

Tree Procurement Strategic Procurement Strategy (SPS)

Executive Summary

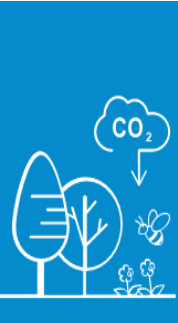
Current Status:

Plant and tree procurement is currently carried out by our delivery partners to a “just in time” requirement with little forward planning and no co-ordination of requirement across the HE project portfolio.

With increased demand, from both increased government and carbon net zero targets combined with other UK major project demands, our current process will not support our environmental commitments and obligations and will potentially have a major effect on our reputation.



Challenges



- **Seed Supply:** The UK has a single sole provider of seeds to the UK nursery industry.
- **Security of Supply:** Market indicates that future demand will significantly outweigh current supply capacity. It is estimated that nurseries are already operating near current capacity.
- **Demand:** Currently we have no visibility of forecast demand, tree type and provenance requirements.
- **Bio-Security:** To ensure compliance we must source from within the UK market.
- **Industry Investment:** Nurseries are generally small family owned operations with little scope for long term investment in technology.
- **Aftercare:** Experiencing significant increase in the number of trees dying after installation.
- **Reputation:** If we do not plant the required volume of trees this will have a major impact on our reputation.
- **Carbon Targets:** Risk of not achieving our targets unless we ensure the security of our supply.
- **Commitment:** Nurseries currently plant to forecast with no commitment from buyers. High risk investment for nurseries as trees have a limited sell period and are often destroyed if unsold.

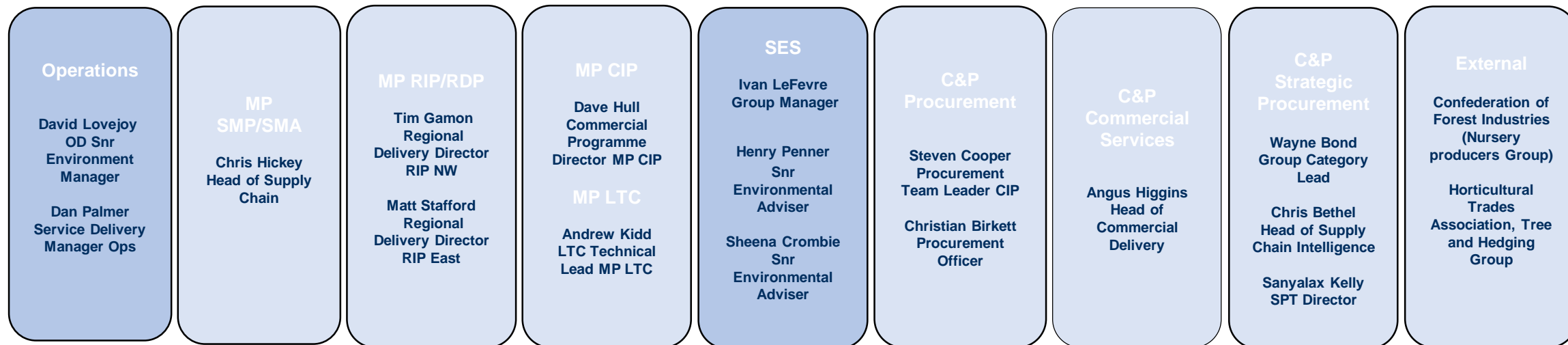


Recommendation



- Long term supply commitment agreements for both seed supply and nursery tree supply
- Commitment to volumes and scheduled payments to support industry investment in capacity and capability
- Develop our demand and forecasts management and methodology. Detailed land survey of all Highways England owned land
- Centralise management of our end to end supply chain and demand management
- Detailed land survey of all Highways England owned land required
- Provide designated investment into the industry to develop alternate technology and environmental solutions to deliver increased productivity and efficiency

