

RSA TRANSITIONS...

# Transitions, offender skills and the Humber economy

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## About the RSA

The RSA (Royal Society for the encouragement of Arts, Manufactures and Commerce) is an enlightenment organisation committed to finding innovative practical solutions to today's social challenges. Through its ideas, research and 27,000-strong Fellowship it seeks to understand and enhance human capability so we can close the gap between today's reality and people's hopes for a better world.

[www.thersa.org](http://www.thersa.org)

## About Transitions

The project seeks to find new approaches to reducing reoffending by unlocking physical and social assets linked to prisons. The RSA published *Transitions*, its vision for a 21st century prison in 2011. This included the development of 'Transitions Parks' through bringing back to life unused assets – buildings and land – owned by the Ministry of Justice. The RSA is now working with a public prison in testing this proposal.

For more information about the project please visit: [www.thersa.org/transitions](http://www.thersa.org/transitions)

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## About the author

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# Transitions

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## Background

In 2011, a small group of RSA Fellows working within justice services and social enterprise developed *Transitions* (RSA 2011). Our starting point was to explore the innovations taking place within prisons but which were largely uncelebrated and evidenced. What would happen if, instead of piecemeal innovation via stealth, the best approaches were brought together and the evidence base on impact strengthened? How could the public be brought closer to the realities of the prison system and wider justice services?

In the context of reduced public spending, our focus was on unlocking potential social assets within prisons (service users, families and the workforce) and the wider community (the public, employers and services), and on physical assets owned by the Ministry of Justice (MoJ) but laying fallow. Could providing a co-location space for agencies and others to work closely alongside prisons, but from the ‘outside in’, increase capacity and improve the chances of rehabilitation?

## HMP Humber

Since 2012, with funding from the Esmée Fairbairn Foundation, the Tudor Trust and the Garfield Weston Foundation, the RSA has been working with HMP Humber to answer this question. Our aim has been to refine and ultimately to realise the *Transitions* model in relation to a 45-acre site adjacent to HMP Humber, a male resettlement prison in East Yorkshire that provides services for up to 1,062 people at any one time and releases over 1,200 people each year.

## Transforming Rehabilitation

This work has been taking place against a backdrop of significant changes to justice services, in particular, the Government’s Transforming Rehabilitation agenda.

Existing individual probation trusts are in the process of being reorganised into a single national public sector probation service and 21 new government-run community rehabilitation companies (CRCs). These are in the process of being competitively tendered with new providers expected to be in place by the end of 2014.

The National Probation Service (NPS) will retain responsibility for the supervision and support of high-risk offenders, including those subject to Multi-Agency Public Protection Arrangements (MAPPA), while new CRCs will be responsible for managing low to medium risk offenders. Transforming Rehabilitation also changes the licensing arrangements for offenders serving less than 12 months who will now receive some kind of support and supervision when they are released from prison.

It is anticipated CRCs (tier 1 providers) are expected to sub-contract resettlement services (focused on meeting the multiple needs of offenders) to tier 2 and 3 providers, including voluntary and community sector (VCS) organisations. Contracts to tier 1 providers will be awarded on a payment by results basis, which will reflect reductions in re-offending levels.

## Rehabilitation capital and culture

In developing our proposals, we consulted with hundreds of stakeholders, many from the sub-region, including prisoners, families, staff, employers, local statutory and voluntary services, civic leaders and the wider community.

We have drawn, amongst other things, on RSA’s Connected Communities programme, which explores practical social network approaches to social and economic challenges, with a specific focus on how disadvantaged or marginalised groups might become more resilient and involved in designing solutions. This work is based on a growing body of evidence that shows

our connections to other people, the context and nature of these relationships, and the extent to which we have networks of support, matter greatly in shaping our behaviour, life chances and wellbeing.

Our contention is that a significant gap remains in understanding the role that offenders' networks – informal and formal – have on what we call their rehabilitation capital. This is, in short, the range of things – personal, social, community and cultural – that will make them less likely to commit crime. Many of these reflect the National Offender Management Service's (NOMS) existing seven resettlement pathways, which include accommodation, finance, health and employment. But we believe that explicitly focusing on networks and how to increase their breadth, quality and strength, could shape how the pathways are approached and help transform rehabilitation.

We argue that similar arguments can be made in relation to prisons themselves, when it comes to strengthening rehabilitation culture. Crime is a social problem and needs a social response. Yet, many working within the prison system lack the external networks and freedoms they need to succeed in what they are, increasingly, charged with doing: reducing reoffending. Rehabilitation is a process of (re)socialisation to active citizenship and this process needs to involve more of 'us'.

As leading criminologist Shadd Maruna has argued, our general belief in rehabilitation is not a given.<sup>1</sup> Historically our focus on rehabilitation has ebbed and flowed, driven by a range of factors including the costs of reoffending in times of austerity. Transitions developed within the context of reduced public spending, government emphasis on a rehabilitation revolution and the Transforming Rehabilitation agenda. Combined, these changes mean asking justice and through the gate services to do more with less. Within this context finding ways to strengthen the culture of rehabilitation within prisons and beyond becomes more pressing.

It was in this context and with these concepts in mind that RSA commissioned a number of papers to explore specific issues raised by the project. This paper is published alongside our full report and master plan, which can be found on [www.rsa.org.uk/transitions](http://www.rsa.org.uk/transitions).

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# 1. The embedded prison

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Since arriving on site at HMP Humber, the Transitions team has embarked on a programme of structured consultation through our asset and network mapping and master planning. This has included prisoners, staff, families and justice services. But critically, we have also engaged with employers and the Humber Local Enterprise Partnership (LEP), a business-led partnership that works closely with government to promote and develop the economic area surrounding the Humber estuary and to provide strategic leadership for economic growth. As the Chair of its Skills Commission Nic Dakin said: “The Humber, more than any other area of the UK, sits on the edge of great things if it can but respond to this challenge. It is well placed through its history and its geography to seize the opportunities presented today by renewable energy amongst other things. To do this it needs to maximise its strengths and, more than anything else, deliver on skills.”

The Humber is the largest trading estuary in the UK and the fourth largest in Europe, with a chemical and process sector worth £6bn a year and international expertise in logistics. 40 million consumers and over 60 percent of the country’s manufacturing capacity lie within a four-hour drive of the Humber. The region is home to the UK’s largest proportion of biofuel production facilities with a growing biomass sector with an emerging supply chain providing feedstock, equipment, skills and technologies and a world first in the production of energy from food waste.

