

Shadow Curriculum Model - The University Business Plan

The university campus Phase 1 is being custom-designed by an expert team of educationalists and university build architects, to accommodate a **sustainable portfolio of taught courses** that include:

1. Business, Innovation, Entrepreneurship and Professional Services
2. Creative & Digital Arts and Sciences
3. Agriculture, Environment and Sustainability
4. Health and Social Care
5. Engineering
6. Manufacturing and Advanced Materials
7. Logistics and Distribution;

As an operating principle therefore, the University will focus on a limited number of initial discipline choices; 1-3, expanding out between 2022 and 2028 to 4-7. This will create a portfolio of courses which can achieve critical mass. This will ensure that:

- Each discipline area is underpinned by a minimum scale staff team – this will avoid the challenge of having staff spread over too many disciplines and being too few in number in some disciplines to build a kernel of teaching and research capability - referred to the “minimally viable dept size”;
- Each discipline will be able to recruit a viable cohort of students such that steady state numbers (the numbers of students recruited when all years of provision are running) will be economically viable and capable of supporting an efficient staff:student ratio. As a principle, this approach is as much to do with providing a robust student experience as it is to do with the fundamental economics of running taught courses – referred to as the “minimally viable intake”;
- Each discipline is supported by the physical resources necessary to maintain the quality of the experience and to enable the University to establish a very clear funding model to underpin investment in, and maintenance of, its facilities.

It is clear from the early analysis that there are several critical markets to address:

Segment	Match Provision	Notes
18-24 year olds	Campus-based programmes	Initial Intake to Embankment Site
Under- and unemployed	Outreach programmes leading to campus-based experiences	Phase 2 intakes to the Embankment Site
Large Corporates	Degree Apprenticeships, in-work provision and life-long learning opportunities for existing staff	Phase 1 provision but off-campus in orientation
First Generation HE Students (all ages)	Outreach programmes at least initially (and possibly exclusively) especially for those in Fenland	Further segmentation required to avoid one size fits all/none approaches

It is notable that the feedback on delivery models strongly suggests that the need for campus-based provision on a traditional model is immensely limited and that to be successful the new University will need to reach out and work extensively in employment settings. The precise nature and scope of the portfolio outside of the Embankment Site will be co-developed between the CPCA and HE Delivery Partner by February 2020, but it is clear the Campus will need to provide the infrastructure to support a diverse range of delivery models.

Prioritisation of Needs for Phase 1

Sector	Immediate need	In the future
Business	Leadership Practice Accountancy & Finance Computing (FinTech?)	Business management Accountancy & Finance Leadership practice
Engineering	Mechanical Electronic & Electrical Software	Software Electronic & Electrical Mechanical
IT & Digital	Software development Cybersecurity Data Science	Artificial intelligence Cybersecurity Data Science
Life Sciences	Microbiology Biochemistry Ecology	Biochemistry Microbiology Ecology
Science	Environmental Science Combined Stem Geography and Environmental Science	Environmental Science Combined STEM Geography and Environmental Science
Mathematics	Data Analysis and Science Statistics Economics	Data Analysis and Science Statistics Economics
Sustainability	Sustainable Development Renewables and Environmental Technology Environmental Management	Renewables and Environmental Technology Environmental Management Sustainable development
Arts and Creative	Media Studies Design Politics	Media Studies Design Architecture
Health and Social Care	Health and Social Care Adult Nursing Healthcare Practice	Health and Social Care Healthcare Practice Education Studies
Law	Commercial Law Public Law Family Law	Commercial Law Public Law Civil Law

We envisage that there will be three faculties initially within the New University with working titles as follows:

- Faculty of Business, Innovation and Entrepreneurship embracing strategic management, marketing, innovation, entrepreneurship and leadership practice. It is envisaged that the provision in this faculty could be delivered in a variety of formats and locations and that a pool of good quality general purpose learning spaces would be appropriate for its needs. Case study rooms, syndicate rooms and workshop environments will be necessary to support problem-based working methods but there would likely be no need for specialised facilities;
- Faculty of Creative and Digital Arts and Sciences embracing a cross-disciplinary approach to the interplay between technology and a range of creative disciplines. We do not envisage that this faculty will be heavily orientated towards purely creative arts nor toward specialised scientific facilities in its initial phase of development but the latter would certainly be a possibility in later phases. The key focus of this provision is applied and lies at an intersection between creativity, and technology. A studio-culture is likely to be the focal point and key resource for this Faculty in Phase 1 and again such facilities would fall within a general purpose learning space categorisation albeit with perhaps more attention to furniture solutions to create the appropriate character of a studio environment;

- Faculty of Agriculture, Environment and Sustainability embracing a spectrum of provision in environmental science, potentially engineering and agricultural, agri-tech solutions. Further detailed work is needed but it is envisaged that this Faculty will operate across a range of sites including working with particular firms and industries in rural locations across Fenland in particular. The focal point of the Embankment site will be in providing a base for staff and in addressing the need for theoretical provision and, in due course, potentially some limited specialisation of resources which cannot be sourced in the field. It is entirely likely that the future shape of this Faculty during latter phases will be heavily influenced both by industry developments and by active researchers who in combination will determine the appropriate investments in infrastructure and physical resources.

Phase 1 Discipline and Delivery Matrix

Delivery Model / Faculty Discipline	On-campus FT/PT Programmes	Degree Apprenticeships / in-work programmes	Blended	Distance	Outreach / Small Bites / Widening Participation
Business, Innovation and Entrepreneurship	✓	✓	✓		✓
Creative and Digital Arts and Sciences	✓		✓	✓	
Agriculture, Environment and Sustainability		✓			✓

Initial Student Population

A minimally viable intake will be approximately 24 FTE students per course per year. Attrition rates between year 1 and year 2 and between year 2 and year 3 should be expected and for modelling purposes will be set at 10% p.a., i.e. approximately 10% of students will not progress in each year and therefore by the third year a steady state position must be based on having a minimally viable cohort size in the final year.

Prog Type	Student Type	Programme Year	FTE	2022/23 Heads	2023/24 Heads	2024/25 Heads
FT	UG	1	1	24	24	24
FT	UG	2	1	0	22	22
FT	UG	3	1	0	0	20

To ensure the long-term sustainability of the institution, we will need to consider the following key principles when populating the model:

- Assigning an accurate FTE value to each programme is vital;
- Growth in student numbers will come from increasing numbers on existing programmes rather than by proliferating the number of programmes;
- Student number growth should always occur in quantities relative to the minimum group size;
- The Staff to Student Ratio will need to factor in that initial staff costs may be higher as the institution 'beds in' but that the aim should be to reach viable targets as soon as it is realistic to do so without compromising the operation of the institution. Staff costs will need to include Professional Services as well as Academic Staff. Through the introduction of space norms this data can then be used to provide the initial footprint of office space requirements.

Preliminary Forecast Student Numbers

The nature of the market, target segments and availability of capital present a range of constraints. It is highly unlikely that UoP will become a viable institution on a traditional model. Its target markets

lie in under-represented groups. Strategic planning for UoP needs to differentiate between the traditional markets which are already served (because the students move to where the provision already exists) and **local students who do not move out of region and probably do not perceive themselves as having any prospects of achieving a degree**. This part of the market is locally-orientated and lacking in opportunities; it is the direct expression of the cold spot.