Sign-off Matrix for Strategy & Approach



Business Area/Investment Programme:	Individual & Role:	Comment if required:	Signature:	Date:
Executive Team – Panel Chair	Malcolm Dare – Executive Director C&P	Exec Presentation: Supported		11/06/21
Executive Team	Duncan Smith – Interim Executive Director Operations	Exec Presentation: Supported		11/06/21
Executive Team	Peter Mumford – Executive Director Major Projects	Not Present		
Executive Team	Mike Wilson – Executive Director SES	Exec Presentation: Supported		11/06/21
SRO	Tim Gamon - Regional Delivery Director RIP NW	Exec Presentation: Supported		11/06/21
C&P Leadership Team	Sanyalax Kelly – Strategic Procurement Director	Exec Presentation: Supported		11/06/21

A record of communication and stakeholder engagement can be found here - SHARE link

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Key aims of our strategy



Carbon Neutral Targets:

Long term regional industry investment in securing supply, development of environmental sustainable options, investment in technology innovation, development of the industry and expansion of the market options resulting in increasing industry capability and capacity.



Shape the Market:

Designated funds to secure the procurement of seeds.

Investment in innovative technology to develop efficiencies in the harvesting process and environmental sustainability.

Stimulate the market to entice new entrants especially within the seed supply chain.

Scheduled payments to secure supply and allow the industry to further invest in industry capability and capacity.



Security of Supply:

Long term regionally aligned nursery supply chain agreement aligned to scheme delivery location with a focus on supply of regional provenance.

Also establish a long term single tender agreement (STA) with the seed supply provider.



Operational Alignment:

End to end supply chain management. Centralised HE Management operation aligning design, provenance requirements, continuous demand forecasting and planning, installation and aftercare supply chain management.



Demand Planning:

Develop an agreed methodology to establish forecast demand (quantity and timeframe) for each delivery scheme (see 'Future Forecast Spend slide') and calculate the carbon offset. Also identify-potential demand above delivery scheme requirements to meet our carbon net zero targets.

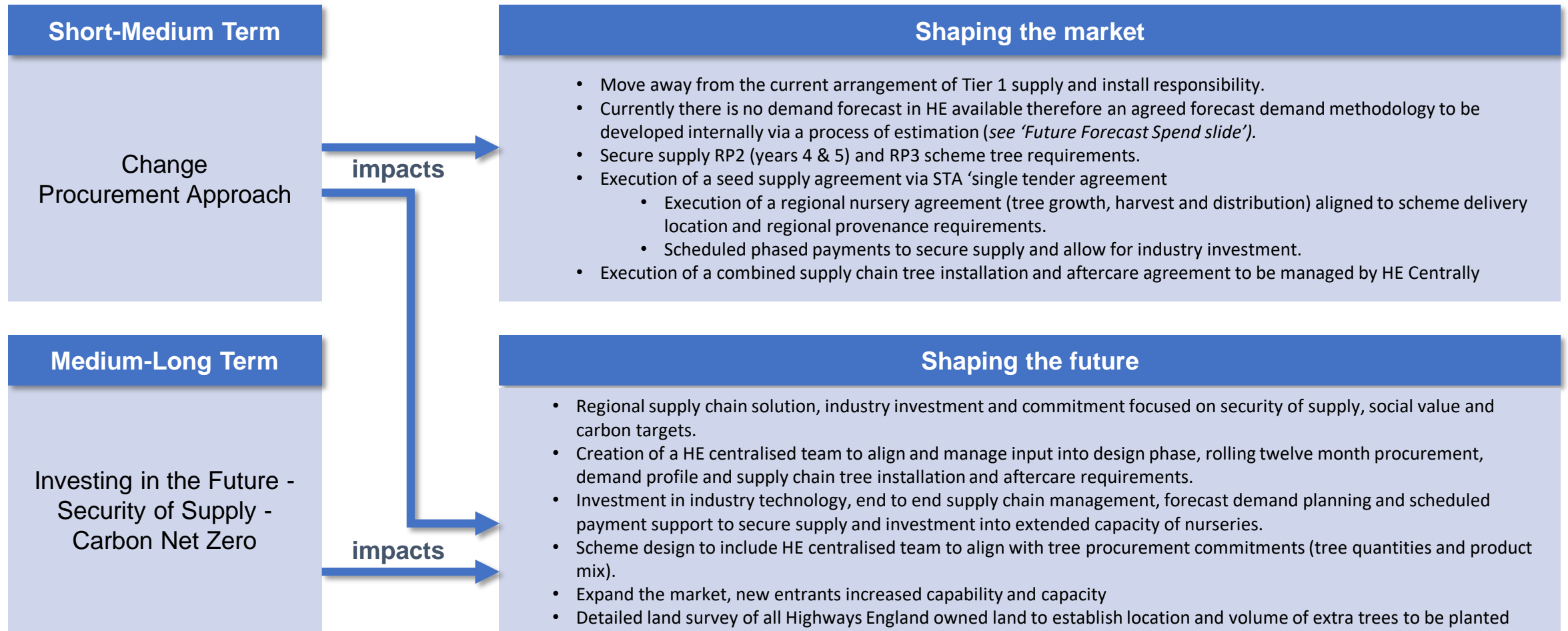
Requirement for a detailed land survey of all Highways England owned land so we know where trees can be planted / how much extra land maybe required

