Box 3: Archetypes of system transition for a university and different ways renewal might emerge.

**Capture and Extension** occurs because of a strong gravitational pull of the dominant pattern and the way market mechanisms and government higher education policy are primarily concerned with maintaining and improving existing systems, rewarding efficiency and supporting incumbents. Here, new, potentially disruptive second horizon innovations begin to emerge but these are co-opted to support the existing first horizon pattern and the maintenance of the status quo. The result is a delay of the emergence of the third horizon pattern. Initiatives to promote inter- or trans-disciplinary research, for example, typically fail to achieve their full potential because of the enduring strength of the structures of incentives that keep siloed, individual disciplines in place. Commitments to become ‘carbon neutral’ also tend to be managed so as not to disrupt the status quo too dramatically, such as by drawing narrow boundaries around what is taken to fall within the University’s responsibility. As with Collapse, the ultimate outcome is a delay of the transition, with lost time, energy, effort and resources.

**Smooth Transition** involves a relatively orderly change through gradual dissolution of the old pattern, reconfiguration of its resources, and then creating something new. In this archetype the need for fundamental change and re-purposing is recognised early. Innovations that actively seek to disrupt current patterns and thinking are actively established. For example, rather than simply restructuring departments to enhance efficiencies, restructure in a University would also focus on disrupting disciplinary silos, creating novel configurations and allowing for gradual transitions in faculty expertise or shifts in teaching. Opportunities for disruption might also be actively sought, such as using ambitious carbon emission targets that force structural and other kinds of change. At the same time, more radical innovations representing pockets of the future in the present (H3 innovations), would be purposefully encouraged and protected, to allow emergence of a fundamentally new pattern to grow with support from disruptive second Horizon innovation.

**Collapse and Renewal** arises when the existing system is under threat and the response is to double-down to protect and reinforce the status quo. Collapse follows when resistance to forces of change becomes impossible. RHere, relatively successful incumbents may not acknowledge their model is failing as faculty and students seek something more meaningful elsewhere. Disruptions to student life through the current pandemic, for example, may lead to greater questioning of the value of a University education. A wide range of non-radical innovation is also likely, such as in better marketing of existing programmes, targeting higher student numbers or more profitable market segments, or broadening the income portfolio by building new student accommodation. None of these innovations fundamentally address the changing pattern of what students need to learn or what faculty might most valuably research, and how. The collapse scenario will likely arise in the sector as a whole rather than the failure of single institutions as forces of change overpower obsolete models. While this scenario suggests renewal after collapse, renewal is not guaranteed.

The **Investment Bubble** emerges through herd phenomena where there is a rush to a ‘silver bullet’ solution. Attention and investment is drawn towards a single idea or innovation which cannot bear the weight of expectation and eventually disappoints, releasing resources for redistribution elsewhere but delayed eventual emergence of a new pattern. Examples of silver bullets could include a rush to technology to support virtual and blended learning following the pandemic, a new set of measures or indicators for an institution’s carbon emissions in the race to zero, or shorter, cheaper degree courses in response to student attitudes to debt in a recession. Each of these might come to attract considerable attention offering significant short-term gains. Those gains, however, may be short-lived as other, more significant factors, come to prominence and attention inevitably shifts.

