Monitoring for Evaluation Plan – Superfast Cornwall

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Author(s): Katherine Stewart

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1. Project summary

Project name	Cornwall and IoS NGB Delivery Management team (CDC) and Cornwall Next Generation Broadband Access (BT)
Project number	203642 (CDC) and 202385 (BT)
Project start date	01/07/2010
Project end date	31/09/2015
Gross project costs	£132m (NGB main project - BT) and £4.5m (delivery management project - CDC)
Funding stream split	ERDF: £53,500,000 (ERDF grant to BT) and private sector: £78,500,000 ERDF: £3,339,528 (ERDF grant to CDC) and Cornwall Council: £1,000,000
Delivery body	Cornwall Development Company and BT
Project brief description	The project will deliver a next generation broadband network including infrastructure, wholesale platform and end user applications throughout Cornwall & the Isles of Scilly. This investment in superfast broadband represents the single largest and most transformational ERDF investment that the Convergence programme will make. It contributes towards the programme's operational objectives by providing the platform for economic transformation to a more knowledge based, high value added, lower carbon economy. The project links together and adds value to virtually all other investments in the programme, including, place based regeneration activity, innovation centres and CUC.

2. Contracted outputs/results

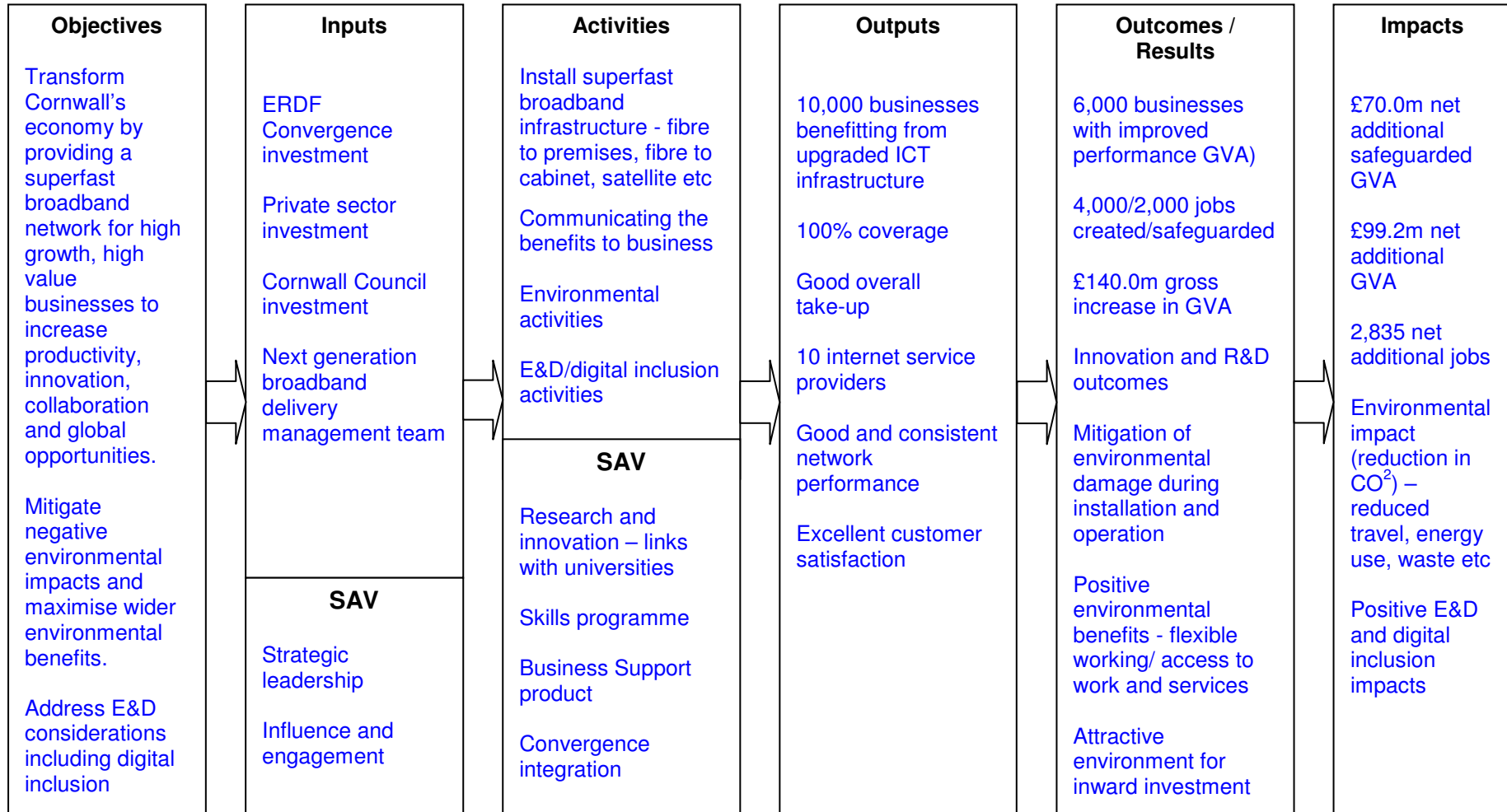| Results		
	Number of businesses benefitting from upgraded ICT infrastructure	10,000
	Number of businesses with improved performance (GVA)	6,000
	Number of jobs created	4,000
	Number of jobs safeguarded	2,000
	Gross increase in GVA	£140.0m

3. Purpose of this plan

'Monitoring for evaluation' (MfE) includes, but has a wider scope than, the contractual output monitoring requirements that have previously been agreed between the South West RDA (the Agency) and Cornwall Development Company on this project. The Agency is required to understand and report on its net economic impact, both in terms of GVA generated, and less tangible benefits. To identify the net economic impact of each project, more needs to be done than simply collecting quantitative data such as the number of businesses assisted. This plan uses a 'logic chain approach' to provide an understanding of the aims and effects of the project, explaining how the funding put into the project ultimately leads to an economic impact on Cornwall and the Isles of Scilly. This approach enables us to isolate individual inputs, activities, outputs, outcomes and impacts, and hence identify suitable ways of monitoring for the effects of each. The Monitoring for Evaluation plan identifies the methodology for monitoring together with a review of the proposed evaluation activity and costs.