To compete directly for the former group would be to enter a potentially brutally competitive domain (a “Red Ocean¹”). This is an important distinction as the UoP will need to reach out to these local students in Peterborough (and a residential element would probably not be meaningful for this group – otherwise they would tip into the other category). One reason why the participation rate is so low at 17% may be that there are fewer relevant opportunities and the HE experience seems physically remote, less directly relevant and unobtainable to these students. This is also why a physical presence in Peterborough will matter too, prospective students need to see the tangible form that higher education takes and recognise its relevance to their own position. In matching the provision to the market, we would be expecting that these prospective students will need outreach work and access programmes to bring an HE experience to life for them. Critically, reaching this group has potentially highest impact in that the transformational effect of shifting from non-participation to a Level 4+ qualification will be very significant at a personal level but also more widely in terms of the impact on their long-term economic, social and health opportunities over many years. There could be 3,000 learners in this 18-24 category alone and to reiterate they would not be served by any existing provision.

On top of this under-represented group, we also have the under-/unemployed of which across all ages amounts to some 5,000 of whom approximately 850 will be double counted in the figures above. These numbers could be swelled by economically inactive people (24,400) of whom 6,500 would want a job or may be out of work or in part-time/zero hours roles with an aspiration to do more/do something different. The impact of HE will have diminishing returns as the population ages but the traditional boundary of retirement at 65 will also likely shift this balance and there will be further opportunities in extending the working life of older people – this should become increasingly topical in the next decade. Again, this group is high impact as the desire for work and inability to find it will correlate with a need to upskill and retrain. The risk with this group and to an extent the group above is that they have fallen out of the education system too soon and are not ready for an HE experience – that would not be resolved by a new University alone and action on failings within the local education sector at all tiers would need to be considered carefully as the under-lying ‘supply chain’ could be under-developed but these people are a significant group to understand and attract back into education in some form and ultimately into UoP.

The Large Corporates are not necessarily under-represented as such but only 25% of working age people have a Level 4 qualification and there is a general desire being expressed by the large corporates for upskilling. With 53,000 people reaching a Level 3 qualification, there is already a substantial body of people who are arguably “HE ready” but who again are not travelling out of region for an HE experience. More detailed research on the needs of Large Corporates is required but a large proportion of the market may already be employed, qualified to Level 3 and in need of a specific HE offer. Much of the detailed work here is going to be for the HE Partner engaging and negotiating directly with the Corporates (both large and medium which represent at least 18,500 people and to a lesser extent with smaller businesses) but this is very significant group who are already highly motivated to engage with the new University.

The First Generation HE All Ages Group potentially overlaps with all three of the above groups but may also include others who have not yet been captured. They could be outside Large Corporates and actively employed but only qualified to Level 3 or lower. Again, more data is needed to test this segment.

¹ Characterised by competing in congested existing markets, focused on competition for existing demand.

One scenario is that these segments are linked and that a ‘vacuum system’ will be created – the Large Corporates will drive the upskilling of their workforces taking Level 3 people up to Level 4 – this will create opportunities for under-/unemployed people to enter work and opportunities for younger people to find their first role. In this scenario the New University becomes the critical catalysing force.

Altogether, the picture is of a series of segments which are not served, where there are substantial numbers to underpin UoP intake targets and where the New University would not initially be in direct competition at all (that may change over time and the University would need to evolve accordingly).

