

## **sustainable delivery** a practical guide.

**Graeme Hamlet,** Senior Manager **Bethany Toogood,** Associate Manager REPL Group, Part of Accenture.

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## 1. introduction.

Organisations are under continued pressure to be more sustainable – reach net zero, reduce waste, create sustainable products and services to name a few.

As experts in retail technology and delivery, we are ideally placed to support our customers sustainability goals, not only through sustainable technology, but the way in which it is delivered.

This document provides guidance and examples of how sustainable ways of working can be incorporated into any project programme, regardless of delivery methodology or final product or service. Strengthening Accenture's alignment to our core value of "creating sustainable value with people who care."

As much of our approach is already sustainable, this guide reframes our existing ways of working and blends them with new sustainable thinking. To ensure sustainability is considered at each stage of the project lifecycle and applied pragmatically.

# what do we mean by 'sustainability'?

You've heard us speaking about 'sustainability' a lot. But what do we mean when we use the word sustainability?

There's not one universally agreed upon definition of sustainability and practically this word can be applied in many different ways in many different areas. For example, sustainability in agriculture, sustainability in transportation, sustainability in tourism.

#### Our focus is sustainability in business.

Sustainability is the holistic consideration of economic, technological, human, societal and environmental equity in everything that we do. For us, sustainability spans far beyond the environment. Although this is incredibly important, sustainability encompasses issues from use and management of technology, green software, transitioning to zero-carbon, inclusion & diversity, accessibility and wellbeing.

Accenture are embedding sustainability into everything they do...

"At Accenture, our purpose is to deliver on the promise of technology and human ingenuity. And there are few things with greater promise than sustainability—it unlocks new opportunities for our clients, our partners, and our people, and for the communities where we do business. So we have made sustainability one of our greatest responsibilities—not just because it's the right thing to do, but also because we believe that it is one of the most powerful forces for change in our generation."

## why are we doing this?

**P&L**.

because it's the right thing to do and...





#### engagement.

Engaged, committed employees are more productive and save money in recruitment and training costs.

\*49% of companies say a commitment to sustainability is a big draw for software engineers and tech talent.



#### stakeholders.

Stakeholders expect us to operate our business in a sustainable manner.

80% of N100 companies worldwide now report on sustainability.



#### differentiation.

Progressive management can differentiate our company and drive sales.

By using sustainability by design we are aligning ourselves more closely with our core value of "creating sustainable value with people who care."

#### innovation.

Sustainability helps create insights about how we work and opportunities to innovate.

**\*50%** of companies say technology-led sustainability initiatives help create new business.

#### environment.

Reducing our carbon footprint through travel reduction, consumption and waste reduction.

> Using a sustainable delivery approach ensures we are doing our part for climate action.

keep an eye out for these, they let you know which of the 5 capitals the information is referring to

## a reminder how we frame sustainability.

"The five capital assets of financial, human, natural, social and technological have become critically interdependent. No entity can plan for the long term in the economy...without taking account of these critical interdependent assets."

Mervyn King, chair of the Global Reporting Initiative (KPMG, et al, 2010)

We use the 5 capitals to frame sustainability internally as they are more easily relatable to our organisation and to project delivery. They offer a greater level of detail than the triple bottom line or the ESG framework (environmental, social, governance) and simpler than the UN SDGs (sustainable development goals). A great example is the specific call out to manufactured capital or technology which is at the core of our industry verticals.



#### 1. financial capital.

(Or currency assets) describes the finances an organisation needs to start and continue operations.



#### 2. human capital.

The physical presence, health, well-being, knowledge, skills and abilities, motivation, relational skills, and intellectual capacity and outputs of employees. Spirituality, empathy, enjoyment, and compassion are also important.



#### 3. social capital.

Organisations do not operate in isolation; they impact and are impacted by members of society and the shared norms and values of that society. Social capital describes the value that the members of a society can add to organisations.



#### 5. manufactured capital.

Infrastructure and tangible goods (technology) owned or leased to produce final products.



#### 4. natural capital.

Earth's natural assets, including geology, soil, air, water, and all living things - from which we derive a wide range of services.

## applying the **5 capitals to delivery.**

If we don't manage project finances we can't deliver on budget and margin.

If we don't have enough people we cannot deliver the project on time. If we don't have a large enough, diverse and inclusive team who we look after and develop, we may have poor engagement, poor quality work and poor health. This may impact delivery and customer engagement.