The CDC delivery management team will evaluate the Superfast Cornwall programme in its totality and therefore the M4E plan is written to reflect this. This ensures that all monitoring and evaluation data is collected in a coherent and non-overlapping manner, minimising the burden on end beneficiaries. Therefore the M4E plan includes the following elements:

- Monitoring of CDC contractual economic outputs, results and impacts
- Environmental sustainability (identifies how data will be collected to monitor the overall carbon impact of the project and its delivery activity)
- Equality and Diversity (including digital inclusion)
- BT Key Performance Indicators and targets
- Strategic added value (including skills, research and innovation, business support and environmental sustainability)

The Superfast Cornwall programme is different to other Convergence projects in that it will not deal directly with most of the business beneficiaries. As a consequence, it is difficult to exactly measure the number of businesses with improved productivity and the numbers of jobs created etc. Therefore, it is proposed that a number of different evaluation methods (as set out in the following sections) are carried out to assess the economic results and impacts of the project. It is acknowledged that this differs from the requirements in the Combined Indicators Technical Note but it would not be feasible or cost-effective to collect that verification evidence from all businesses.

4. Logic chain

Objectives	Inputs	Activities	Outputs	Outcomes / Results	Impacts
Transform Cornwall's economy by providing a superfast broadband network for high growth, high value businesses to increase productivity, innovation, collaboration and global opportunities. Mitigate negative environmental impacts and maximise wider environmental benefits. Address E&D considerations including digital inclusion	ERDF Convergence investment Private sector investment Cornwall Council investment Next generation broadband delivery management team **SAV** Strategic leadership Influence and engagement	Install superfast broadband infrastructure - fibre to premises, fibre to cabinet, satellite etc Communicating the benefits to business Environmental activities E&D/digital inclusion activities **SAV** Research and innovation – links with universities Skills programme Business Support product Convergence integration	10,000 businesses benefitting from upgraded ICT infrastructure 100% coverage Good overall take-up 10 internet service providers Good and consistent network performance Excellent customer satisfaction	6,000 businesses with improved performance GVA) 4,000/2,000 jobs created/safeguarded £140.0m gross increase in GVA Innovation and R&D outcomes Mitigation of environmental damage during installation and operation Positive environmental benefits - flexible working/ access to work and services Attractive environment for inward investment	£70.0m net additional safeguarded GVA £99.2m net additional GVA 2,835 net additional jobs Environmental impact (reduction in CO_2) – reduced travel, energy use, waste etc Positive E&D and digital inclusion impacts

5. Evaluation questions

What broad questions need to be asked in order to establish to what extent the objectives set out in the logic chain have been achieved?

- What is the gross economic impact of the Superfast Cornwall programme?

- What proportion of the gross impact is attributable to each additionality component (deadweight, leakage, displacement and substitution)?

- Therefore, what is the net economic impact of the Superfast Cornwall programme (having considered multipliers)?

- What would have happened in the absence of the Superfast Cornwall programme? Would the superfast broadband technology not have happened at all? Would it have happened at a slower rate? Would it have been delivered in a more piecemeal/fragmented manner?

- What is the predicted future economic impact of the project (given that it is likely that impacts will take time to be achieved)?

- What is the project's Strategic Added Value (leadership, strategic influence, leverage, synergy and/or engagement) e.g. to what extent has the Superfast Cornwall programme created confidence in the prospects for economic growth and in the capacity of partners and stakeholders to realise the potential for growth and improved performance?

- Are the aims and objectives of the Superfast Cornwall programme being delivered?

- How efficiently and effectively has the Superfast Cornwall programme delivered its activities, outputs and outcomes – what value for money has been achieved?

- What have been the key lessons learned as a consequence of the project – what worked well, not so well and why?

- Have the negative environmental impacts been mitigated and the wider environmental benefits been maximised?

- Have the Equality and Diversity considerations (including digital inclusion) been addressed?

6. Monitoring for evaluation

The following table identifies what data / information needs to be collected, how, when and by whom.

Criterion	What?	How?	When?	By whom?
Economic Outcomes / Results				
Businesses benefiting from upgraded ICT infrastructure	Businesses connected to superfast broadband. Refer to BT's 'Methodology for monitoring business connections' document for further details on which types of businesses are included. These business types include SMEs and large businesses (greater than 250 employees), sole traders, partnerships, franchises and economically active non-profit making organisations (but not those that are wholly funded by public bodies).	Connected businesses in direct touch with project via phone will be logged. Businesses will be encouraged to fill in a web form (monthly draw incentive) when they are connected – data will feed in to the CRM. BT to provide data on percentage of business lines enabled and cross-check with CRM. Proxies will be used - overall take-up will be adjusted to a proportion for business take-up based on data from previous studies. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas.	As business is in touch with project, via randomised business survey or via regular updates from BT re upgraded business lines	CDC/survey company/BT
Businesses with improved performance (GVA)	Businesses benefiting from improved performance as a consequence of the Superfast Cornwall programme (turnover will be converted to GVA)	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be	As business is in touch with project or via randomised annual business survey	CDC/survey company

		undertaken in connected exchange areas.		
Jobs created/safeguarded	Jobs (FTEs) created or safeguarded as a consequence of the Superfast Cornwall programme	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas.	As business is in touch with project or via annual randomised business survey	CDC/survey company
High growth/high value businesses	Convergence programme focuses on Lisbon activities (providing benefits to high value/high growth businesses)	Businesses in direct touch with project will be flagged on the CRM system. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas. The business support product provider will also provide data on high growth companies that are accessing intensive assistance.	As business is in touch with project or via annual randomised business survey.	CDC/survey company
Innovation and R&D outcomes	Businesses become more innovative and producers of superfast broadband-enabled content as a consequence of the Superfast Cornwall programme	Businesses' experiences will be tracked via a longitudinal business survey. Focus groups will collect detailed qualitative data. The business support product provider will also provide data on high growth/value companies that are accessing intensive assistance.	Longitudinal survey Baseline, mid point and final stakeholder surveys	CDC/survey company Independent evaluators UoP and UCF