There are many onshore and offshore wind energy projects in the area, including some of the largest offshore wind farms currently under development. In March 2014, the energy giant Siemens confirmed an historic £310m deal to build a huge new wind turbine factory complex in Hull, creating thousands of jobs and potentially transforming the region’s fortunes. The deal is expected to create an initial 1,000 jobs and around 10,000 more in the supply chain and related businesses.

## **Transitions Green Skills Park in HMP Humber**

The challenges and opportunities presented by this wider economic landscape loomed large in our consultations with HMP Humber and stakeholders in the wider sub-region and shaped the potential models for the Transitions site that emerged. There was widespread agreement that in developing its skills and employment ‘offer’, Transitions needs to address two key principles.

First, our model needed to speak to the needs of the local economy in the medium- to long-term if offenders were to be given the best chance of securing work (a significant contributor to rehabilitation). Second, while Transitions should not lose its focus on rehabilitation, where possible the model should seek to bring wider public value; through benefiting the community, the local economy and wider society. Given the economic context, throughout these discussions the issue of developing skills for the low-carbon economy was prominent. This paper digs underneath these assumptions to inform our model going forward and help define what we mean by ‘green’ skills.

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## 2. The national context

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As well as responding to the nature of the HM Humber site, offender skills and the sub-region's economic needs (which we return to below), in pursuing a 'green theme' Transitions fits with the legal and pragmatic need for the UK to transition from a carbon intensive to a low carbon economy. The 2008 Climate Change Act commits the country to a 34 percent reduction of carbon emissions based on 1990 levels by 2020, and an 80 percent reduction by 2050, requirements which are higher than those required by EU law. Shifting towards a low-carbon economy includes energy use as well as its generation, and regulations, subsidies and taxation programmes have targeted efficiency across all sectors, including transport,<sup>2</sup> agriculture,<sup>3</sup> waste,<sup>4</sup> construction<sup>5</sup> and buildings maintenance.<sup>6</sup>

The Government wants to address energy security and sustainability through diversifying the energy mix and focusing on energy production at home.<sup>7</sup> As well as considerable government support for nuclear power and hydraulic fracturing or fracking, there is increasing support for renewables, including the 'Renewables Obligation' (RO), a requirement for UK licensed electricity providers that by 2020, at least 15 percent of their energy should be from renewable energy sources.<sup>8</sup>

The UK's geography offers diverse opportunities for renewable energy development, such as onshore and offshore wind, solar, biomass electricity and heat, heat pumps, anaerobic digestion, gas Combined Heat and Power and hydro schemes. Government policies such as Feed-in Tariffs and Renewable Heat Incentives encourage investment in small-scale renewables and long-term electricity company obligations through 'Contracts for Difference' support the development of large-scale renewables projects.<sup>9</sup> The 2013 Energy Act set out new electricity market reforms and a redevelopment of the grid to improve energy storage and help with fluctuations associated with renewables.<sup>10</sup> The Government has restated its commitment to see small-scale renewables

develop, including a raised ceiling on community-owned energy projects up to 10MW, with Energy Minister Greg Barker stating his wish for "the Big Six...to become the Big 60,000".<sup>11</sup> Support includes a Rural Community Energy Fund to help rural communities carry out feasibility studies and prepare planning applications.<sup>12</sup>

In deciding which skills areas might lead ex-offenders into viable jobs, the Transitions project needs to engage with the policy contexts and commitments which drive different sectors. The large-scale infrastructure changes needed for a low-carbon economy arise at the same time as a policy of cutting public spending. Despite the creation of the world's first Green Investment Bank, it is estimated that two thirds of infrastructure changes in energy production, energy efficiency, water and telecoms will be paid for by consumers through their utility bills.<sup>13</sup> The recent politicisation of energy policy through concerns about fuel poverty shows the tension between reducing or stabilising energy costs for consumers in the short-term while investing in energy infrastructure for the long-term. This tension has led to frequent changes in policy, which then change the drivers for employment.

### Energy efficiency

Energy efficiency improvements on buildings, for example, have been implemented through a range of policies,<sup>14</sup> funded through 'green taxes' on energy companies (such as Energy Companies Obligations) or directly out of energy savings made by the improvements (Green Deal). These policy developments were hoped to create thousands of jobs, but frequent changes and inadequate incentives for both installers and home-owners have created uncertainty and lay-offs, for example through a 93 percent reduction in loft insulations installed in 2013 compared to 2012.<sup>15</sup> Industry observers have criticised the Government for inconsistency and

mixed messages on green commitments,<sup>16</sup> but it is clear that with fuel poverty rising on the political agenda, energy efficiency is rising too. New build constructions have high-energy efficiency regulations, although the Government has faced criticism for recently diluting the specifications of what these should be.<sup>17</sup>

## Wind power

Wind power is an important part of the UK energy mix and one that is particularly relevant to the context of the Humber sub-region. Large-scale onshore and offshore wind farms have different advantages in terms of installation, maintenance and electricity transmission costs, as well as political consequences in planning and popularity. The considerable costs of research and development and installation have been initially encouraged by government support in guaranteed strike prices; unit prices for energy for set periods of time under the Contracts for Difference scheme. A recent reduction in the expected strike price for onshore wind was regarded as politically motivated by observers, and there is some concern for the future of onshore wind farms as many Conservative MPs oppose them in their constituencies.<sup>18</sup>

The UK is currently the world's biggest offshore wind market with more capacity deployed than any other country. In August 2013, the sector saw the launch of the joint industry and Government Offshore Wind Industrial Strategy, which provides a long-term framework to promote innovation, investment and growth in the UK supply-chain.<sup>19</sup> An increase in capacity and a stormy December showed the potential impact of wind investment in the energy mix, where it reached record levels of 2.8 million MWh, or 10 percent of UK electricity demand.<sup>20</sup> The costs and policy uncertainty have led to some major project closures in wind, however, including the closure of the Vestas manufacturing plant in the Isle of Wight due to over-ambitious production without the predicted levels of demand,<sup>21</sup> and the recent decision by RWE npower to cancel its planned £4bn Atlantic Array offshore wind farm development in the Bristol Channel.<sup>22</sup> Wind remains an important part of the national energy mix, however, and policy strategies to help cluster manufacture, installation and maintenance, such as in the Humber, are encouraging.