Building long lasting client relationships supports customer engagement, delivery and future work. Building great relationships with colleagues helps create a cohesive, collaborative delivery culture.

Reducing the carbon footprint of project delivery and of retail solutions supports our sustainability goals and those of our customers. It is also the right thing to do.

Maintaining both technology we use to deliver the project and ensuring the technological components of the solution are fit for purpose support all of the other 5 capitals.



Not all of this is new thinking, much of what we already do can be reframed and explained in relation to sustainability.







Whilst we use the 5 capitals to frame and understand sustainability, there are many other frameworks and terminology that you might be aware of, e.g. the UN SDGs or the 3 Ps. Have a look at how these frameworks relate to each other.

naking sense of the acronyms.



# **sustainability** by design.

Design refers to the design of the **delivery approach**, ways of working and **solution design** and can be applied regardless of whether the end product or service is sustainability related.

Sustainable projects consider the environmental, economical and social aspects of the life-cycle of the project's resources, processes, deliverables and effects.



Project delivery encompasses 5 basic elements whether they work iteratively or not. By overlaying the 5 capitals onto this generic life-cycle we can ensure that sustainability is recognised, considered and applied pragmatically at each stage. This ensures the scope is still delivered in line with customer expectations without impacting time, cost and quality.



and social aspects of the project's resources, processes deliverables are considered throughout the life cycle. Sustainability considered budget, management, comms, engagement, impact analysis, status reporting.

Business Case – 5 capital and / or ESG/ UN SDG alignment.

## introduction summary.

We are ideally placed to support our customers with their sustainability goals, not only through sustainable technology but the way in which it is delivered.

> Companies leading sustainable practices create new business, increase revenue and draw in new talent. As well as aligning ourselves closer to out company value of "creating sustainable value with people who care".

The five capitals refer to a framework we use internally because they are

simpler and offer a greater level of detail than other sustainability frameworks such as ESG's (environment, social governance), UN SDGs (United Nations Sustainable Development Goals) or the triple bottom

Sustainability by design simply refers to the delivery approach. Sustainable projects consider the environmental, economical and social aspects of the life-cycle of the projects resources, processes, deliverables and effects.

Our practical guide overlays the five capital framework applicable to various delivery methods. A lot of this we already do, but we're adding in new ways of thinking to frame our delivery more sustainably!









line (People, Planet, Profit).



## 2. pre-delivery.

Benefit cases are becoming broader – they no longer simply focus on the financial benefit of a project such as driving sales or reducing cost.

We can frame project benefits within a sustainable context regardless of whether the project is specifically linked to sustainability.

Whilst internally we frame sustainability using the five capitals and can support customer understanding using the model, our customers are more likely to use the UN Sustainable Development Goals or the ESG (environmental, social, governance) Pillars to define their sustainability strategy which in turn may inform their project benefit cases.





#### UN SDGs.

(sustainable development goals)

The customer may wish to understand how the benefits may support the UN SDGs that they align to.



#### ESG framework.

(environmental, social, governance)

Corporate reporting will use the ESG - Organisations use the ESG framework to report on their sustainability progress.



environmental.



social.



**benefits mapping** customer alinment.



## a sustainability journey internal benefits mapping.

Using the 5 capitals model is a great way to demonstrate how project benefits are often more closely aligned to sustainability than perhaps we thought. By using the 5 capitals framework we can assess the full impacts of the project and be better equipped to help our customers understand the wider benefits of the technology implementation and in turn work with them to align to other frameworks, such as the UN SDGs.

Below we use the example of investing in instore technology. This could (for example) be due to compliance, such as PCI, the replacement of end of life equipment or to improve customer experience by introducing loyalty capabilities at the Point of Sale. By using the 5 capitals we can trace the impacts across the different elements of sustainability.





## **benefits mapping** customer facing example.

Sustainability supports growth across the triple bottom line of people, profit and planet.



As an organisation we align with 9 of the clients key UN SDGs where we can support the client with their key sustainability aims.





#### better for people.

Our project teams demonstrate our award winning company culture with inclusion, diversity and accessibility engrained, and our methodology ensures that these elements are built into solution designs.