Recommendation Summary

Tree Procurement Strategy	Requirement	Benefit	Imperatives
Seed Supply Agreement	<ul style="list-style-type: none"> HE direct seed supply agreement Single source supplier STA (single tender agreement) Agreement term 4 years plus one x four year option 	<ul style="list-style-type: none"> Security of supply Influence tree type, size and maturity No breach of bio-security by Highways England 	<ul style="list-style-type: none"> Delivery Customer
Regional Nursery Supply Agreement	<ul style="list-style-type: none"> Long term regionally aligned nursery supply chain framework Agreement term 4 years plus one x four year option Aligned to scheme delivery location with a focus on supply of regional provenance 	<ul style="list-style-type: none"> Security of supply Industry investment Capacity expansion No breach of bio-security by Highways England HE Reputation 	<ul style="list-style-type: none"> Delivery Customer
Tree Installation and Aftercare Combined Supply Agreement	<ul style="list-style-type: none"> Long term regional agreement for all services from tree installation to continued aftercare obligations Agreement term 4 years plus one x four year option 	<ul style="list-style-type: none"> Synergy and efficiency through alignment between tree installation and aftercare management services Synergy with Land and Ecology strategic sourcing strategy 	<ul style="list-style-type: none"> Delivery Customer
Centralised HE Management	<ul style="list-style-type: none"> Creation of a HE centralised team to align design, procurement, forecast and demand installation and aftercare Detailed land survey of all Highways England owned land so we know where trees can be planted / how much extra land maybe required 	<ul style="list-style-type: none"> End to end supply chain management efficiencies Deliver against carbon targets and social value Reduction in number of trees dying 	<ul style="list-style-type: none"> Delivery Customer Safety
Industry Investment	<ul style="list-style-type: none"> Designated funds availability to invest in new technology within the industry 	<ul style="list-style-type: none"> Increase capacity and productivity Environmental sustainable solutions Social Value Carbon, biodiversity and environmental targets 	<ul style="list-style-type: none"> Delivery Customer Safety