Attractive environment for inward investment	Foreign-owned companies choose to invest in Cornwall in part due to the superfast broadband infrastructure	Obtain data on FOCs from Invest in Cornwall (include superfast broadband question in Invest in Cornwall brand surveys). Independent evaluators will undertake a stakeholder survey.	Annual updates from Invest in Cornwall Baseline, mid point and final stakeholder surveys	Invest in Cornwall/ independent evaluators
Increase in gross GVA	GVA increases as a consequence of the Superfast Cornwall programme (turnover will be converted to GVA)	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas.	As business is in touch with project and corroborated via annual randomised business survey	CDC/survey company

Economic Impacts				
Increase in net additional GVA	Net additional GVA taking into account deadweight, displacement, leakage, substitution and economic multipliers	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas.	Randomised annual business survey to assess additionality and corroborate GVA data	CDC/survey company
Increase in net additional safeguarded GVA	As above, GVA safeguarded	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas.	Randomised annual business survey to assess additionality and corroborate GVA data	CDC/survey company
Increase in net additional jobs	Net additional jobs taking into account deadweight, displacement, leakage, substitution and economic multipliers	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and	Randomised annual business survey to assess additionality and corroborate employment data	CDC/survey company

		quick economic) will be undertaken in connected exchange areas.		
BT Key Performance Indicators				
250,000 premises covered (100% percentage coverage)	Superfast broadband coverage across Cornwall and the Isles of Scilly	Coverage assessment – split into business and residential premises. The assessment should also specify the technology type e.g. FTTC, FTTP, type of infill.	Annual targets monitored every six months to fit in with infrastructure roll-out	CDC/BT
Marketing spend milestones	BT are required to spend a certain amount of the marketing spend provision annually	Evidence of spend	Annual	BT
Number of service providers	BT are required to ensure 10 service providers are operating at the end of the project	Service provider assessment	Annual	BT
Network performance	Measure the core communication products and services delivered by BT against the agreed specifications	Network performance assessment – refer to BT's 'Product and service performance management methodology, metrics and plan	Annual	External company on behalf of CDC
BT project targets				
Overall take-up	Overall number of lines enabled	BT to provide overall numbers - split into business and residential premises. The assessment should also specify the technology type e.g. FTTC, FTTP, type of infill.	Annually correlated but figures from BT Wholesale available monthly	CDC/BT
Customer satisfaction standards	Monitoring the experiences of the end business users.	Randomised survey. Refer to BT's Customer	Randomised business survey on a 6-monthly basis.	Survey company

		Satisfaction Monitoring Methodology.		
Environmental sustainability				
Reduced travel - commuting	Cut home-to-work travel and reduce peak hour congestion by enabling travel at smarter times as a result of flexible working	Mileage savings Time savings Absenteeism reduction CO_2 emission reduction (Web form, randomised business survey, stakeholder survey and specific environmental research)	Randomised annual business survey/web form	BT/CDC
Reduced travel - work	Cut in-work travel by holding smarter meetings and using systems with data access anytime, anywhere enabling access to information & systems remotely	Mileage savings Time savings CO_2 emission reduction (Web form, randomised business survey, stakeholder survey and specific environmental research)	Randomised annual business survey/web form	BT/CDC
Reduced energy use	Future applications like 'thin clients' (remotely hosted PCs) and fibre networks will use less energy.	Web form, randomised business survey, stakeholder survey and specific environmental research	Randomised annual business survey/web form	BT/CDC
Smarter use of buildings	Smarter use of office space (e.g. more hot-desking) and use of home-working.	Web form, randomised business survey, stakeholder survey and specific environmental research	Randomised annual business survey/web form	BT/CDC
Reduced impact of installation of superfast broadband network and sourcing of materials	Reduction of the carbon greenhouse gases in the construction phase of the project as compared with a 'business as usual' scenario	BT carbon impact assessment and on-going monitoring.	Annual measurement	BT/CDC
Reduction of waste to landfill and recycling	Reduction in waste to landfill in the construction and	Environmental impact assessment	Annual measurement	BT/CDC

	operational phases of the project as compared with a 'business as usual' scenario. Increase in recycling of materials.			
Habitats and Biodiversity	Minimising the impact on sites of nature conservation (SACs, SPAs)	Environmental impact assessment	Annual measurement	BT/CDC
Culture and Heritage	Minimising the impact on sites/areas with culture and heritage wealth	Impact assessment on culture and heritage	Annual measurement	BT/CDC
Reduction in overall carbon impact	Reduction of the carbon greenhouse gases in the operational phases of the project as compared with a 'business as usual' scenario	BT carbon impact assessment. Baseline current emissions in end user homes. On-going monitoring.	Annual measurement	BT/CDC
Equality and Diversity				
Business ownership E&D	Businesses owned broken down by gender, ethnic diversity groups, disabled people	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas.	As business is in touch with project or via randomised annual business survey	CDC/survey company
Jobs created E&D	Individuals in jobs created - gender, ethnic diversity groups, disabled people, age	Businesses in direct touch with project will be logged. Web form data collected. Randomised business surveys (longitudinal and quick economic) will be undertaken in connected exchange areas.	As business is in touch with project or via randomised annual business survey	CDC/survey company
Access to work and services	Individuals with mobility difficulties, in isolated rural communities, with caring responsibilities etc can	Randomised business survey to assess whether the number of parents with children under 6, over-65s	Randomised annual business survey and stakeholder survey	CDC/survey company