#### better for profit.

- Sustainable **companies outperform their peers.**
- Accenture research states that 51% of companies say that technology led sustainability initiatives lead to **increased revenues.**

#### better for the Planet (net zero).

- Our sustainable delivery methodology includes low carbon working, green software engineering and sustainable design.
- Our sustainability assessments can further reduce the environmental impacts of project delivery and final solution.

## pre-delivery summary.

Regardless if our customers project is specifically linked to sustainability, we can frame the project and its benefits within a sustainable context.

Our customers will likely use either the UN SDGs or an ESG framework to report on their sustainability strategy. We can work with them to

project and be better equipped to help our customers understand the wider benefits of the technology implementation.

align to their chosen framework.

Sustainability supports the growth of the triple bottom line, people, profit and planet. Sustainable companies outperform their peers.



By using the 5 capitals framework we can assess the full impacts of the

Accenture research states that 51% of companies say that

technology led sustainability initiatives lead to increased revenues.











## 3. discover.

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## **management** project, programme, workstream.

We already mobilise and run projects and programmes with a degree of sustainability – our financial, human and social capital are addressed by well managed finances, engaged teams and great customer relationships. There is room for improvement in these areas and some additional layers to consider as we incorporate manufactured / technical and environmental capital.

#### Sustainable project management:

- Considers the environmental, economical and social aspects of the life-cycle of the project's resources, processes, deliverables during planning, monitoring, controlling and delivery.
- Realises benefits for all stakeholders the team, the customer, the planet and shareholders.
- Is transparent, fair, ethical and includes proactive stakeholder participation.





# sustainable working planning.

Historically, planning at any level (POAP, project, test plan, cutover) must balance timeframe demands with budget and resource availability i.e. Financial and Human Capital.

To ensure a holistic approach, we should consider all of the 5 capitals when planning...

#### Does the plan align with the budget?

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**How will the plan impact team wellbeing?** Can we keep meetings to 30 or 45 mins? Avoid back to backs? Avoid lunchtime calls?

Does the plan need to consider any societal impacts?

Will the plan require an increase in travel, energy use, and if so how can we mitigate that?



## status reporting.

Status reports must be accessible and distributed by the right channels, to the relevant people, via the lowest impact medium. Regardless of the format, sustainability needs to be included in the status.

The 5 capitals, ESGs, UN SDGS or customer pillars / sustainability goals can be used to frame a coherent and consistent narrative.

#### example status summary

sustainability incorporated into existing sections.





#### risk.

Current re-plan may require significant overtime and weekend working across public holiday.

#### mitigation.

Further replanning underway to reduce negative wellbeing impact. Additional resource request submitted.

separate report. Consider what would work best for your client and team.

(Cr



### availability & capability.

We already consider resources availability and capability when mobilising our chosen teams.

#### team size.

When planning your team consider how the size will allow for sufficient support for work life balance (mental & physical health) and time and opportunity for career development (training or on the job learning).

#### skill & personality.

Consider the skills & personality makeup of your team by using a skills matrix such as the Myers Briggs or Gallup skills assessment.

## mobilisation & resourcing.

Historically we have been concerned with cost, capability and availability when we resource and mobilise a project. It has been proven that diverse, inclusive and engaged teams yield better results – our own culture is a great credential.

Our project teams demographic and culture should be a microcosm of the organisation to ensure successful delivery without negatively impacting our human and social wellbeing, career growth, diversity and inclusion.

#### experience mix.

Experience mixes could include industry vs. consulting, different role varieties and areas of specialism. timeframe and customer budget. Balance the timeframe and customer budget with the other capitals.

#### diversity & inclusion.

Ensure the team is as diverse and inclusive as possible within the confines of resource availability, timeframe and budget.

A link to the Gallup Skills Assessment can be found here.







How might stakeholders map to the 5 capitals?

Who might care about each capital?

Do the capitals point to other potential stakeholders?





the sponsor! Finance and procurement teams, Shareholders, CALs / Sales team.

delivery team, HR, HSE, L&D teams.

relationships with CALs / sales teams.



employees, responsible business team, customers & local communities, CEO.



finance and procurement teams IT support teams, HW / SW providers.



## engagement & high performing teams.

In order to deliver a sustainable solution it is critical to establish high performing teams both for internal delivery teams and for the stakeholder.

How are we driving effective engagement through communications, capability, culture, support and tracking? When taking a **sustainable** approach to engagement we are mindfully planning these activities to bring the team on the journey, drive greater collaboration and in turn greater value for our teams and our clients.