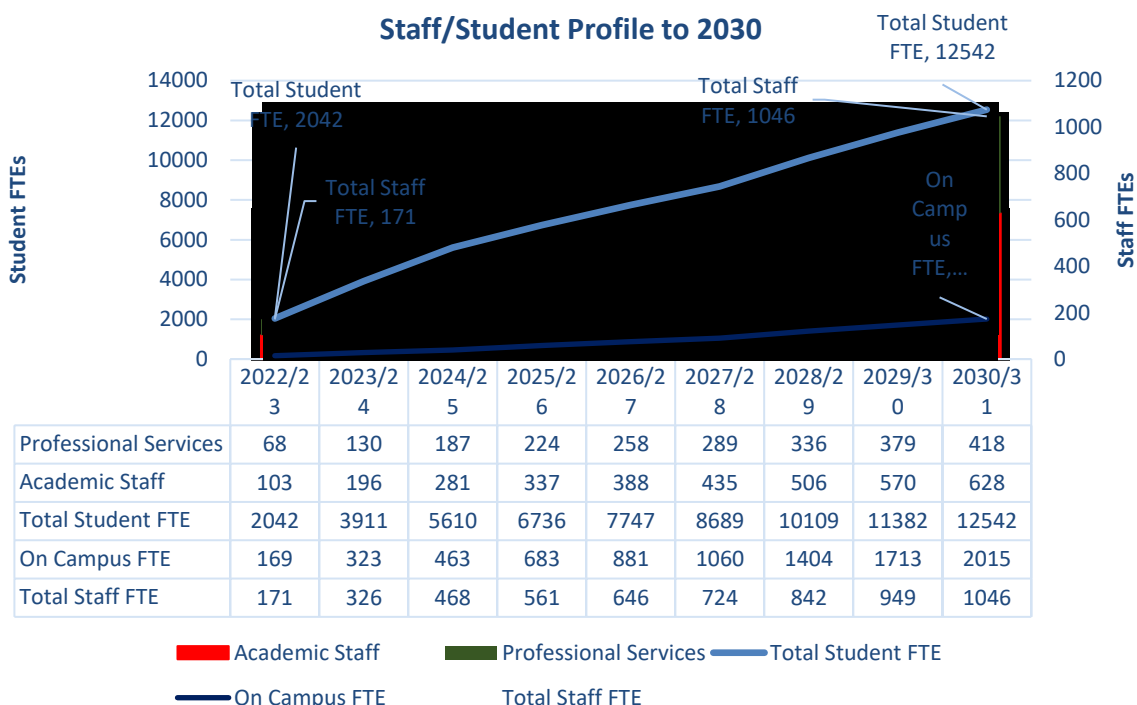
We do not expect the new University to attract out of region students – it may be that the HE Partner will bring such a strong offer and a genuine USP that UoP becomes a magnet for students but we would not expect this within less than a decade for several reasons including brand equity and competitive resourcing/infrastructure elsewhere which will take time to build in Peterborough. Trying to achieve this could be entirely counterproductive and lead directly to the red ocean.

It is accordingly clear that the vast majority of students served by UoP will be non-traditional, employed and in need of a specifically tailored offer and out-reach work. We have therefore forecast intake and growth figures on the expectation that approximately 92% of students will be served by UoP off-campus. The indicative forecasts based on FTE student numbers from academic year 2022/3 to 2030/1 are shown below by “Shadow Faculty”.

Faculty/Site	2022/23 FTE	2023/24 FTE	2024/25 FTE	2025/26 FTE	2026/27 FTE	2027/28 FTE	2028/29 FTE	2029/30 FTE	2030/31 FTE
Embankment Total	169	323	463	683	881	1060	1404	1713	2015
Business, Innovation and Entrepreneurship	73	139	199	297	385	464	685	884	1063
Creative and Digital Arts and Sciences	96	184	264	386	496	596	719	829	952
Off-campus Total	1873	3588	5147	6053	6866	7629	8705	9669	10527
Business, Innovation and Entrepreneurship	624	1196	1716	2058	2366	2646	3064	3438	3778
Creative and Digital Arts and Sciences	816	1563	2242	2536	2799	3062	3477	3849	4169
Agriculture, Environment and Sustainability	433	829	1189	1459	1701	1921	2164	2382	2580
Grand Total	2042	3911	5610	6736	7747	8689	10109	11382	12542
Students on Campus	8.28%	8.26%	8.25%	10.14%	11.37%	12.20%	13.89%	15.05%	16.07%

Forecast Staffing

Staff numbers have been derived directly from the profile of student growth using a simple student:staff ratio based on total student numbers. For Academic Staff the ratio is 20:1 and for Professional Services Staff the ratio is 30:1.