	access work and education through flexible working	and disabled people joining the workforce has increased. Stakeholder survey.		
Access to services through remote learning centres	Individuals with mobility difficulties, in isolated rural communities, with caring responsibilities etc can access education through remote learning centres	Survey of individuals to assess take-up and success of remote learning centres	Annual surveys	CDC and CUC partners
Digital inclusion	Individuals, who previously did not use (or had limited use) of ICT, now using ICT	% of households connected/ number of regular internet users (BT data, ONS data, bespoke survey data). Feedback from training events Survey to assess number of individuals: • using local services or government online • securing a job online Survey to assess number of volunteers participating	As required and data becomes available.	CDC, BT, Citizens Online and survey company
Strategic Added Value (SAV)				
Research and innovation activities	Strategic leadership and co-ordination of research and innovation activities	Stakeholder survey to assess views about whether objectives have been achieved	Baseline, mid point and final stakeholder survey	Independent evaluators
Links to other Convergence investments e.g. CUC	Strategic leadership, co-ordination and influence to ensure other Convergence investments maximise their impact by using superfast broadband	Stakeholder survey to assess views about whether objectives have been achieved	Baseline, mid point and final stakeholder survey	Independent evaluators
Skills	Strategic influence on the skills agenda – including introducing digital skills programmes and creating	Stakeholder survey to assess views about whether objectives have been achieved	Baseline, mid point and final stakeholder survey	Independent evaluators

	an uplift of digital skills across the workforce to enable businesses to maximise the economic opportunities of NGB,			
Superfast broadband business support product	Strategic leadership re business support and superfast broadband activities	Stakeholder survey to assess views about whether objectives have been achieved	Baseline, mid point and final stakeholder survey	Independent evaluators

7. Evaluation Methodologies

The following table shows the suggested evaluation methodologies mapped against the indicators for which they provide data:

Indicator	Logged on CRM	Web form	Economic business survey	Longitudinal business survey	Focus groups	BT data	Stakeholder survey	Business support product data	Invest in Cornwall data	Environmental research	Digital inclusion survey	Separate assessment
Economic outcomes/results												
Businesses connected	X	X	X	X		X						
Businesses - GVA	X	X	X	X								
Businesses - jobs created/safeguarded	X	X	X	X								
High growth/high value businesses	X	X	X	X				X				
Innovation and R&D				X	X		X	X				
Inward investment				X			X		X			
Economic impacts												
Increase in gross GVA	X	X	X	X								
Increase in net GVA	X	X	X	X								
Increase in net safeguarded GVA	X	X	X	X								
Increase in net jobs	X	X	X	X								
BT KPIs												
Percentage coverage						X						
Marketing spend milestones						X						
No. of service						X						

Indicator	Logged on CRM	Web form	Economic business survey	Longitudinal business survey	Focus groups	BT data	Stakeholder survey	Business support product data	Invest in Cornwall data	Environmental research	Digital inclusion survey	Separate assessment
providers						▓						
Network performance												▓
BT project targets												
Overall take-up						▓						
Customer satisfaction	▓	▓	▓	▓								
Environmental sustainability												
Environmental indicators		▓	▓	▓	▓		▓			▓		
Equality and Diversity												
E&D business impacts	▓	▓	▓	▓			▓					
Digital inclusion							▓				▓	
Strategic Added Value												
Research and innovation					▓		▓					
Links to other Convergence investments							▓					
Skills					▓		▓					
Superfast broadband business support product							▓	▓				

8. Evaluation Methodologies – detailed description

8.1. Data recording on the CRM (Evaluation Business Database)

The CRM (which is due to be procured shortly) will have dedicated fields set up for evaluation. This will allow the project team, as businesses get in touch, to record key evaluation information e.g. date of connection, high growth/value information and sector information. The CRM database will hold details of the majority of businesses in Cornwall and this dataset will be exported and sent over to BT in order to assist with the businesses connected verification (see section 8.6).

8.2. Web form data capture

Businesses will be encouraged to contact the project via the website once they have connected to superfast broadband and again 12-24 months after connection. A web form will allow businesses to supply their contact details, date of connection and a few other key pieces of information for evaluation including turnover, number of employees, equality/diversity and environmental metrics. The same data will be collected 12-24 months later, in order to assess the changes to the business as a result of superfast broadband.

A quarterly prize draw for a relevant prize (e.g. an iPad) will provide an incentive for businesses to supply that information (see Appendix One for further details). The prize draw incentive process and success rate will be reviewed after the first six months to ensure that value for money is being obtained with respect to the data received.

The data will still need to be corroborated by a small number of independent, random business surveys but will cheaply provide an absolute minimum number of businesses connected and some information relating to the key economic indicators. If the corroboration exercise shows bias in the data, then that information will be disregarded and further data will be collected via randomised surveys. It is suggested that a target of 500 businesses supplying data via the website at least twice should be aimed for. As a contingency, if this number of responses is not received, the economic impact survey will be boosted to get any additional responses needed.

8.3. Quick economic impact business survey

Many of the businesses that benefit from superfast broadband will not directly interact with the project. As a consequence, it is difficult to exactly measure the number of businesses with improved productivity, the numbers of jobs created etc. Therefore, it is proposed that business surveys are carried out to assess the economic outcomes and impacts of the project. These surveys would sample the 'businesses connected' population to see whether there had been any performance improvements (GVA measured through turnover or jobs) or jobs created/safeguarded (and enable the data collected from businesses interacting with the project to be corroborated). The sampled data would then be 'grossed up' to give an indication of the impact at the population level. The surveys will be carried out annually, starting in 2012 (18 months after the first businesses are connected). This will allow a lag of 12 months for any improvements in productivity to begin to show and a lag of 6 months as company accounts will not be completely up to date at the time of surveying. The survey will be kept short and not run for longer than 15 minutes.

Evaluation guidance indicates that all survey findings should be expressed at a 95% confidence interval, plus or minus 5%, i.e. enabling the reasonable expectation that 95% of results fall within plus or minus 5% of the stated mean. As a guide, to achieve this confidence

level with the Superfast Cornwall programme's population size of 10,000 businesses connected, 370 surveys would need to be completed. The following table shows the target number of surveys to be completed each evaluation year (to achieve the same level of confidence) based on the businesses connected projected take-up figures:

Year	2011	2012	2013	2014	2015
Businesses connected projected figure	400	3,750	7,700	9,750	10,000
Evaluation Year (18 month lag) – Q3 or 4	2012	2013	2014	2015	2016*
Sample size	197	349	366	370	370

*As the final evaluation will be undertaken in 2015, businesses that connect in 2015 will be asked questions about potential future impact, as it will not be possible to survey in 2016.