## delivery team wellbeing.

A great way to track whether your delivery team is engaged and assess their wellbeing is by generating anonymous pulse surveys sent incrementally throughout the project. By generating questions that align to the five capitals, we are able to track how sustainable our delivery approach is and support a sustained approach to high performing teams. We recommend carrying out pulse surveys (minimum) at the beginning of a project to generate a baseline and the end to collate lessons learnt. For longer projects it is recommended to carry out quarterly surveys.

Ensure that any specific wellbeing concerns raised directly are addressed in line with duty of care processes. Are your wellbeing surveys integrated into the internal teams communications & engagement approach?

Who and how will the results of the surveys be assessed?

How will you track the responses, consider making these accessible to all, opening up the results to the team will drive engagement, trust and credibility.

Who will be responsible for actioning against the feedback?

How can you feed this in to the wider company GPTW results?

What process will be put in place to validate the efficacy of the actions taken on the responses?



## example questions.



#### communication.

Project / programme communication is accessible for all, provides clear updates and expectations with communication channels allowing open and honest feedback and input.



#### empowerment & accountability.

The team are given responsibility and able to do a good job without being micromanaged.

#### ?

#### engagement.

I feel I make a difference on the project and when I look at what we accomplish, I feel a sense of pride.

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#### ethics / fair treatment.

The project is well run, ethical and with team members that are treated fairly regardless of their orientation, race, gender, age, position.



#### innovation.

The team are able to submit suggestions and ideas and to support innovative ways of working.

#### ?

#### people development.

I am able to make the best use of my abilities on the project and am offered training or development to further myself professionally.



#### **recognition & reward.** Good work and extra effort are recognised on the project.

#### ? v

wellbeing.

need it.

#### The project genuinely prioritises my wellbeing and I get empathy and support from the Delivery Lead / team when I

?

#### environmental impact.

I understand how we are making a positive impact on the environment.

#### teamwork.

We're all in this together and there is a good sense of teamwork and camaraderie.



## support from our networks.

If any of the team need support, remember that our incredible community networks are always available. Each network is made up of colleagues across Accenture from different countries and regions and from various ethnic backgrounds, and truly are representative of the employees that make up our company. Our intention is to bring a varied and diverse set of opinions to internal initiatives before they are rolled out to the wider Accenture and make sure everyone feels seen, heard and supported. You can find out more about our networks and who to contact by clicking on the links below.





## impact analysis.

To ensure a holistic approach we must broaden our thinking beyond time and cost impacts when managing and assessing risks, issues, changes and dependencies.

Reviewing the impacts across the capitals and considering how they are related will provide a holistic view of the impact and the changes required to mitigate it.



mitigated?



## sustainable working low carbon working.

Whilst the covid pandemic has forced us to work remotely which has dramatically reduced our business travel carbon footprint, there are many other ways to reduce carbon usage whilst delivering projects – some new, some old!



## discover summary.

Sustainable project management considers the five capitals across the lifecycle of the project, its resources, processes, and deliverables.

> We already have great credentials on budget and resource management, also consider the environmental and technological aspects.

Beyond cost, capability, and availability, consider whether you are resourcing an inclusive, diverse and engaged team.

> Consider all your stakeholders and how they might map to the five capitals - what's important to them? How are you driving effective engagement through project comms, capability, culture and support?

Create a clear and consistent narrative with your reporting on sustainability within the project. Either integrate in existing

> A simple and effective way of tracking your team's wellbeing and engagement is by using anonymous pulse surveys.

When assessing risks, issues, changes, and dependencies broaden your view beyond time and cost. Consider all five capitals to achieve a holistic view of the impacts.



reporting sections or create a separate report.















## 4. design.

## communications.

Every programme or project will include many forms of communications for the internal delivery team and the client and their stakeholders. When developing a Communications and Engagement Strategy it is critical to consider a clear, consistent and coherent narrative which is **accessible, inclusive** and **transparent** to build trust and to drive and enhance the projects sustainable approach & achievements.



develop a coherent, consistent and engaging communications journey for

all individuals working on and impacted by the change.

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## training.

When a new solution impacts end users, training will always be required. Using differing styles and approaches may allow Accenture and the client to reduce cost and carbon footprint during the initial training sessions and for new users / solution changes in the future. When tackling training on any project we start by developing a Training Strategy. Using the **five capitals**, we can develop a more considered, sustainable training approach & plan that delivers greater value for our clients.