## Biomass

Biomass involves using organic material to produce renewable energy, and much of the long-term policy trajectory around its use concerns the sourcing of organic material and more efficient use of the energy it generates. Large-scale biomass electricity generation is currently supported by the Renewables Obligation and small-scale biomass, including from anaerobic digestion of organic waste, is supported through the Feed-in Tariffs scheme. Heat from biomass is encouraged through the Renewable Heat Incentive, recently changed to include domestic scale biomass heating. Upcoming European regulations on coal power stations along with cuts to UK emissions have triggered a conversion of coal power stations to biomass, involving huge quantities of imported biomass.

### HMP Onley: A zero waste to landfill

As well as improved recycling facilities and awareness of recycling and waste minimisation through campaigns, HMP Onley has developed a composting scheme for all food waste, mixed with wood pellets from workshops. This cannot be sold commercially because meat products within it mean it cannot reach high enough legal temperatures, but is used within the facility for food production. The prison creates biodiesel for use in the prison by purifying used cooking oils with methanol and caustic soda. An Energy from Waste (EfW) scheme has been developed that creates heating for a local residential area through incineration of the remaining waste. The prison has also been refurbishing prison issue shoes for re-use.

This policy has been controversial, however, in terms of sourcing whole trees, sometimes from old growth forests, large transport costs and the impacts of logging. At the same time as Drax in the Humber announced it would convert half its generating capacity to biomass, RWE npower's Tilbury B conversion; the world's biggest biomass plant created to generate 10 percent of the country's renewable energy, closed down after only two years.<sup>23</sup> While some observers blamed a weak government policy that was unattractive to investors, others found long-term technical difficulties in Tilbury's supply chain of soft timber rather than Drax's (less sustainable) sources that include slow growing trees with a low bark content.<sup>24</sup>

Ed Davey the Energy Secretary has called biomass electricity generation a temporary solution to meeting climate targets while more sustainable renewables are being developed.<sup>25</sup> A cap on RO contracts for biomass electricity generation produced at bespoke sites has been set at 400MW, but these so far do not apply to conversion sites.

The political uncertainty from the European Commission on how to account for the greenhouse gas emissions impact of indirect land use change from biofuel (ethanol) crop farming has also resulted in the UK government putting a cap on biofuel at 4.75 percent of transport fuels, to criticism from the Renewable Energy Association who say it hinders a growing sector.<sup>26</sup> In view of the controversies and uncertainties around biomass, in 2013 the UK Government issued a set of sustainable sourcing criteria, which large biomass generators need to prove to maintain their Renewables Obligation contracts with electricity companies. As a guarantee for investors, these criteria will not now change until 2027.<sup>27</sup>

The Government's Bioenergy Strategy outlines a longer-term strategy of making more efficient use of biomass, especially combined heat and power (CHP) and using more residual wastes in technologies, including anaerobic digestion for gas.<sup>28</sup> The Domestic Renewable Heat Incentive, offering financial incentives for households to invest in technologies such as biomass, will come into effect from Spring 2014.<sup>29</sup> This is likely to increase demand for smaller-scale biomass production. English production of crops for biomass operates under the Energy Crops Scheme for short rotation coppicing (woody solid biomass) or miscanthus (perennial grasses for biofuel).<sup>30</sup>

## Solar

Solar generated electricity, with its daily vicissitudes, will benefit from the investment in upgrading the grid announced in the 2013 Energy Bill.<sup>31</sup> The recent lifting of the cap of maximum size solar farms eligible for the Feed-in Tariff created investment openings for large solar projects, often seen as more predictable than wind energy. The development of lower cost panels, particularly from China, has also made the technology more attractive for investors.<sup>32</sup> Planning complaints have caused some developments to fall, however, and the Government's reduction of the strike price for solar, the guaranteed price per unit, makes

it less profitable – and the policy environment seem less predictable – for investors than previously thought.<sup>33</sup>

Transitions has identified some local support and potential partnerships for using part of the site as a solar farm, and applications for Renewables Obligation Certificates with electricity providers are open until 2017. Solar energy can be harnessed both in the form of photo-voltaic (PV) panels or tiles for electricity generation, and in solar-thermal panels for heated water. Solar thermal installations are eligible for the RHI payback schemes. Solar systems can be installed on roofs and grounds, and despite their relatively high set-up costs they then have very low maintenance and running costs.

## Sustainable development

Since 2011, the Government has declared its intention to mainstream sustainable development, affecting how government facilities are run, the procurement of goods and services and the direction of policy.<sup>34</sup> Sustainable development is conceived as an interconnected process of risk-management, opportunity-seeking and improvements across the economy, environment and society, with an eye to the long term. A set of Sustainable Development Indicators is measured biannually, testing measures such as GDP, poverty, long-term unemployment and skills for economic wellbeing; social capital and healthy life expectancy for society; greenhouse emissions, natural resource and water usage and wildlife health indices for environment.

Economically, the Government is seeking to become more sustainable through an approach to debt and de-leveraging that includes major cuts to public spending, encouraging investments and exports and seeking to rebalance the economy spatially and sectorally.<sup>35</sup> The direction of travel is to favour private sector demand-led activity over public sector supply-led activity, and increase employment in the private sector particularly outside of London and the South East.<sup>36</sup> This confirms that for Transitions to be viable in the long term needs to be income generating.

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# 3. Sustainable development in public services

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The public sector and its contractors represent around 16 percent of GDP,<sup>37</sup> and the Mainstreaming Sustainable Development agenda requires government departments to lead by example in their operations and procurement. The Greening Government Commitments (GGC) made in 2011 set targets for 2015 for all departments in greenhouse emissions, waste and water use as well as sustainability and efficiency across the supply chain in procurement practice.<sup>38</sup>

The Ministry of Justice (MoJ) is one of the largest government departments, with around 95,000 staff (including probation services) and a budget of £9.2 bn. Every year around nine million people use its services in 900 locations across the United Kingdom, including 139 prisons in England and Wales.<sup>39</sup> The MoJ is now required to show annually its progress towards the Greening Government Commitments, and the requirements can be incorporated into a ‘green theme’ of the Transitions partnership with HMP Humber.