Significantly more surveys than are required should be attempted, to ensure that enough are conducted successfully and answered fully. Surveys would be undertaken in all the exchange areas that have been enabled to that point. The exact nature of the sampling will be agreed in due course, but it likely that some stratification would be undertaken based on when the exchange area was enabled (i.e. to allow more or less intensive sampling in exchange areas enabled in different years).

It is likely that there will not be a list of businesses connected from which to sample and therefore sampling would need to be carried out using a list of all businesses in an exchange area with an initial question to find out whether the business has connected to superfast broadband.

The suggested questions for the business survey can be seen in Appendix Two. These cover questions to assess the economic impact to date but businesses will also be asked about future impacts and how long they foresee the benefits lasting. This is important as there is often a time-lag between project expenditure/activity and economic impact being achieved.

A percentage of the businesses in the survey will be asked a couple of additional questions about environmental impact and others will be asked about equality and diversity.

Care will be taken in the survey to ensure that an appropriate person is contacted that can answer questions about turnover, jobs and the impacts of superfast broadband. The survey will be piloted and the questionnaire will be adapted and/or shortened if there is not a good response rate to the pilot. The use of incentives for this survey will also be considered if there is not a good response rate achieved during piloting.

8.4. Longitudinal business survey

A longitudinal business survey will be undertaken with up to 200 businesses in order to capture the qualitative impacts over time from superfast broadband. It is expected that businesses will become more innovative and producers of next generation broadband-enabled content as a consequence. An in-depth longitudinal survey will allow the business experience to be tracked over time. This will also allow a deeper probing around some of the key issues relating to economic impact (e.g. it will enable the tracking of changes in turnover and employees numbers over time) allowing the annual business survey to be kept short. The businesses involved will reflect a range e.g. high growth/high value businesses and key sectors.

There are methodological challenges in assessing the net economic impact generated in projects of this type. In particular it is difficult to assess deadweight (what would have

happened in the absence of the intervention) and businesses tend to show 'pessimism bias' i.e. they under-attribute improved performance to the project intervention. Assessing displacement is also difficult (with potential questions including an assessment of competitors within the region). It is proposed that a more detailed approach is undertaken within the longitudinal survey to try to elucidate these factors more clearly. It is difficult to outline a detailed approach at this stage but it is intended that independent evaluators will be appointed to assist with areas of this work. These questions could be posed to the evaluators as part of the procurement exercise and then worked up in more detail once the evaluators have been appointed.

The survey will begin in 2011 and run until 2015. In 2011, the survey will be designed to collect baseline data and will also identify those companies that would be willing to participate in the longitudinal research. Offering an incentive to companies who are willing to participate on an on-going basis will be considered.

A percentage of the businesses in the survey will be asked a couple of additional questions about environmental impact and others will be asked about equality and diversity. The survey will be piloted and the questionnaire will be adapted or shortened if there is not a good response rate to the pilot.

8.5. Focus groups

Four focus groups will be undertaken with businesses each year in order to explore certain issues in more depth and collect qualitative data. The aim will be to explore attitudes and behaviours and to put the quantitative business survey data collected into context. The issues that will be covered in the focus groups will include:

• hype vs. reality – applications / services enhanced
• opportunities for entrepreneurial activity as a result of increased connectivity
• issues of security and privacy
• changes to / impact on IT management / infrastructure
• skills needs and horizon scanning
• social / environmental issues

The focus groups will be facilitated by colleagues from BT Research and the University of Plymouth.

8.6. BT data (businesses connected verification)

Refer to BT's 'Methodology for monitoring business connections' document for further details about how the businesses are defined and how the connections will be measured. BT will provide data to help assess how many businesses have been connected. This will be done in the following way:

• CDC to provide BT Wholesale with a list of business phone numbers from the project CRM (evaluation business database). BT Wholesale will run a query to assess how many of those phone lines have been connected to superfast broadband with a geographical breakdown (although they would be unable to provide data back on which lines had been connected due to data protection issues). Approximately 60% of the data due to be imported into the CRM has phone number information but it is estimated that only some of those phone numbers will equate to the actual lines connected to superfast broadband (an estimate of half or 30% overall).

- BT can also provide a percentage figure for overall business lines enabled. This gives some indication of businesses connected but will be an underestimate as some businesses (particularly SMEs) will have not have a specific business line.
- Proxies can be used e.g. overall take-up can be adjusted to a proportion for business take-up based on data from previous studies

Corroboration of the data will also be undertaken, as the following techniques will also give an estimate of the number of businesses connected:

- CDC project team to update the CRM when speaking to businesses that have been connected
- The project website will have a web form for businesses to fill in the connection data and other key information with a prize draw incentive
- The quick economic impact business survey will enable some corroboration of the data as random surveys will be undertaken in the different exchange areas

8.7. Stakeholder Survey

The stakeholder survey will be carried out by independent evaluators (in order to ensure that questions are answered in an unbiased way). The stakeholder survey will explore the strategic added value activities and outcomes such as research and innovation, skills, business support, inward investment, environmental impacts, digital inclusion and links to other Convergence investments. Key regional and national stakeholders will also be interviewed to gather opinions on how the programme as a whole has performed and achieved its objectives.

8.8. Business Support product data

A separate project focused on business support for superfast broadband in 2012-2015 is being proposed through the Convergence programme. The project will aim to intensively assist 50-100 businesses, many of which will be high growth/high value businesses. Information on these high growth/high value businesses will be collected through this project and will inform the wider Superfast Cornwall programme and how it is impacting on these specific businesses. This will be particularly useful in terms of providing case studies of high growth/high value businesses.

A sample of the businesses assisted through the business support project will be surveyed in detail in order to separate out the impact generated through the SFB connection alone and the additional impact created through the intensive business support provided.

8.9. Invest in Cornwall data

Marketing surveys are carried out through Invest in Cornwall in order to understand the importance of Cornwall as a location for businesses to come to and also to identify any barriers to inward investment. It may be possible to include a couple of additional questions around superfast broadband to see how much that affects a business' decision to come to Cornwall and the Isles of Scilly.