What training already exists?

sustainable

training

strategy.

- What training modules, tools and templates can you update and re-use?
- What training approaches does the client already use? Are they effective?
- Can the cost of the training approach be sustained long term?
- What are the cost implications for updating or reworking training materials?
- What training platform(s) does the client already use? Are they using an eLearning platform?
- Will you require hardware to deliver the training?
- What hardware already exists?
- If hardware is required, how will this be replicated for ongoing or new starter training?
- Do we need to train users to use the new solution more sustainably? (peak time, power conservation, data reduction.)
- Mow will the training incorporate the clients sustainability principles?
- What is the clients wider sustainability strategy and how does this align to the project goals and benefits?
- Do the teams require sustainability training?
- What sustainability training does the client already provide their teams?
- What materials will be created? Consider use of paper, plastics etc.
- What is the impact on travel with the training approach?
- How will the training strategy impact the users time? Does it take into account their regular tasks, schedule and locations?
- Can the training be delivered remotely?
- Can the training be delivered to fit flexible schedules?
- What mentors, buddies and super users can you mobilise to empower the teams?
- Is the training content accessible? For example: think about using the accessibility check functionality in PowerPoint.
- Have you validated your approach and content from a cross section of client users?
- Consider how you will react to feedback, what can you change, how will you address these changes without impacting the capitals negatively.
- How will you measure the efficacy of the training
- What will be the outcome of the measurement activity results? How will it feed into the wider programme benefits?



# **solution design** functional.

Sustainability should be considered during solution design whether it requires a full solution design or configuration. Many digital projects already consider paper use. Consider the impact of increased energy use to digitise documentation as well as user wellbeing and solution accessibility for example.

Using the final solution should not impact wellbeing... What might cause repetitive strain injuries?

Consider simple solutions to reduce user stress. Ensuring technology is accessible and inclusive supports users mental wellbeing.



Can physical access or use cause injury –

is equipment too heavy? Are user devices well made with no sharp edges. Would a critical failure result in exposure to harmful internal elements?

The circular economy is a systems solution framework for tackling global challenges like climate change, biodiversity loss, waste, and pollution.

To transform the current take-make-waste system we should consider how we manage resources, how we make and use products, and what we do with the materials afterwards. The three principles of circular economy are to design out waste and pollution, keep products and materials in use and regenerate natural systems.



design out waste & pollution.



keep products & materials in use.



regenerate natural systems.

Can any of the circular design principles be applied to our projects? Here are some examples

**Extending the lifespan of existing technology.** Using authorised remanufactured or refurbished equipment can reduce environmental impacts at lower cost. Using green code can also extend device lifespan. Consider repurposing old technology for future projects or donating to local organisations such as school and charities to avoid or reduce e-waste.

**Recovery of valuable materials** from devices at end-of-life. Consider what happens to redundant technology during a decommissioning phase of a project. If it cannot be reused, can it be sold to or collected by accredited companies for material mining to reduce mining of already rapidly depleting virgin materials?

**Redesign of products and packaging** to use less materials. Could packaging analysis in the warehouse provide insights into alternate or reduced packing to reduce the environmental impact of production and disposal?

**Can reports be created and / or consumed online** rather than being printed?





Can End User forms be completed and

rather than having to

submitted online

be printed and

scanned?

Can documents such as statements, payslips, company updates be provided electronically via email or made available in a secure online repository rather than printed out?



Can software be configured to reduce or prevent printing? e.g. tills, WFT.

**Can secure online signing services such as DocuSign** be used to avoid printing and scanning?



User interfaces

should consider

language, font size

and colour,

background colour

and brightness.

ХA

Information

should be digitally and physically

accessible -

balance paper and

digital versions,

consider audio

and video to

further increase accessibility.

## **solution design** functional.

How can you make the solution inclusive digitally and physically accessible for users and customers?

J.

Use of other technologies to support the use of SAAS e.g. Dayforce Assistsant, voice, touch, cast screen etc.

Tills, Kiosks, self service technology should be physically accessible – consider height, location, button size and integration with existing interfaces e.g. Siri on IOs devices or Amazon Alexa.

Consider the range of **abilities and demographics.** 

Smaller files are faster to upload,

and more energy-efficient.