The 2012–2013 Annual Report shows it is tackling the GGC through a Carbon Reduction Team responsible for overseeing the reduction of emissions across the departments to meet the MoJ Carbon Reduction Commitment. A monthly Sustainable Development Board meeting agrees programmes of work on the GGC areas. These include:<sup>40</sup>

#### **I. Social and environmental awareness**

The MoJ has drafted a statement encouraging its community partners on learning and skills to incorporate sustainable development streams into their work. It also recognises that developments towards restorative justice and reducing reoffending represent progress towards sustainable development.

- 2. Biodiversity action planning** The MoJ has committed to allowing biodiversity to flourish on its sites and to reducing the loss and decline of priority species.
- 3. Sustainable construction** The MoJ requires all major refurbishments on its estate to be assessed as at least ‘very good’ on the Building Research Establishment Environmental Assessment Method (BREEAM), and new builds to be rated ‘excellent’.
- 4. Waste** 64 percent of MoJ waste is now diverted away from landfill, through a combination of recycling, composting and waste incineration that produces energy.

The MoJ reports annually on its carbon reduction commitment, its carbon management plan, and evidence it has ‘rural proofed’ any new developments and started to adapt its facilities for climate change. In procurement, the MoJ is required by the Mainstreaming Sustainable Development agenda to buy products that are more sustainable and efficient with regards to carbon, water and waste, within the context of overarching priorities of value for money and streamlined procurement processes.<sup>41</sup>

Alongside the MoJ’s commitment to procurement from Small and Medium Enterprises (SMEs)<sup>42</sup> this presents good institutional possibilities for securing MoJ contracts for Transitions Parks goods and services. Some prisons have already developed industries to meet MoJ needs, for example HMP Swaleside’s contract to produce new regulation fire-resistant doors for the Prison Service.<sup>43</sup> Food purchasing is covered by the Government Buying Standards, which favour higher environmental standards and seasonal

## **Sustainable Prison Project and Cedar Creek Correctional Centre, Washington State, USA**

As part of Washington State's acclaimed pilot 'Sustainable Prison Project', CCCC pursued three focus areas: developing green-collar education and training for inmates; developing more sustainable operations within the prison facility; and using the site and inmates for scientific research and conservation.

The education and training includes a regular lecture programme of widespread topics including plant and wildlife ecology, sustainable agriculture, urban horticulture, alternative energy and building with recycled materials. In some cases the lectures were linked to behaviour change, such as waste-saving water usage by prisoners and staff after a hydrology lecture. Research showing the 'ease and impact' of the lecture series has inspired similar programmes in other prisons

Training and work programmes include a dog training project and Bicycles from Heaven, repairing not just bikes but also medical beds and wheelchairs. Training is also accessed through the facility operations: food growing, sorting, building, cultivating, composting and even beekeeping. Thoughtful spatial design has tried to reinforce the connection between humans and nature, such as the gardens being passed regularly and the food grown being served in the canteen.

The project has also linked prisons with the Washington Department of Fish and Wildlife, so CCCC inmates were trained to raise Oregon Spotted Frogs, an endangered species, for release into the wild. Inmates act as ecological research collaborators, responsible for feeding and cleaning the frogs, as well as providing fungal treatments, documenting water quality, specimen growth and mortality, and installing and maintaining equipment. Similar projects at other prisons have involved propagating fast-disappearing native prairie plants and rearing endangered butterflies.

Formal evaluation on these partnerships has reported a sense of purpose and contribution to society, elevated self-esteem and increase positive interaction between prisoners and with staff.

Source: Feldbaum, M, F Greene, S Kirschenbaum, D Mukamal, M Welsh, and R Pinderhughes, Ph.D. U.S. Department of Justice. National Institute of Corrections. Greening of Corrections: Creating a Sustainable System. Washington, DC: AED National Institute for Work and Learning, 2011. p.13–17

produce where this does not increase overall costs.<sup>44</sup> 'Meet the buyer' events aim to help potential first tier contractors, and SMEs now account for 52 percent (£29.4m) of the MoJ's annual spend on food supply contracts.<sup>45</sup>

Prisons are facilities with intensive energy and water needs and which produce a great deal of waste. 'Greening prisons' approaches can range from changes that make the physical facility and operations run with more energy efficiently to more systemic approaches, like that of RSA Transitions, that seek to integrate environmental, economic and social sustainability.

The development of small-scale onshore renewables on the Transitions site could meet prison energy needs, earn revenue from Feed-in Tariffs and provide useful training opportunities. They could also provide opportunities for social enterprise based on installation and manufacturing. Although employment opportunities fluctuate with changes to incentive policies, the development of small-scale energy projects looks set to continue. Transitions could look at using provisions for community renewables, which can be developed as non-profit distributing bodies or as social enterprises, including funds to support feasibility studies exist, such as the Rural Community Energy Fund.<sup>46</sup>

HMP Standford Hill has rented its land to Partnerships for Renewables to construct two large turbines and pay the prison a percentage of the gains from selling power to the grid.<sup>47</sup> A similar model at HMP Humber could involve prisoners in the process of installation or maintenance of large or micro turbines, or could be negotiated with more profits returning to foster projects in the Transitions Park.

The MoJ believes 44 prisons currently produce some form of renewable energy onsite, mostly in the form of solar and biomass. During 2012–13 141.1 kilowatts of energy was generated using these sources.<sup>48</sup> HMP Guys Marsh biomass boiler system has won awards for its innovative versatility in fuels that will work with the system. The director of Wood Energy who developed the 1.2MW boiler said: "it can cope with a wide range of wood chip – from dry wood chip of small particle size to wet wood chip, of large particle size, and everything in between. This offers the client maximum choice when it comes to the selection of fuel supplier as they are not restricted by a narrow

fuel specification and thus have greater leverage on price.”<sup>49</sup> HMP Guys Marsh currently sources all its woodchip from New Forest Energy; a local company that sources all its wood from locally managed forests.<sup>50</sup> It is a highly automated system, however, meaning there is little involvement of prisoners in the operations.