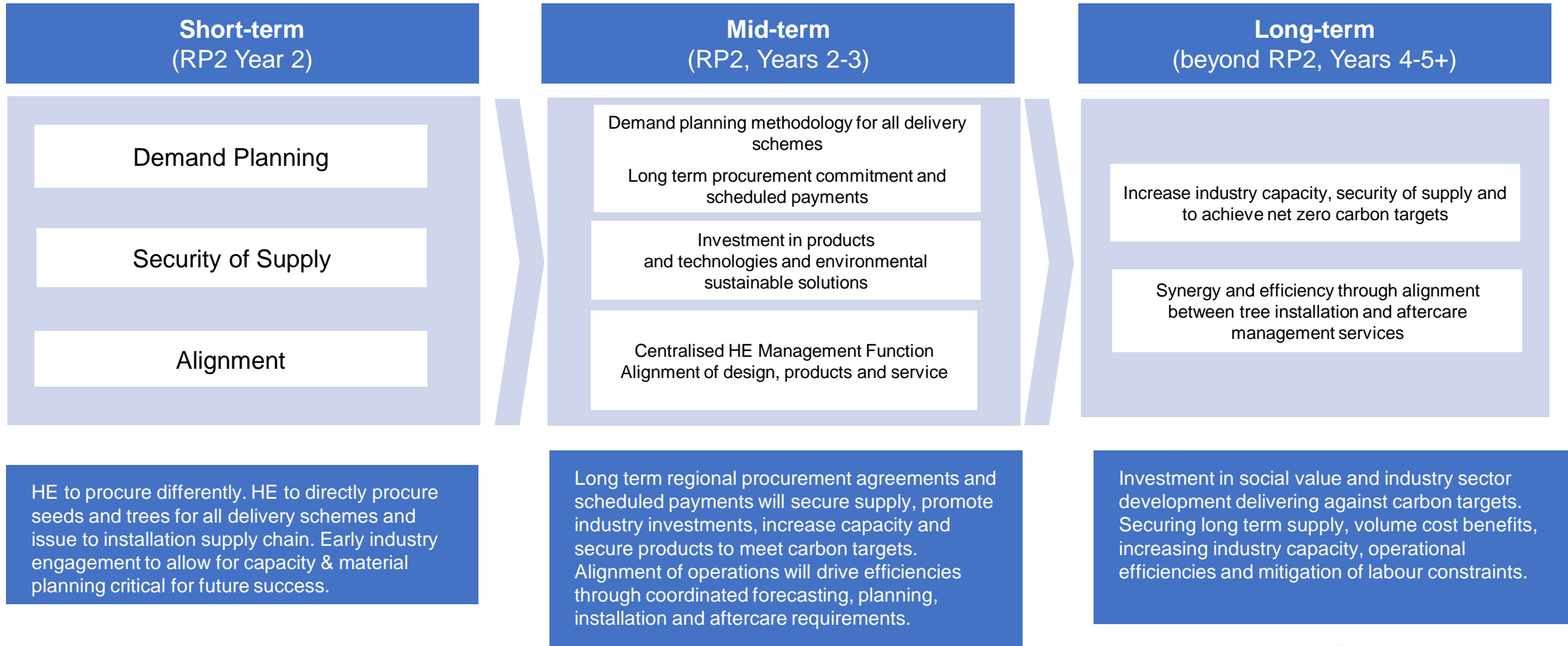
For further detail refer to *Strategy - Short to Medium Term* slide