A green digital experience comes down to accessibility, easier navigation and readable content.



in ways that save energy. Certain screen colours are more energy-efficient.

Performance can be optimized

When the digital experience is user friendly and less complex, it is easier for users to find the information they want, which means **less screen time and therefore lower carbon emissions.** 

• • •

It is possible to save energy by reducing a site's **processing power and compressing images and using graphic mechanisms to scale images** without losing sharpness or colour quality.

accessibility

## **solution design** non functional.

Consider non functional requirements during infrastructure design, the aim being to create a sustainable, low carbon "circular" solution.



Can infrastructure be **powered down** or scaled dynamically when not in use to avoid wasted energy and capacity?

Can energy intensive operations (or all) be scheduled to run during low demand periods or in areas with a green energy mix (demand shifting/shaping). When using Artificial Intelligence, consider lower accuracy targets for non critical modelling or repurpose an existing model for a new task to save time and energy.

task to save time and energy. **70%** to **90%** Between **70%** to **90%** of data that organisations collect is **dark data** ensure the application doesn't store or transmit

data that isn't required.

Can equipment operate on power saving modes to ensure automatic switch off or low power modes use over night or during the day when not in use to avoid wasting energy?



Challenge **speed**, **performance or accuracy requirements** - are they all justifiable? How can they be achieved without simply increasing energy consumption.

non functional.



Consider **impact on energy use, carbon footprint, developer time** etc. as well as cost when additional functionality is requested. Avoid high nice to have capabilities, redundant code.



## **design** summary.

When building your communications strategy, it is critical to generate comms that are accessible, inclusive, and transparent to drive and enhance the projects sustainable approach and achievements.





Generate a sustainable training strategy by asking key questions such as what systems and training already exists? Can the training be delivered remotely? Is the training content inclusive and accessible?

Whether the project requires a full solution redesign or simply new configuration taking a sustainable approach would consider circularity, accessibility, resources, and user wellbeing.





When considering non-functional requirements of the solution design, aim to create a low carbon and circular solution.

The three principles of circular economy are to design out waste and pollution, keep products and materials in use and regenerate natural systems.





## 5. deliver.

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# **sustainable working** testing.

Sustainable testing can be seen as a subset of a wider project, with low carbon working, green software engineering accessibility and wellbeing all being integrated. Here are a few examples of what to consider...

Consider team wellbeing, development and engagement.



Digital and physical accessibility included in the testing scope. Powering down test infrastructure may reduce energy consumption but should only be considered if it will not impact overnight processes.

• • •



Automated testing and scripts reused.

Removing redundant test cases to reduce the number of test runs can improve the energy-efficiency profile. Reduced natural resource use receipt functionality.



• • •

Perhaps assess hardware and software efficiency and collaborate with suppliers to replace with new, more efficient technology (new, refurbished or remanufactured). Script review – 1 to many relationships to reduce repetition.

Demand shifting, demand shaping when automating. Running test infrastructure in a green cloud would reduce emissions associated with testing.

Review automation code ensure low carbon intensity, energy efficiency.

Consider the pros and cons of automated testing - efficiency vs. team size. Would there be opportunities for new roles?

# low carbon working green software engineering.

Green software engineering consists of a core set of principles which can be followed during the design, build and run phases of a project to mitigate the environmental impact of technology solutions. Key to success when applying many of the principles is the use of green code when developing solutions. **Click on each icon to learn more.** 

CO<sub>2</sub>

#### **carbon.** Build carbon efficient applications.

To be carbon efficient is to minimize the amount of carbon emitted per unit of work.



#### energy proportionality.

Maximize the energy efficiency of hardware.

The most efficient and green approach is to run work on as few servers as possible with the highest rate of utilisation.



#### electricity.

Build energy efficient applications.

A sustainable application takes responsibility for electricity it consumes and is architected to consume as little as possible.



#### networking.

Reduce the amount of data and distance it must travel across the network.

All the computers and network equipment in a network consume electricity and have embedded carbon.



#### carbon intensity.

Consume electricity with the lowest carbon intensity.

Be flexible when / where work is run - choose to consume electricity when the CI is less and pause when carbon intensity is high.



#### demand shifting & shaping.

Build carbon-aware applications.

Shape demand so that it matches the existing supply.

Shift workloads when the supply of renewable electricity is high.