8.10.   Environmental survey/research

It is proposed that a small number of questions are included in the quick and longitudinal business surveys to assess whether businesses are benefitting from reduced travel and energy costs and therefore to assess the reduction in carbon GHGs. It is suggested that a

fixed proportion of businesses (e.g. one third) are asked more detailed environmental questions, whereas other businesses may answer different questions on other themes e.g. equality/diversity. Environmental data will also be collected via the evaluation form on the website.

Data will need to be supplied from BT regarding the environmental impact assessments and on-going environmental monitoring. The potential to pilot new techniques and equipment to drive down the environmental impact of the installation of fibre and energy use within the network will be explored with BT. Appendix Five details the environmental analysis that was undertaken for the bid process and BT are completing an environmental metrics statement as part of their contract agreement with the RDA.

An environmental steering group has been set up to oversee the mitigation of environmental impacts and the achievement of wider environmental benefits and the inaugural meeting will be held in March. One of the roles of the Steering group will be to develop and endorse the environmental indicators and monitoring methodology. Further detail about the Environmental Steering group can be found in Appendix Four. The group may suggest further areas for specialist research and therefore it is anticipated that some cost will need to be allocated to this area for future work.

Future research work could include investigating in a quantitative manner the benefits and impacts of home working as a consequence of superfast broadband in more detail than can be assessed through the business surveys. For example, some of the negative impacts may include increased data consumption, increased commuting distance, increased home heating and more online purchasing (with associated freight impacts) and these have to be weighed against the positive benefits of reduced travel, reduced energy use and more efficient use of buildings.

8.11.   Equality and Diversity

Digital inclusion/research

Questions designed to capture data around flexible working will be included within the quick economic impact and longitudinal business surveys. It is suggested that a fixed proportion of businesses (e.g. one third) are asked more detailed equality/diversity questions, whereas other businesses may answer different questions on other themes e.g. environmental sustainability. Businesses will be asked if they are happy to nominate a member of staff who has benefited from flexible working. A follow up questionnaire/interview will be undertaken with this person in order to act as a case study for the impacts of flexible working. Equality and diversity data will also be collected via the evaluation form on the website.

Sourcing data to estimate the number of households connected to superfast broadband will be investigated by BT (through BT matching number of connections to super output areas). This will allow the monitoring of connections in the most disadvantaged lower super output areas to see how numbers increase over the lifetime of the Superfast Cornwall programme and the digital inclusion activity. There will also be a survey of individuals carried out to assess attitudes and uses of broadband in Cornwall. These surveys will be undertaken in the disadvantaged areas where current broadband connections are low.

In addition, a survey of individuals will be undertaken in order to assess how many individuals who have participated in activities on the digital inclusion programme are using the internet regularly; in particular using local/government services or securing a job via the internet. These individuals will be sourced from the following:

- individuals who have attended a training event (to start or increase their use of the internet)
- individuals who have participated in events organised by community groups
- contact lists from partner organisations

An important focus of the digital inclusion programme is volunteering in the community to assist the digitally excluded to begin to participate in ICT activities. Volunteers will be sourced through BT,CDC, Cornwall Council, Citizens Online and links with charity groups such as Age UK. The number of volunteers participating through the different organisations will be recorded in a consistent way. For example, BT ask volunteers to fill in a survey when they have participated in an event. They collect information including feedback on the event itself and how the volunteering has helped the individual's personal development. The number of hours spent volunteering is recorded as well. This survey (or similar) will be rolled out to Cornwall Council and the other charities participating in the volunteering programme.

As the digital inclusion work develops and work begins in different communities, a number of focus groups could be undertaken to further assess the qualitative effects of people using the internet for the first time as a consequence of the Superfast Cornwall programme. This work will be carried out in conjunction with Citizens Online and BT.

Individuals accessing remote learning centres will be assessed via a survey. This area of work will be undertaken with the CUC partners to ensure that there is no duplication of survey work.

The ERDF Equality Advisory group will be consulted over the proposals contained within this M4E plan and may suggest other areas for further research.

Equality and Diversity in Businesses

Questions designed to capture standard equality/diversity information will be included within the economic impact business survey. These questions will provide quantitative data on gender, ethnic diversity groups and disabled people based on business ownership. It is suggested that a fixed proportion of businesses (e.g. one third) are asked more detailed equality/diversity questions, whereas other businesses may answer different questions on other themes e.g. environmental sustainability. The questionnaires will initially be piloted to see how businesses respond to the questions and survey length.

The CRM will be used to track areas and sectors with low business take-up of superfast broadband. Specific targeting activity will be put into action and it will be possible to report on the success of that targeting activity.

8.12.   Network performance assessment

This assessment will check whether the performance of the superfast network is up to the standard agreed to by BT. The assessment will check the BT Wholesale product and will be undertaken by an independent assessor. In addition, some assessment of the end-users will also be undertaken to test line speed and reliability. The assessment must be service-provider neutral (as the underlying BT infrastructure is the area of scrutiny) and a representative sample of end-users with different ISPs must be utilised. Each product/service will be measured for availability, price and transmission speed. BT have provided a document outlining the suggested methodology for this assessment[1]. It is suggested that this assessment will be undertaken annually during the programme's life-time.

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[1] Product and service performance management methodology, metrics and plan (BT) January 2011

9. Evaluation Data Collation

Data will be collated and reports produced at three key stages during the programme: beginning (baseline), mid point and end.

9.1. Baseline review

Independent evaluators will assess the baseline data and recommend (and undertake) any further data that needs to be collected e.g. baseline stakeholder survey. They will provide advice on the proposed evaluation methodology and help to refine the survey tools. The baseline data collated to date is summarised in Appendix Three. The business longitudinal survey will begin in 2011 with the collection of baseline data and the identification of businesses to take part on an on-going basis. Some data around individuals and household connected will also be undertaken as part of the digital inclusion work. The Environmental Steering Group will advise on the environmental data to be collected as part of the baseline review e.g. current levels of home-working, videoconferencing, carbon impact of the copper infrastructure etc.

9.2. Mid point and final - Impact and process review

At the mid point and end of the project, independent evaluators will undertake an impact and process review of the project. The evaluators will use the data collected through the business and individual surveys and may conduct a small amount of further primary research (to corroborate beneficiary data and to gather stakeholder views of the project, particularly to assess the Strategic Added Value). The evaluation will assess the net economic impact of the project, the value for money (achieved and potential), whether the objectives are being achieved and the key lessons learnt. Impact from activities relating to environmental sustainability and equality/diversity will also be assessed.