Snapshot on our future vision

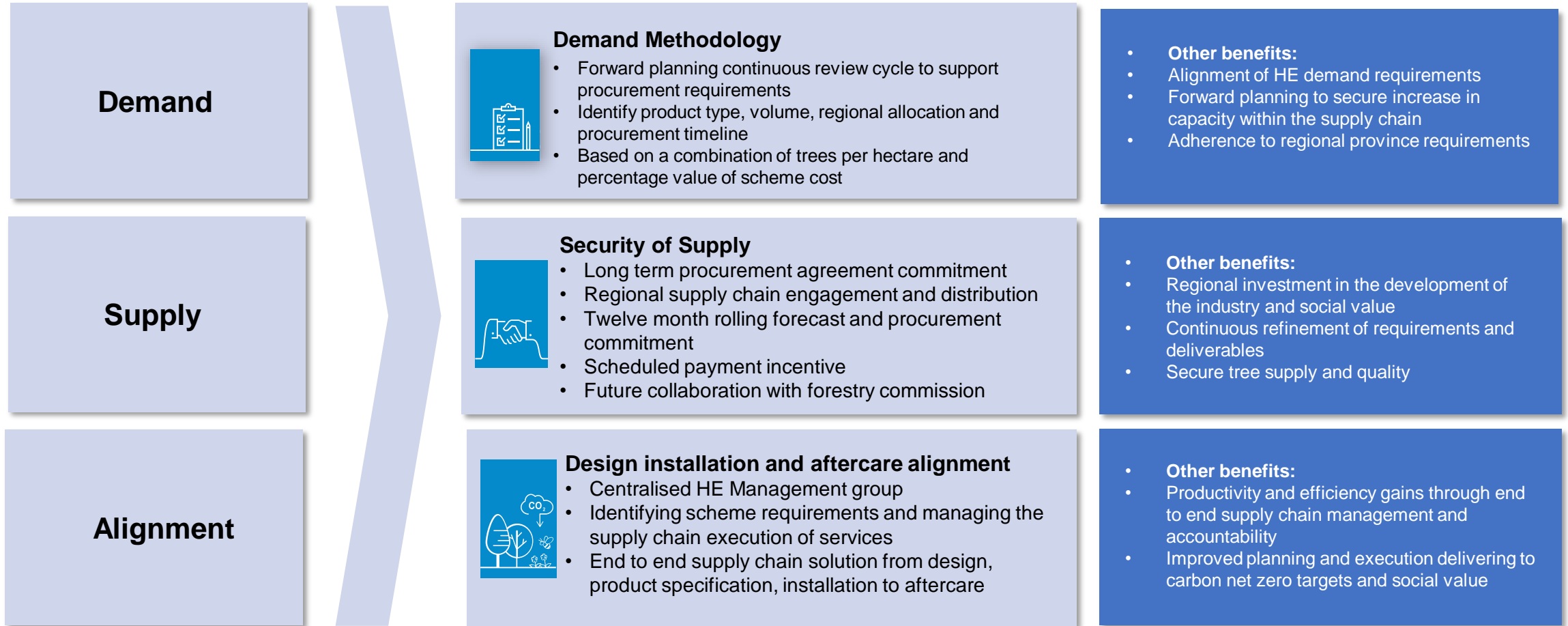


This is a high level picture. We will develop different aspects further with stakeholders across all solutions as our implementation plan progresses

Phased high-level Implementation Plan to deliver our key aims



Rollout of short-medium term solutions



Rollout of medium-long term solutions

**Industry
Investment**

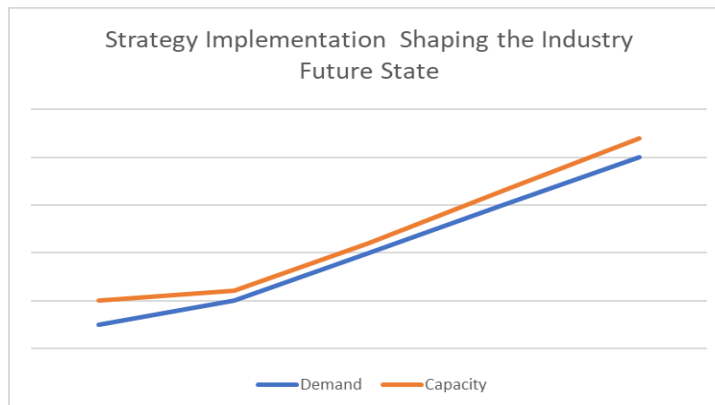
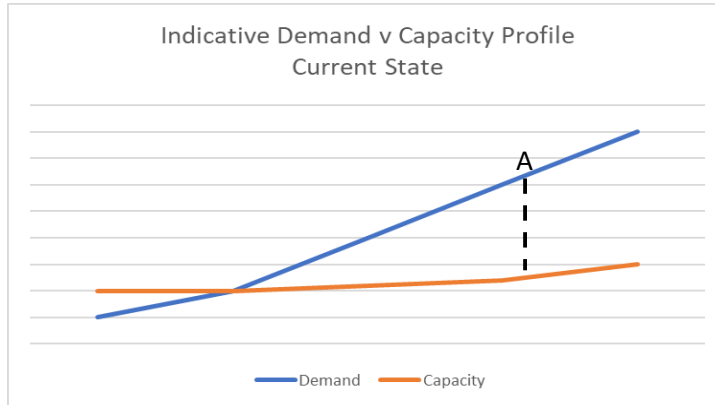