Meanwhile, solar in prisons is growing, and energy minister Greg Barker has recently expressed his ambition to install solar PV panels on government estates, including MoJ land and buildings.<sup>51</sup> Examples from US prisons show the possibility for training and even manufacturing alongside generating electricity for the facility. Polk Correctional Institute in Florida used their onsite solar farm to provide entry-level Photovoltaic Installer Training to 130 inmates.<sup>52</sup> Federal Prison Industries also made a deal with a major solar installation company to manufacture PV panels, with the freedom to sell them to any installation firm.<sup>53</sup>

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## 4. The Humber sub-region

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The sub-region includes four local authorities, North Lincolnshire, North East Lincolnshire, Kingston upon Hull City Council and East Riding of Yorkshire. It lies equidistant between London and Edinburgh with good infrastructure links across the UK and internationally through its port complexes and Humberside airport. Its largest city Hull, is expected to see a rise in tourism and investment through being chosen as 2017 UK City of Culture.<sup>54</sup>

A 90 percent agricultural area at the heart of the UK's wheat growing belt, the Humber sub-region is dominated by the deep estuary and its river systems, and has been historically important for the UK's shipping and energy. These sectors continue to be significant, with the Hull and Humber Ports City Region remaining the UK's largest port complex by tonnage, and the fourth largest in northern Europe.<sup>55</sup> The trade at ports includes over a million sea passengers a year, as well as chemicals, seafood and soft timber imports.<sup>56</sup> Home to Centrica, International Power, ConocoPhillips, Total and BP, the Humber area currently lands and distributes 20 percent of the UK's natural gas and provides more than a quarter of the UK's oil refining capacity. It handles 32 percent of the UK's coal imports, supplying power stations that generate around 17 percent of the UK's electricity.<sup>57</sup>

Current investments and sub-regional strategies such as the Hull and Humber City Deal and the Hull City Plan focus primarily on building the potential of the 'energy estuary' to develop as the UK's renewable energy capital.<sup>58</sup> The area hosts more than 20 onshore and offshore wind energy projects, including developments that are due to become two of the UK's largest: the Humber Gateway project, a chain of offshore farms expected to power 170,000 UK homes, and the Hornsea Wind Farm Scheme, projected to meet at least 4 percent of UK electricity demand.<sup>59</sup>

The Government has designated the Humber one of five national 'Centres for Offshore Renewable Engineering',<sup>60</sup> in which central and local government and LEPs work together to boost manufacturing for the offshore wind sector. The UK's largest Enterprise Zone of 503 hectares is being developed along the Humber estuary, with significant provisions in planning processes, business rates and infrastructure to encourage renewable energy sector businesses to easily locate there. These include a 100 percent business rate discount worth up to £257,000 over a five-year period for businesses moving into the EZ before April 2015; simplified planning in the zone, such as by Local Development Order powers; superfast broadband and enhanced capital allowances for plant and machinery where they focus on manufacturing.

Business rates growth following the five-year discount period will be shared by the local authorities in the Local Enterprise Partnership and reinvested locally to support LEP economic priorities.<sup>61</sup> The Humber LEP is lobbying government to extend the capital allowance tax breaks beyond 2017 as the renewables sector develops.<sup>62</sup>

The ambitious Able Marine Energy Park (AMEP) at North Killingholme was recently approved by government and recognised as infrastructure of national significance.<sup>63</sup> The £450 m, 367-hectare port facility is designed to support a new generation of giant offshore wind farms. It also aims to create a critical mass of activity producing wind turbines and their foundations and providing a base for offshore installation and maintenance.<sup>64</sup> The strategy to cluster manufacturing, installation, storage and transport aims to attract investment by cutting operating costs. It is predicted to boost existing manufacturing, operations and maintenance sectors; for example Tata Steel's Scunthorpe processing plant, the UK's largest, is already producing steel plate for wind towers.<sup>65</sup> National and international demand for

these parts seems certain to increase. It is also predicted to bring in new manufacturing and handling enterprise, such as German renewables manufacturer STRABAG's memorandum of understanding to construct gravity-based foundations on the AMEP site, expected to generate around 500 jobs.<sup>66</sup> Core to the strategy of the Humber Local Economic Partnership is to avoid investors importing goods and services as far as possible by preparing supply chains and upskilling ahead of demand.<sup>67</sup>

### **Green Port Hull**

Confirmation has just been given to the development of Green Port Hull, a major partnership between Siemens UK and Associated British Ports that is projected to have a large impact on the local economy. Planning permission was granted in 2012 for the regeneration of Hull's Alexandra Dock as a site of manufacture, imports, exports and installations of offshore wind turbines.<sup>68</sup> Siemens' engineering and manufacturing facility would create around 700 jobs at all levels from the shop front to engineering to project management, as well as hundreds more in the supply chain as well as indirectly through services and displacement of workers moving to Siemens from SMEs.<sup>69</sup> These supply chain, indirect and displacement opportunities may be the most relevant for ex-offenders coming through Transitions.

Other major new energy initiatives include Vivergo's biofuels plant at Saltend, which processes feed grade wheat into bioethanol for fuel and protein rich animal feed for livestock. Employing 80 people directly, Vivergo estimates it supports 1,000 people through agriculture, logistics, engineering support and professional services.<sup>70</sup> The giant Drax coal power station at Selby, currently the UK's largest single-site carbon emitter and responsible for 7–8 percent of national electricity, is piloting carbon capture and storage technologies as well as converting three of its six generating units to biomass.<sup>71</sup> Its enormous supply chain of woodchip pellets will be sourced mostly internationally so the biggest indirect employment generated in the Humber by the development will be through shipping and handling. The new Immingham Renewable Fuels Terminal is already under construction with 1km of covered conveyors and giant silos for a specially designed road and rail load-out system for three million

tons of pellets a year.<sup>72</sup> Additional renewables developments focus on shallow water tidal stream electricity generation. The University of Hull's Centre for Adaptive Science and Sustainability partners with private investors on developing these new technologies.<sup>73</sup>

The new energy-sector developments are expected to induce employment in supporting sectors, such as smaller, specialist enterprises providing construction, catering, landscaping, human resources, IT and legal and financial services.<sup>74</sup>

### **Energy efficient Humber**

Alongside renewable energy generation, Hull's strategic plan includes proposals for improving energy efficiency. The city plan mentions taking advantage of the Government's Green Deal programme to retrofit housing and commercial building stock for energy efficiency.<sup>75</sup> While government subsidy schemes have been criticised for their frequent change,<sup>76</sup> the not-for-profit Hull Warm Zone has developed a network of public, private and third sector stakeholders creating training and employment opportunities for this work.<sup>77</sup> Studies on similar projects delivered by community-based partnerships have been noted for the social, economic and environmental regeneration that came as a result.<sup>78</sup>