There will be a variety of factors to consider in determining the appropriate mix of staff and workforce plan including:

- The balance between campus-based staff and outreach/peripatetic staff serving a wider population of students;
- The balance between professional services staff in front-facing roles with a physical presence and more virtual and remote services which could be provided by a remote and home-based workforce;
- The potential for more non-traditional para-academic roles which address more directly the outreach, advisory and guidance functions and which may span marketing, traditional student and academic services functions, pastoral care and so on;
- The physical FM needs of the campus and its day-to-day functioning (i.e. operatives who may not need office accommodation but who are physically present to manage and maintain the campus).

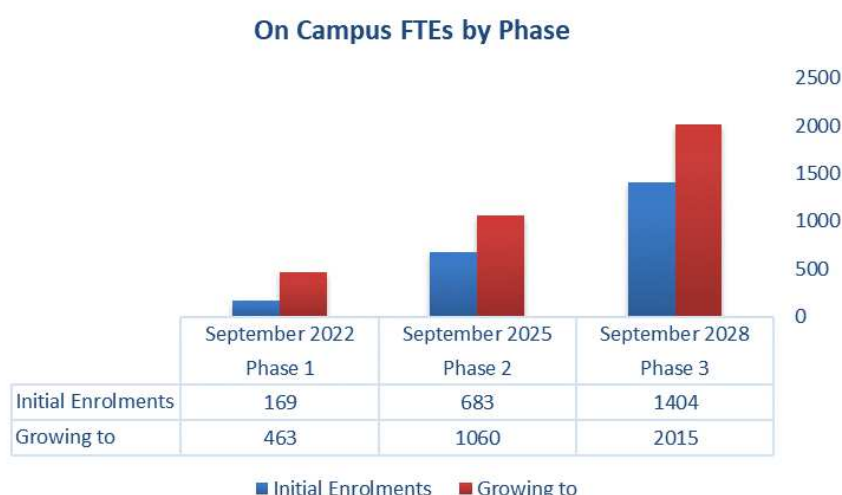
Further workforce planning will be a critical element of engagement with the HE Partner.

It is also worth noting that the upscaling of staffing levels will create a working capital issue which needs to be recognised in financial modelling. Staff at all levels will need to be in place early to carry out development work and prepare the curriculum for the arrival of students. Staffing capacity will always lead the recruitment of students and needs to be factored into budget setting processes.

Preliminary Space Modelling

The forecasts of staff and student numbers gives us the following broad phases of development.

	Building Opens	Initial Enrolments	Growing to	Steady State (Year)
Phase 1	September 2022	169	463	2024/25
Phase 2	September 2025	683	1060	2027/28
Phase 3	September 2028	1404	2015	2030/31



Based on preliminary modelling parameters set out below, we forecast the three phases of development as follows:

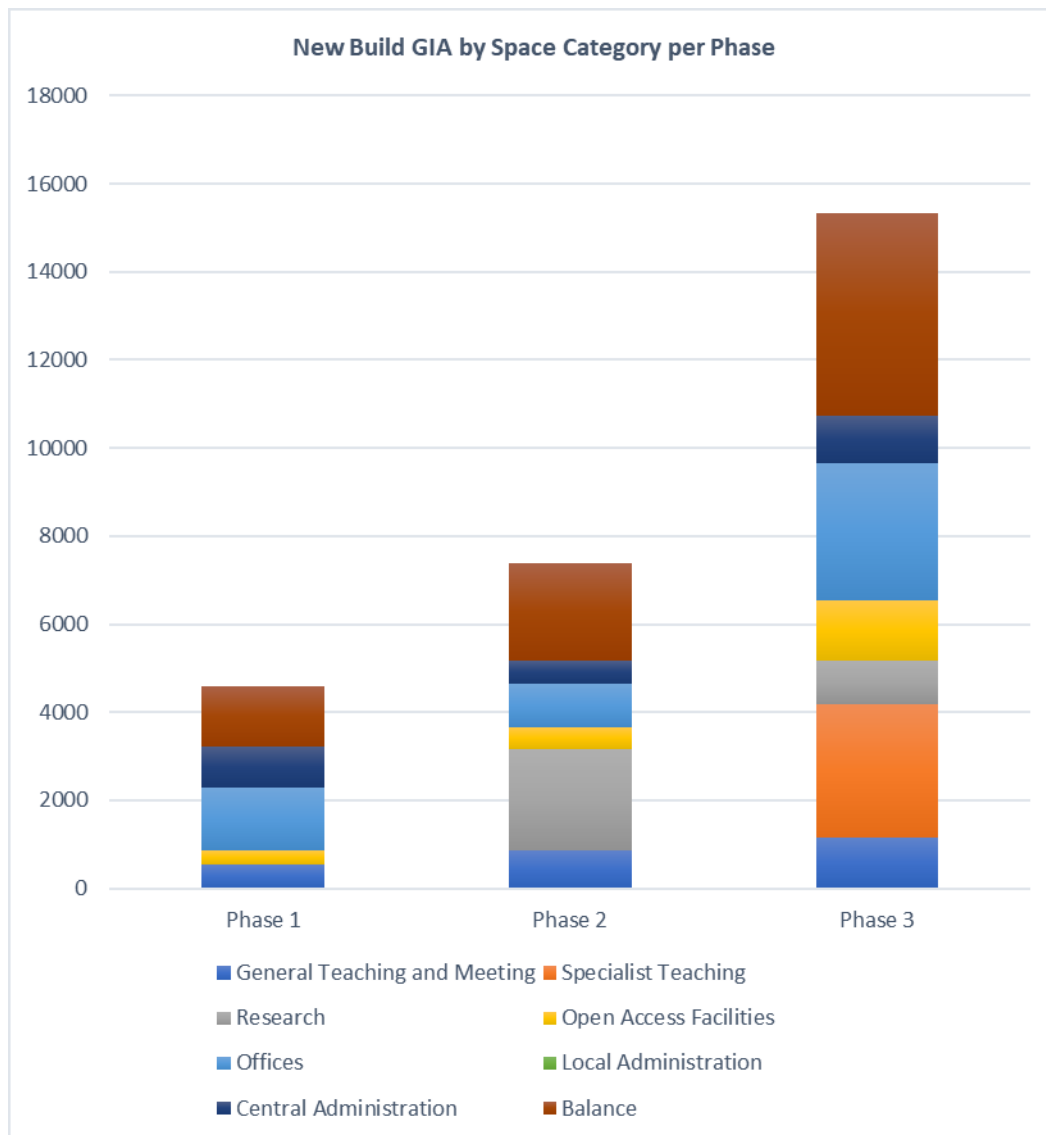
	Phase 1	Phase 2	Phase 3	Campus Size at the end of Phase 3
General Teaching and Meeting	548	855	1162	2565
Specialist Teaching	0	0	3023	3023
Research ²	0	2310	998	3308
Open Access Student Facilities	324	495	1354	2173
Offices	1405	990	3133	5528
Professional Services	935	510	1063	2508
Balance	1377	2211	4599	8187
Estimated GIA	4589	7371	15332	27292
Estimated GEA	4818	7740	16099	28657

At Phase 1, only general purpose teaching and learning spaces are provided alongside staff accommodation. There is no allowance for specialist teaching or research spaces as these would need to be driven directly by the needs of the curriculum.

In practice, the general teaching spaces should be as flexible as possible and in the interests of cost-effectiveness staff spaces should be planned on an activity-based working model to provide maximum flexibility during the formative and early developmental stages – spaces which encourage collaboration, communication and provide a degree of proximity between staff and students. The

² 20% of research space is expected to be “equipment-dominated” and could be large scale requiring double-height spaces with significant services including gases, extract and controlled environments. For Phase 2 allow up to 500 m²; for Phase 3 allow up to 200 m². Potentially some specialist teaching space could generate similar requirements e.g. in engineering workshops and science labs. A further 600 m² may be necessary at this point. Up to Phase 3, a total provision in this sub-category could amount to 1,300 m² in total.

environment should be reflective of the needs of first generation HE students and be accessible and welcoming. [DN: to be developed into more detailed notes for the Strategic Brief for Phase 1].