Efficiency & Innovation

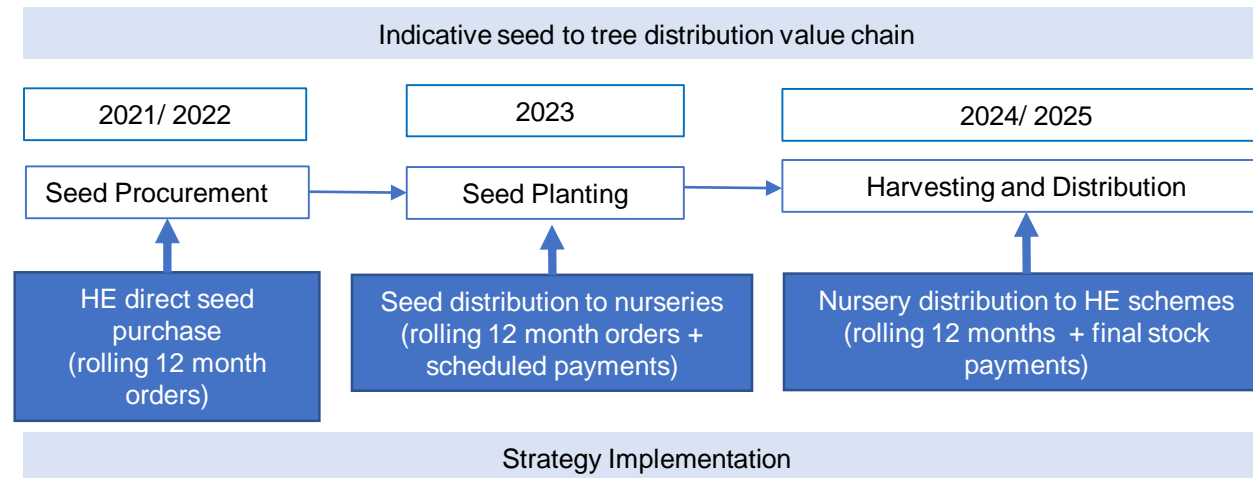
- Carbon targets, production efficiencies, risk mitigation
- Investment in industry specific technology to mitigate labour risks
- Alternate sustainable environmental solutions

- **Other benefits:**
- Industry investment and commitment
- Delivering on social value
- Increased capacity and labour reliance mitigation
- Carbon net zero targets
- Leverage of suppliers' expertise to develop increased productivity opportunities

Supply Value Chain



- Market engagement with nurseries and horticultural associations forecast a significant upturn in demand based upon known government targets and other major project demand requirements.
- Given our current 'just in time' tree procurement process for each scheme we will be faced with major shortages and an inability to meet our obligations both at a scheme and company level.
- Therefore if we wait and procure 'just in time' for a delivery scheme at point 'A' we will have supply shortages.
Note: Some species only seed every 3-4 years (e.g.: Oak 2020 was the best Acorn crop in the last 20 years)



Category Profile

Vision:

- Plant stocks secured to meet our delivery needs in a high demand market.
- Better quality plant stock arising from locally sourced plants adapted to the local climate and soils
- Less disease and dieback replacement due to better bio-security.
- A cleaner, healthier environment to benefit the people and the economy.

Goal:

The implementation of this category strategy will align with Highways England’s commitment, as part of its Strategic Business Plan, to deliver better environmental outcomes within the next 5 years which includes a biodiversity target of no net loss.

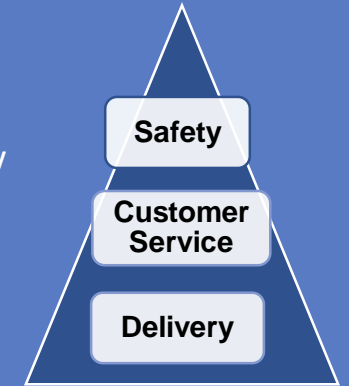
Business Need

Scope:

Plant and tree procurement is currently carried out by our delivery partners. The tier 1 contractors procure through their internal processes, selecting suppliers primarily on price to a “just in time” requirement with little forward planning and no co-ordination of requirement across the HE project portfolio.

Opportunities:

- End to end supply chain management, demand planning, industry investment and commitment.
- Buying gains from bulk procurement that allows our nursery suppliers to better plan their planting.
- Reduced carbon footprint due to less transportation.
- More UK economic benefit from spend with local suppliers.



Tree Category Strategy Summary

Market Analysis:

Landscape:

The primary supply base for tree stock are predominantly tree specialists such as nurseries, where young seedlings trees are raised for planting. No two nurseries are the same and offer differing stock and service and quantity capabilities. There are three types of plant nurseries:

1. Production nurseries, which are known as propagation or wholesale nurseries.
2. Growing on nurseries who buy bulk quantities of seedlings or small plants from propagators and
3. Retail nurseries/garden centres.