#### embodied carbon.

Build applications that are hardware efficient.

Embodied carbon is the amount of carbon pollution emitted during the creation and disposal of a device.



#### measurement & optimisation.

Focus on step-by-step optimizations that increase the overall carbon efficiency.

Understand the full stack, to create simple solutions that significantly improve carbon efficiency.

## deliver summary.

Sustainable testing can be seen as a subset of a wider project with low carbon working, green software engineering, accessibility and team wellbeing all being integrated.



Green software engineering consists of a core set of principals which can be followed during the design, build and run phases of a project to mitigate the environmental impact of technology solutions. See the pack for links to great training resources.

Green software engineering considers building carbon efficient applications, maximising energy efficiency and building carbon-aware applications.



**CO**<sub>2</sub>









## 6. sustain.

When developing a Sustain Model we work with the client to be ready to maintain and continuously improve the solution after the project has been delivered. Defining the plan, processes and governance before delivery is completed allows us to fully **embed our sustainable initiative** to fully realise the programmes benefits and ensure it is indeed sustainable.



# sustain model.

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## managed services.

Our managed services team are multi-skilled and have responsibilities across development, testing, architecture design in 3 key domains.

Sustainable ways of working can be applied across skill sets and domains.

#### **infrastructure managed services.** Azure end to end

operational excellence.

- Hosting includes infrastructure footprint improvement / green enhancements.
- Performance management should consider green software engineering techniques to provide sustainable performance.
- Vulnerability management is a key element of Governance (G in ESG).
- High availability / disaster recovery (HA/DR) architecture should use green software engineering design principals.
- Upgrades, releases and deployments should be resourced, planned, communicated and delivered using sustainable techniques.

service management. ITIL aligned and customer focused.

- 24x7 Support Service should consider team wellbeing (sensible shifts + automation / predictive maintenance).
- Service Governance should be accessible and inclusive. Reviews should include sustainability commentary.
- Customer business understanding should extend to roadmaps and sustainable service provision.
- Communications at all levels should accessible.
- Service improvement plans should include increasing sustainability across the 5 capitals.

application managed services. business aligned and agile.

- Performance monitoring / health checks to include sustainability measurements – energy consumption, efficiency, emissions + human and social metrics.
- Release management should incorporate
  sustainable design and delivery approaches.
- High availability / disaster recovery (HA/DR) architecture should use green software engineering design principals.
- Upgrades and patch reviews to include sustainability impact assessment – customer impact / environmental impact / technology efficiency impact.

# sustain

Defining the plan, processes and governance before delivery is completed allows us to fully embed sustainability. How will the impacts to sustainability be assessed once the project has come to an end?



Managed Services can be seen as a subset of a wider project. Dependent on your role within the team you will have different sustainability principles to consider, from green software engineering techniques, accessible and inclusive service governance, to sustainability measurement and health checks.

## summary.







# what can I start doing today?

"So, what does this all mean for me!", I hear you screaming.

Firstly, remind yourself on what we mean by 'Sustainability' and how we use the five capitals. Although it is important, we don't just mean the environment, we aim to take a holistic view across people, society, technology, financial and natural resources when delivering our projects. Go back to the introduction section of this guide as it will give you more detail.

We have listed out five simple activities (with minimal impact to your current workloads) to get you started on your journey to delivering your projects more sustainably. We've included links to the helpful pages in this overlay to support the questions you should be asking.

#### stakeholder assessment.

Using your stakeholder assessment consider which of the five capitals is most important to your high influence stakeholders. Use this to shape your communications and engagement approach and project key messages.

#### change request impacts.

Assess your next change request, risk or issue using the five capitals to move beyond budget and resources to provide holistic contextualising and decision making.

3.

#### high performing team.

Use a retrospective meeting or short pulse survey to evaluate your teams wellbeing, engagement and development opportunities. Use the outcome to plan actionable improvements in the next sprint or phase of the project.

4.

#### sustainable training (SQ/TQ).

Give your team the ability to build their understanding and language around sustainability. Communicate and provide time for your team to complete their sustainability TQ module and complete the Sustainability Quotient (SQ) training.

5.

#### green software engineering.

Discuss ways to implement sustainable best practice when building out technical requirements. Consider how you can reduce data usage. The Green Software Engineering training should also be completed by all Dev and solution architecture teams.





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