Regulations on waste are leading to developments of a 'circular economy' focused on recycling, reusing and recovering value, for example into compost or aggregate production, or incineration connected to combined heat and power (CHP) systems. East Riding Council and Hull City Council's joint waste management contracts are in the process of being negotiated, involving contractors serving a series of lots for 15 years from March 2014. Proposals for a pilot district heating scheme that would centrally heat 3,350 homes are under consideration, with a long-view possibility of a major district heating development.<sup>79</sup>

Locally based engineering firm Spencer is developing an ambitious Energy Works site in Hull, processing 200,000 tonnes of municipal, commercial and industrial waste into electricity and biomethane gas for 25,000 homes. A dual system of fluidised bed gasification and anaerobic digestion, along with in-vessel composting, means dry and wet organic waste can be processed and converted into usable by-products. As a large

waste producer, the prison can contribute as a supplier, but also getting training in large prison waste systems can be useful for transfers to this work after release.

The area is one of Europe's largest food processing centres, with Greater Grimsby known as 'Europe's food town', hosting the largest fish market in England and Wales.<sup>80</sup> The catering sector is expected to grow with the new investments to the area,<sup>81</sup> and food policy features in the Hull city plan, in recognition of increasing food poverty and health concerns. The city plans to develop local engagement with food growing and community bulk buying. They plan to create a city farm for this purpose.<sup>82</sup> The Transitions Food Strategy can take advantage of all these opportunities of food procurement, production and distribution, as well as for community engagement and access to healthier food, as further discussed in the skills section below.

## Ecology

Ecologically, the Humber region is of international significance. It drains a fifth of the total surface area of England and includes diverse habitats of unusual intertidal expanses. In the non-breeding season, it regularly supports over 150,000 individual waterbirds and a wide variety of other habitats and species.<sup>83</sup> The new ABLE Marine Energy Park (AMEP) development has been agreed on the condition of a major ecological compensation scheme comprising both temporary and permanent habitat creation on the opposite bank.<sup>84</sup> Consultations with RSPB and Natural England have resulted in some initial designs of large-scale projects such as Regulated Tidal Exchange to mimic the natural flows in the estuary's delicate ecology.<sup>85</sup> The recent Hull and Humber City Deal also agreed government support for the development of a Humber Environmental Data Observatory.<sup>86</sup>

## Boosting business and creating jobs

The Humber sub-region includes relatively prosperous areas as well as some of the UK's most deprived neighbourhoods. The area has higher than average unemployment, particularly in Hull, and some of this is complex, long-term and across three generations.<sup>87</sup> Critical groups include 16–18 year olds not in education, employment or training (NEET) and over-45s.

Employers consulted in the HLEP skills commission mentioned frustration at some applicants' employability skills, resilience and work ethics. Local programmes aiming to develop employability skills have been recognised for good practice, including Building Schools for the Future, HEEP and Future Hull.<sup>88</sup> The new Hull and Humber City Deal focuses on programmes to raise employment, with a Springboard Programme aiming to tackle youth unemployment, as well as five local colleges becoming Energy Skills Centres of Excellence and the creation of a Humber Careers Hub and Humber Skills Fund to encourage employer investment in training. To incentivise training providers to get people into work, the programme is being set up as part of a national pilot of payment by results.<sup>89</sup>

The area has so far attracted £65.7m from the Government's Regional Growth Fund for growing businesses and creating jobs. This is given in grants for capital investment, for skills and training, for business advice, the promotion of inward investment and for research and development.<sup>90</sup> Part of this is ring-fenced for Green Port Hull and for investment into North East Lincolnshire, and part is available through the 'Growing the Humber' grants fund for businesses across the sub-region.

Transitions could potentially apply for these grants, minimum £20,000 and maximum £2.5m. The fund cannot be used for local goods and services serving an exclusively local market. Investment must be shown to create jobs and needs to be matched by a ratio of around 1:4 RGF investment to other investment. A higher overall proportion of funding can come from RGF in 'assisted areas'.<sup>91</sup> While these include Brough and Melton, neighbouring areas to the Transitions site, Dale Ward itself where the site sits is not an assisted area.

The Humber is launching itself as a leader in the renewable energy sector, with large infrastructural changes and new investments signalling new opportunities for direct, indirect and displaced employment throughout the region. RSA Transitions is developing at a good time for meeting the skills and supply-chain demand locally.

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## 5. Skills for the ‘green’ economy

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The developing low-carbon economy in the Humber sub-region creates skills gaps and probably growth areas, both directly and indirectly, through services, supply-line openings and also through the displacement effect of greater demand and wage competition. The Humber LEP’s Skills Commission consulted widely to map the projected changes to the labour market and the skills gaps opening up. Transitions needs to orientate its trainings and enterprise developments to these gaps if they are to be viable.

The development of the region as a new renewable energy capital will involve considerable change in the labour market. Forecasts of employment needs for offshore wind and its supply chain depend on a series of uncertain factors, including the degree of manufacturing carried out in the area and the likely scale of exports.<sup>92</sup> The creation of AMEP’s port facilities, the enterprise zone’s investment-friendly provision, the expected confirmation of STRABAG and Siemens and the global market turning increasingly to renewables development are all encouraging signs.

The Humber Skills Commission interviewed companies working in the renewables sector, such as Able UK and Siemens, about the levels of skills required for their projected workforce of approximately 4,120. Higher-level skills were estimated to make up around 10–15 percent of jobs, where the majority of available roles would be at entry levels 2 or 3, such as welders, painters and shot blasters. Many of these roles could be trained for in three months.<sup>93</sup>

As well as the growth of jobs in engineering, operations and maintenance of offshore wind facilities, induced employment is expected from supporting enterprises in sectors such as construction, catering, ICT, landscaping, human resources and legal and financial services.<sup>94</sup>

The growth of new companies in the renewables sector is expected to create a displacement effect of skilled workers leaving

their current posts for positions in the new developments. For example, the Humber Skills Commission estimates that 800 welders will be sought by new renewables investors, resulting in smaller companies unable to match the wage competition.<sup>95</sup> Fabricators positions in smaller companies are also likely to become available. As well as displacement into new industries, many of the key skills required by the new renewables developments are currently held by an aging workforce in the sub-region. This includes welders and metal workers and other skilled trades and crafts workers, particularly machinists and joiners.<sup>96</sup> 29 percent of stevedores, port operatives and other transport and mobile machine drivers were over 55 in 2011, with a predicted 3,850 replacement roles needing filling by 2020.