It is proposed that independent evaluators could be appointed to oversee and advise on all three phases of evaluation – baseline, mid point and final evaluation. The evaluators would need to independently verify the data collected, undertake stakeholder surveys and comment on the programme's achievement of objectives and lessons learned.

10. Evaluation Costs

Evaluation Activity	Description	Timing	Cost
Data recording on the CRM	To record business data as businesses contact the project	On-going	Cost not borne by evaluation
Web form data capture	To record when businesses are connected and collect evaluation data	On-going	£8,100
Quick economic impact business surveys	To assess the economic results and impacts and verify the business connections data	Four annual surveys 2012-2015	£60,000 (£15,000 each)
Longitudinal business surveys	To assess the economic, social and environmental impacts on business in more detail	On-going, starting in 2011 and running until 2015	£40,000
Focus groups	To assess the attitudes and behaviours underlying	Annual	£30,000

	the issues around SFB		
Environmental survey/ research	To assess the mitigation of negative environmental impacts and to measure the environmental benefits	Annual	TBC
Digital inclusion survey/research	To assess the socio-economic impacts on individuals	Annual	TBC
Network performance assessment	To monitor the product service performance	Annual	£30,000
Baseline review	Develop survey tools and finalise evaluation methodology	2010/11	£12,000
Additional baseline data collection	To collect any gaps in the baseline evaluation data	2011	£10,000
Impact and process review (to include stakeholder surveys)	Process review of the project to date (VFM, lessons learned) and impact assessment	2012/13 and 2014/15	£36,000 (£18,000 each)

11. Evaluation Milestones

Date	Milestone
31st December 2010	Draft evaluation plan
31st March 2011	Final evaluation plan (approved by the RDA) with BT input agreed
31st May 2011	Appointment of independent evaluators
31st July 2011	Baseline report
31st March 2013	Mid term evaluation report
30th September 2015	Final evaluation report

12. Evaluation Dissemination

Dissemination of evaluation findings will be undertaken according to the following principles:

- Reports will be written in plain English in accordance with accessibility principles.
- Reports will be written for disclosure with any confidentiality issues dealt with during the evaluation. Evaluation reports will be made publically available.
- Easily digestible summaries will be produced alongside the evaluation reports.
- Every effort will be made to tailor dissemination to the different audiences, including staff working on the project, key stakeholders, business beneficiaries etc.
- Media releases will be prepared targeting findings that could have wider public interest

13. Benchmarking

It is proposed that links are made with researchers in different regions in order to carry out a benchmarking exercise. If possible, assessments will be made pre and post deployment and comparisons made with the performance of superfast broadband rollout in other areas. Contact has already been established with the dot.rural team in Aberdeen and the Cardiff rural observatory and other potential collaborations will be explored.

14. Links with the Research Workstream

The research and innovation workstream is being jointly managed by BT and CDC. The aim of the workstream is to encourage researchers to use Superfast Cornwall as a test bed for their research ideas. Where research proposals will provide particularly useful data for the evaluation programme, it is suggested that some of the evaluation budget will be made available to fund research pilots. Examples may include working with the Centre for the Environment and Human Health to investigate well-being and health benefits of superfast broadband and working with the Environmental Sustainability Institute to research the wider environmental benefits and impacts. Collaborative ideas will be welcomed from any university or college.

Appendix One – Justification for Prize Draw Incentive

One of the evaluation methods to be employed is the collection of data via the Superfast Cornwall website. The intention is to request that a key contact in the business, once connected to superfast broadband, provide data on their date of connection, number of employees and turnover. The same company will be encouraged to fill in the webform again after 1-2 years in order to track any changes as a consequence of connecting to superfast broadband.

If no incentive is provided, it is unlikely that there will be a good enough response rate to justify a webform being provided on the website and subsequent data processing and analysis. However, if an incentive is provided, this will be a cost-effective way of collecting simple data on the number of businesses connected and their key characteristics. As noted earlier in the document, it is necessary to undertake a randomised survey data as well in order to ensure that there is no self-selection bias in the website data, but the randomised survey will be a lot smaller than if no web data was collected.

The intention is to collect this data on an on-going basis from April to the end of the project in 2015. The prize draw will be advertised on the website and also promoted through an email newsletter. A prize draw will be held quarterly with a prize such as an iPad (or similar) available each time. Therefore there will be a maximum of 18 draws in the project lifetime. Assuming an iPad costs approximately £450, this means that an allocation of £8,100 is required.

The quick economic business survey and longitudinal surveys will be piloted initially without offering an incentive to participate. If response rates are very low, then the use of incentives will be considered for these surveys as well.

The use of incentives is well-known in evaluation and for business surveys. For example, the RDA evaluation on Constructing Excellence offered an incentive as part of the business survey. The response rate for the survey was 10%, which was considered to be very good for businesses in the construction sector.

For the Act Now project, an incentive of a laptop was offered and the survey response rate achieved for the 2008 business survey was approximately 15%.

A number of academic studies have been carried out to investigate whether the use of incentives does boost the replies to web surveys e.g:

Bosnjak and Tuten (2003) showed that a prize incentive out-performed other incentive types in a web-based survey (for abstract see http://ssc.sagepub.com/content/21/2/208). A study by Heerwegh (2006) found that a 'lottery influences the Web survey response rates, but there are indications that different subgroups might be more influenced by this incentive than others. The observed differences are interpreted along the lines of possible differences in the degree to which different respondent groups expect incentives in return for their participation' (for abstract see: http://fmx.sagepub.com/content/18/2/205.abstract).

The RDA are happy with the approach but have requested that the process should be reviewed after 6 months. In agreeing to this approach, the maximum overall cost of the prize draws was taken into account against the total project costs. Included within the contract is the need to evidence the delivery of a number of Priority 3 targets (businesses assisted, jobs created/safeguarded and increase in GVA) which are obviously inter-linked with the delivery of ICT infrastructure by BT. Therefore the prize draw incentive was deemed to be acceptable for eligible expenditure.