For practical purposes, we suggest working with the following assumptions to determine the outline relationship between the student/staff population and the area of the estate necessary to support that population.

For Phase 1, net internal areas should be provided on the following basis:

Space Type	Allowances
General Purpose Learning and Meeting (based on all user numbers including all staff as well as all students)	At least 10 hours week of contact time (based on a 40-hour week and a target of 56% utilisation) Allow 2.5 m ² per workspace (not sufficient for labs or workshops)
Specialist Areas	Assume specialist spaces are excluded from Phase 1. Modelling assumptions beyond Phase 1 are not based on specific curriculum information and will need to be tested in detail.
Library, informal learning and resource space	0.7 m ² per FTE not including catering spaces and other commercial areas although the addition of a coffee shop in some form is probably de rigueur
Staff Office Accommodation (a balanced mix of accommodation including some cellular offices, adaptable/flexible working environments and a range of work settings from touchdown spaces to group working and informal meeting spaces)	5 m ² for Phase 1 owing to budget constraints. 6-10 m ² per staff FTE depending on policy in future phases – use 8 m ² as reasonable average. As staff will be serving a student population located across the region, some flexibility will be needed and the operating model will likely need to support flexible and remote working. Spaces to develop content and multi-media resources including studios may be necessary.
Research Space	Modest allowance for research students (who may follow the staff recruited to the University). Estimate equipment-dominated space to be not more than 20% of total research footprint.
Balance Space	Target 70:30 net:gross ratio

In total, a net area between 3 and 5 m² per person for on-campus provision should be anticipated as a minimum (suggesting a gross area of 5 to 7 m² per person). Accordingly, the key consideration in capacity planning for the Embankment Campus is the overall volume of students (to determine the staffing model) and the balance of on-campus versus off-campus delivery. A higher volume of off-campus delivery will generate a campus solution which is more orientated towards creating staff working environments than a student-focused campus. Care needs to be taken in establishing the balance of space and developing a Strategic Brief which prevents this approach driving inflexible design solutions.

Financial Model

Three partners in the University off Peterborough Joint Venture will contribute funds;

CPCA, a part sponsor of the build and contracting authority of both the build and acquisition of the HE Partner, will contribute £11,035,000 in cash.

This will be sourced from;

Peterborough City Council, a part sponsor of the build, will contribute £4,000,000 through transfer of the land required, into the JV

LGF Funds requested provide the balance of the funding; £12,500,000.

All three partners will be able to draw down a payback on their funds invested.

This will be from rentals paid by the University (after an initial (3 year; 2022 - 2025) rent free period.

The LGF investment will be paid into the JV company in return for the issue of shares. This is governed through the JV Agreement which is to be approved by the CPCA board and PCC governance structures in November, being negotiable with the business board should it grant the investment requested. The JV agreement sets out that shares are allocated relative to the investments made in the company. This would result in the LGF being allocated 45% of the shares. Once, built and occupied by the HE Provider, the university campus JV Company, would generate revenues from its occupant at commercial rates for Peterborough; these being around £150/m² equating to £675,000 pa for the envisaged for the 4,500m² building. Based on a 45% equity share in the JV, this generates an annual return on investment of £303,750 or 2.4% APR of the LGF capital invested. In order to return the capital sum back to the business board for re-investment into new projects, the following options within the JV agreement could be offered for negotiation should the £12.5m be awarded.

1. An option to sell the 45% equity to the HE Partner operating the university after **2028**, when an Independent Review is due to be commissioned to recommend whether the HE Partner relationship be extended for a further 10 years, or the university operations should apply for independent university status, as the University of Peterborough
2. An option to be able to engage an agent to seek to sell the 45% equity share to institutional investors or property developers once the Phase 1 University has established its commercial viability by **2025**, and the lease income could make an attractive investment to others.