The Humber LEP’s statistics of recruitment needs by sector show business services and transport projected to recruit around 5000 by 2015, and 10,000 by 2020. Jobs in construction are also expected to grow considerably, due to considerable developments being built in the region as well as replacement demand. An estimated 3,285 construction jobs are expected to be recruited by 2015 and 6,502 by 2020. Manufacturing is also rocketing, from 2,844 in 2011, to an estimated recruitment of 2,388 more by 2015 and 5,131 by 2020.

The potential to up-skill to these from low or no qualifications varies. Stevedores typically need no formal qualifications, but a driving licence and experience of operating cranes or forklift trucks is attractive to employers. Marine operatives can enter without qualifications but benefit from small boat handling and some radio experience. Welders typically need to have good numeracy skills (GCSE A-C) and can train in welding operations from levels 1–3. Trades and crafts workers tend to require no entry qualifications at low level but can progress through on-site experience with training, and vocational qualifications exist from level 1

onwards. Existing OLASS<sup>97</sup> training in these areas, particularly those relevant for manufacturing and construction, can have a 'green component' added on to traditional training and experience to offer breadth and relevance to the low-carbon sector on release.

One difficulty for planning recognised by the Humber Skills Commission report is that different roles will be required at different times in the construction, development and operations of new facilities. The UK Commission for Employment and Skills has recognised varying predictions of the new offshore wind employment, whether the majority will be permanent posts or largely 'contract work', in line with the offshore oil and gas sectors.<sup>98</sup> Large-scale contract work has implications for irregularity in some areas of predicted displacement employment, and points to the need for multiple skills to be cultivated in a viable career pathway. Adaptability and transferability have been identified in any case as 'key skills' in demand by the energy sector in light of the fast changing technologies and processes.<sup>99</sup>

### Skills for waste

Jobs in the low-carbon economy are available beyond the renewables sector and the sectors impacted by its growth. Waste management is a developing area, with technologies – and therefore skills – changing fast.<sup>100</sup> The new Energy Works development in Hull is likely to involve jobs in manufacturing and assembly at each stage of its construction, involving construction skills as well as more mechanical, electrical and specialist CHP (Combined Heat and Power) and laboratory skills. On going work in operations and maintenance with the anaerobic digestion will involve waste collection, feedstock loading, truck driving, plant operating, technical maintenance, laboratory services and quality assurance, digestate packaging and distributing.<sup>101</sup> Some of these roles can be started at entry level.

A newly developed Level 2 Diploma for Anaerobic Digestion Operatives has been accredited by WAMITAB, the Waste Management Industry Training and Advisory Board. Waste and recycling operatives can enter without qualifications and can progress through levels 1 and 2, potentially to supervisor level or waste management.<sup>102</sup> Experience with medium to large-scale waste management systems within

the prison site could be advantageous to those leaving Transitions.

The issue of food waste was raised once again by a report by the House of Lords EU Committee, which concluded supermarkets and food retailers are failing to take responsibility for the UK's food-waste crisis, contributing to 15 million tons of produce being thrown away unnecessarily every year.<sup>103</sup>

The Transitions project is developing a food strategy as part of its development and should consider whether there are options for waste reduction and recycling. Local food growing features on the Hull city plan and there is considerable potential, and good precedent for the Transitions site to be used in part for food growing.<sup>104</sup> This question is explored in more detail in another of Transitions' papers.

### Energy efficiency skills

Jobs in energy efficiency, from assessment and advice, to installing insulation on walls and roofs, window fittings, boiler and heating systems of domestic and commercial properties, are largely affected by demand-side changes relating to central government policy. The overall direction of travel favours energy efficiency improvements but the often changing policies regarding subsidies and regulations means the scale and delivery of these improvements is hard to predict. The transition from CESP to Green Deal and Energy Companies Obligations (ECO) in early 2013, for example, involved a major contraction in the job market, including a marked 93 percent drop in loft insulation and 77 percent drop in cavity insulation.<sup>105</sup>

The Government's flagship energy efficiency programme Green Deal, which allows property owners to make energy efficiency improvements with no upfront costs, has had a very disappointing uptake.<sup>106</sup> The ECO drove much more of the energy efficiency work in the past year, but in response to public concerns around fuel poverty, the Government in December 2013 announced it was reducing the ECO in order to cut bills. This was met by fierce criticism from all the relevant trades associations, with the Green Building Council predicting job losses as a result.<sup>107</sup> Demand should be boosted by requirements for all private landlords to meet minimum energy efficiency standards and provide Green Deal improvements on tenants'

requests from 2016, and funds to support this have been announced.<sup>108</sup>

In construction too, government policy on building regulations is a major driver for the manufacture and installation of energy efficient materials and fittings. A coalition of the seven major relevant trades associations is currently advising against the diluting of the 'zero carbon homes' requirements on new builds and the 2008 Planning and Energy Act, which would require new builds to generate 10 percent of their energy from onsite renewables.<sup>109</sup> In both retrofitting and new construction, despite some uncertainties around the scale and scope of policy, there remain clear requirements for energy efficiency in heating and lighting, which will drive jobs across manufacture and installation.

Skills required for energy efficiency work range from accredited Green Deal advice and assessor training (from Level 1 units of competence)<sup>110</sup> to installation and insulation skills. The Green Deal Skills Alliance is a partnership between the three relevant Sector Skills Councils to develop standards frameworks for accrediting new skills and competencies in these areas. SummitSkills is of most relevance to building services and microgeneration; CITB-ConstructionSkills to insulation; and Asset Skills to energy assessment and energy advice.<sup>111</sup> It is worth noting observations by construction industry insiders the challenge for SME's to train and accredit staff in these increasingly crucial skills.<sup>112</sup> If Transitions equipped potential construction workers with these competencies they would have a useful advantage, particularly in the SME jobs that will need backfilling when big construction projects take up existing workers.