Appendix Two – Business Quick Economic Impact Survey Questions

The survey will begin in 2012, allowing a time lag of 18 months from when the first businesses are connected. This will ensure that a minimum amount of time has elapsed for businesses to start to assess the impact of superfast broadband on their productivity.

Businesses benefitting from upgraded ICT infrastructure

1. Is your business connected to and using broadband technology?
2. Is your business connected to and using superfast broadband technology (defined as a step change in speed with respect to the previous connection)?
3. If yes, what was your date of connection to superfast broadband?

Businesses with improved performance (GVA)

4. What was your annual turnover when your company adopted superfast broadband?
5. What is your annual turnover now?
6. If turnover has increased – what proportion of this increase would have happened anyway and in the same period if you had not been connected to broadband (deadweight)?
7. If your turnover has not increased, do you anticipate an increase in the future? If so, by how much annually?

Jobs created/safeguarded

8. Just before getting superfast broadband?, how many FTEs were on the payroll of your business?
9. How many FTEs are on the payroll of your business now?
10. How many FTEs do you estimate would be on the payroll of your business now, had you not upgraded to superfast broadband?
11. Do you anticipate taking on any future FTEs as a consequence of getting superfast broadband?

Leakage

12. What proportion of your employees lives outside of the region?

Displacement (use these questions or standard benchmarks)

13. What percentage of your sales is to customers within the region?
14. What percentage of your competitors is in the region?

Persistence of benefits

15. How long do you expect the benefits of the support to persist into the future?

Split 1 - Environmental Sustainability

TBC

Split 2 - Equality and Diversity

TBC

Appendix Three – Baseline Data

A **recent survey (Dec 2010) of broadband enabled businesses** in Cornwall and the Isles of Scilly assessed whether the businesses' current broadband connection speed and reliability limited the effectiveness that the business could make out of the internet. Companies were also asked whether the internet was critical to their business.

The following data has already been collected through the previous Act Now project and the process of preparing evidence for the Convergence bid:

In 2008, **977 broadband-enabled businesses were surveyed** to assess how critical broadband and accessing the Internet was to businesses in Cornwall. Questions were asked as to whether being connected to broadband had enabled significant business improvements (e.g. efficiency, profitability, turnover skills) to be made. Questions were also asked about whether more employees are able to work from home, work from other remote locations and on the move and whether business travel and commuting has been reduced.

actnow, in collaboration with project partner BT, commissioned SustainIT and the University of Bradford to conduct a survey of the impacts of broadband on businesses in Cornwall. The **sustainable broadband report** (2005) can be found at:
http://www.actnowcornwall.co.uk/research.asp

The **actnow flex** project (2006-2008) measured the productivity, environmental and social impact on fifty businesses as a consequence of flexible working.

The **cost-benefit analysis report** prepared for the Convergence bid outlines the socio-economic context in Cornwall with respect to population, skills, enterprise/innovation and infrastructure. A comprehensive analysis of technology trends and early likely uses of superfast broadband has also been undertaken. Secondary data has been collected to assess whether the current infrastructure can sustain high speed broadband connections and to assess the business demand.

Case studies have been prepared that illustrate a need for improved speed, reliability and quality of service for applications such as video conferencing, remote access to systems, flexible working and manipulation and transfer of video files.

Further baselining is required to:
- Identify any gaps in the baseline data and collect the outstanding information
- Provide a starting point for the longitudinal business survey and the focus groups
- Assess the environmental impact of the project and ensure that the best mitigation strategies are in place

Appendix Four – Environmental Steering Group

Terms of Reference

Aims/Purpose

The establishment of the Environmental Steering Group is intended to provide guidance to help ensure that the environmental impacts of the project are mitigated and wider environmental benefits are maximised. The membership and representation on this group will ensure that there is a clear accountability and feedback on environmental issues to all organisations involved.

The Steering group will provide a forum that facilitates a full range of key stakeholders and regulatory agencies working together in partnership to ensure that environmental opportunities are identified and exploited, and that best practice is embedded in the Superfast Cornwall programme. The Steering group will guide and support the CDC and BT teams.

The Steering group will assist in defining the environmental indicators and working up a monitoring and evaluation plan to determine whether the environmental objectives have been achieved. The Steering group will identify the opportunities for best practice and achievement of key environmental objectives during project, including examining examples of international best practice which may have application in Cornwall.

The Steering group will identify the environmental issues associated with the development and operation of the superfast broadband infrastructure, and help devise appropriate actions/ mitigations to be incorporated into those developments and operational procedures to deliver improved environmental performance.

Role and Function

The key role of the Steering group will be to provide:

- Input and feedback on the development of environmental indicators and monitoring methods for the evaluation plan
- Guidance on statutory and regulatory commitments, particularly with regard to Natura 2000 sites
- Guidance and support on how these commitments can be met in the most economic and effective manner
- Insights into linkages to other environmental initiatives within Cornwall & IOS, particularly within the Convergence Programme.
- Guidance on embedding sustainability into key activities
- A partnership approach to achieve environmental outcomes arising from the opportunities afforded by superfast broadband, where possible to provide resources and data to facilitate studies
- Collective and comprehensive responses to key consultations.
- Alignment of carbon accounting and methodologies with best practice and the work of South West RDA

Working arrangements

The Steering group will meet quarterly but special meetings will be arranged to discuss specific issues or milestones as agreed by the Group, to be attended either by whole group or a nominated sub group. Members will get the opportunity to review the aims and

objectives and scope of issues, raise emerging issues and decide on the formal responses to statutory processes.

Suggested Membership

Name	Organisation
Mark Wray	South West RDA
TBC	BT
TBC	BT Openreach
Julian Cowans	Cornwall Development Company
Katherine Stewart	Cornwall Development Company
Des Prouse	Low Carbon Leadership Group
Gus Grand	Eden
Alex Huke	Environment Sustainability Institute
Ben Simpson	Low Carbon Cornwall
Sue Patton	CDC SIF delivery team
Ian Smith	Community Energy Plus

Appendix Five – BT Environmental Monitoring (see attached spreadsheet)