizontal scaling practices. This strategy supports business growth, ensures robust governance principles, and demonstrates their commitment to sustainable practices.

## Technologies and applications

- Django Frontend & API
- Hosted on AWS
- Application Load Balancer with TLS termination via an ACM certificate
- S3 for file storage and backups
- SQS for asynchronous message queuing



## Background

As is the case with many startups, balancing expenditure and value means that dedicated DevOps/Cloud resources have not been a viable option. The development team within CarbonQuota, whilst not experts in this field, have been able to build a functional, available and cost-effective infrastructure within AWS. The current approach offers a level of high availability at a reasonable cost to performance and operates smoothly without encountering performance issues at the current business scale. But with recent investment, they hope to expand their cloud operations whilst ensuring best practices for security, cost optimisation, high availability and operational efficiency.

## Goals

The following high-level goals were identified as areas of focus:

Ensuring business continuity across a range of potential scenarios

Establishing robust security and compliance practices for future due diligence exercises

Understanding key areas for improvement to facilitate future growth and avoid any potential pitfalls

Generally ensuring that things are being done in the right way

Assistance in devising a prioritised roadmap for implementing any subsequent changes

## Our Solution

Ten10 identified key “findings” that focus on CarbonQuota’s business priorities as detailed above. The solution was delivered in a roadmap of three phases - “quick wins”, where we focus on key issues with high impact but easily implemented.

The next two phases aim to lay the foundations for a future of continuous growth and optimisation. These phases are longer-term but allow CarbonQuota to effectively handle a variety of incident scenarios while scaling the infrastructure in line with the expected growth of the business.



## Conclusion

As a business, CarbonQuota is considering future scalability whilst optimising existing resources effectively. The solutions mentioned above are specifically designed with that in mind. They should provide CarbonQuota with the necessary updates to their existing solution to focus on areas that set the stage for the expected future growth. With the current team size, this approach allows them to prioritise critical features aligned with the business objectives. Additionally, it provides an opportunity for ongoing skill development and effective management of the AWS environment over a period of time.

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