Transitions could engage with policies on small-scale renewables with possibilities for installation training or for manufacture. Jobs in the solar industry include installation and manufacturing PV and thermal modules, mounting frames and inverters. Many installation companies source their equipment from overseas,<sup>113</sup> so careful market research would be an important consideration in starting a manufacturing enterprise as part of Transitions.

System installers as well as products need to be MCS certified (microgeneration certification scheme) as part of the eligibility criteria for the Government Feed-in Tariff and Renewable Heat Incentive. The MCS is also required for skills and

equipment in other micro-renewables, including air source, ground source or exhaust air heat pumps, biomass and micro CHP. Solar thermal equipment and installers are accredited by CEN Solar Keymark instead.<sup>114</sup> Household demand for all these technologies may rise as a result of the new Domestic Renewable Heat Incentive launching Spring 2014.

Training levels and timeframes is varied for the different technologies and different roles. Many key roles are often trained from an existing background in heating, plumbing and electrical engineering so may not be appropriate for entry level prisoners but could be added to existing training, such as plumbing. Experience in fabrication for renewables in Transitions, however, could be transferable to other fabrication roles, such as welding, joining and shotblasting.

### **Philadelphia's Green Job Readiness Partnership**

GJRP trains low-skilled people with limited work histories in skills for energy-efficient construction, other construction projects and retrofitting over a nine-week programme. Through consultation with potential employers, the programme developed a curriculum around three core literacies needed for success in the new construction field: applied maths reasoning, maths computation, and technical reading for comprehension. Curriculums are based around weekly targets in maths, contextualised literacy and science, soft skills, career sense and tests. Evaluations have been impressive: of the first ninety-three participants, 65 percent rose two levels or more in reading comprehension and 74 percent rose two or more in applied maths reasoning and maths computation.

#### **Example: week one of the green job readiness partnership curriculum**

- Math: Measurement, plan reading
- Geometry Concept of the Week: Polygons and perimeters
- Contextualized Literacy and Science: Energy, non-renewable fuels, sentence structure, punctuation
- Soft Skills: Learning styles, study skills, note taking
- CareerSense: Goal-setting
- Tests: Initial TABE [test of adult basic education] test, fractions pretest

## **Job readiness**

Transitions engagement with employers has underlined the importance of employability and job readiness. These are often addressed as an ‘add on’ to training programmes. Evidence shows low-literate adult learners tend to learn better through contextualised literacy and numeracy. The US Department of Justice report on Washington’s Sustainable Prisons Project shows that life/job readiness skills, as well as functional maths and reading, can be effectively incorporated into training and work experience. The report also found prisoners and staff involved in green training and sustainability programmes were more likely to develop a ‘culture of shared purpose’.<sup>115</sup>

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## 6. The Transitions ‘green’ model

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Not surprisingly, in testing and shaping of the Transitions model with HMP Humber we arrived at a particular model for the Transitions Park component, based on developing skills for green industries. Within this model, the site is understood as a location where a combination of support services, training and employment opportunities and community facilities can be brought together in a wider landscape environment that can act as a broader resource for rehabilitation. Bringing these activities together is more than simply about co-location, but about developing a network of support, social engagement and ladders to employment that can underpin the concepts rehabilitation culture and capital.

This notion is carried through to the planning of the site, through the creation of a Transitions ‘hub’ to provide an identifiable centre to the network. In this model, activities are grouped into a number of common delivery areas and this includes:

- Green skills enterprise and training incorporating training providers, with start-up business support and light-industrial employment.
- Community Transport will be essential in such a rural area, benefiting the wider community, prison visitors and offender employment and skills.
- The site can provide many opportunities such as food growing and community engagement and can support the necessary infrastructure for an exemplar ‘green’ development.

As well as responding to the nature of the HM Humber site, offender skills and the sub-region’s economic needs, in pursuing a ‘green theme’ Transitions fits with the legal and pragmatic need for the UK transition from a carbon intensive to a low carbon economy. In moving to the next

stage of development Transitions will be guided by much of the evidence included here and by our consultation outcomes. This will include exploring the potential for:

- Further engagement with the energy sector including solar, biomass, energy efficiency and wind power enterprises with a focus on skills, employment and small-scale onshore renewables on site.
- Social enterprises focused on waste reduction, recycling, food and horticulture, utilising the site and identifying skills and employment opportunities within custody and in the community.
- Identifying grant and income generating opportunities linked to the sustainability agenda with a focus on long-term financial as environment sustainability of the project.
- Further engaging with the MoJ’s sustainability team including officials leading on energy, waste, biodiversity and social enterprise.
- Shared learning between Transitions, HMP Humber and examples of ‘green’ prisons and related innovations within the UK estate and further afield.
- Engaging with the supply chains likely to be impacted by the Siemens deal and further developments, particularly where there are displacement opportunities most relevant for ex-offenders.
- Applying this learning to the site development, including the refurbishment of Everthorpe Hall and construction of new buildings.
- Continued engagement with learning, skills and employment providers and employers on aligning the HMP Humber/Transitions to the opportunities in the area.

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# Conclusion

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Having undertaken a year's research and consultation in Humber, the argument at the heart of Transitions is that prisons cannot make further inroads to reducing reoffending, without developing a deeper and shared understanding of rehabilitation culture.

When we say deeper, we mean understanding what this means for individuals that go through the justice system and what change needs to take place within them. We argue that in assessing someone's needs and where they are on their 'rehabilitation journey', far more attention needs to be given to the relationships and networks they have (or do not have) and the extent to which these help or hinder. It includes focusing on the assets – including the life and employment skills they have – that are most likely to support rehabilitation. This requires more attention to be given to offenders' local economies, their aspirations, including supporting those who want to work for themselves.

When we say shared, we mean that prisons and justice services need to become more embedded within their local communities and economies. They need to be able to draw on the potential assets 'out there', including employers and opportunities that exist within the skills markets and vacancies in which they find themselves.

This paper has sought to place this focus within the wider context of energy policy and the 'green' agenda with the aim of ensuring that the project as it develops is informed by these wider considerations. This paper will help Transitions – and HMP Humber – to align developments in order to give offenders increased chances of securing work and developing their own ambitions in line with the opportunities in the sub-region and its particular wider public value.

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