The Plant Growing industry is highly fragmented and is characterised by small family-run farms. In 2019, 75.7% of industry establishments employed fewer than 10 people, with 58.6% employing fewer than five. The prevalence of small-scale growers in the industry means that there are no major players to dominate industry sales. Vertical or forward integration into packing or retailing is largely restricted to large and medium-size establishments. Smaller growers can boost their market power by forming cooperatives to organise packing and distribution⁹.

Strategic Approach

Objectives	Year 1	Year 2-3	Year 4+
Route to market for sourcing of plants and trees is required	In-house procurement required framework (part of strategy development)	Secure plant stocks for all HE requirements	Continuous demand and forecast planning
Demand	Identify demand and stock requirements	Secure demand and stock requirements	Continuous demand and forecast planning
Supply Chain	Establish nursery capacity and capability	Secure demand and stock requirements	Continuous supply chain review and innovative solutions
HE Centralised Management process	Develop the concept	Implement structure	End to end supply chain management

Stakeholder Engagement

Name	Division/Area	Stakeholder role	What activities directly involve the stakeholder
Tim Gamon	MP RIP	Regional Delivery Director RIP NW	Approval and sign off of statement of need and strategy implementation
Angus Higgins	MP RIP	Head of Commercial Delivery RIP MP - A66	Commercial lead and member of the working group
David Lovejoy	OD SW	Soft Estates Officer	Member of the Working Group
Ivan Le Fevre	SES	Group Manager	Approval of strategy and sign off
Matt Stafford	MP RIP	RIP East Divisional Director	Approval of strategy and sign off
Chris Hickey	C&P MP-SMA	Head of Commercial Delivery	Approval of strategy and sign off
Dave Hull	MP CIP	Commercial Programme Director	Approval of strategy and sign off
Nicola Bell	OD	Regional Delivery Director OD South	Delivery to AD schemes
Henry Penner	SES	Policy Advisor (Landscaping)	Member of the Working Group
Sheena Crombie	SES	Snr Environment Manager (Biodiversity)	Member of the Working Group
Dan Palmer	OD East	Service Delivery Manager Area 6	Member of the Working Group
Steven Cooper	C&P	Procurement Team Lead	Member of the Working Group
Christian Birkett	C&P	Procurement Officer	Member of the Working Group
Rich King	SES	Graduate	Member of the Working Group
Hannah Davies	SES	Graduate	Member of the Working Group
Andrew Kidd	LTC	Technical Lead	Delivery to LTC
Confederation of Forest Industries (Nursery producers Group)	External	Industry Associations	Industry Subject Matter Experts
Horticultural Trades Association, Tree and Hedging Group	External	Industry Associations	Industry Subject Matter Experts

A record of communication and stakeholder engagement can be found here - SHARE link

<http://share/share/llisapi.dll/open/93352296>

Statement of Need



A Safer Network

**Quality plant stock
Less disease and dieback**

The Requirements

Plant stocks secured to meet our delivery needs in a high demand market.
Better quality plant stock arising from locally source plants adapted to the local climate and soils.
Less disease and dieback replacement due to better bio-security.



Improving Customer Satisfaction

Deliver better environmental outcomes

The Objectives

Align with Highways England’s commitment as part of its Strategic Business Plan to deliver better environmental outcomes within the next 5 year,s which includes a biodiversity and carbon net zero targets.



Delivering the RIS

- **Deliver better environmental outcomes
Biodiversity target of no net loss by the end of RIP 2**

The Challenges

- Plant and tree procurement is currently carried out by our delivery partners. The tier 1 contractors procure primarily on price to a “just in time” requirement with little forward planning and no co-ordination of requirement across the HE project portfolio.
- The growing Infrastructure spend across the UK, coupled with increasing environmental impact mitigation on these projects will put pressure on plant stocks available from UK nurseries.

The Outcomes

- Effective management through early planning and closer collaboration from the outset to fulfil demand requirements and reducing unnecessary lead times for delivery.
- Buying gains from bulk procurement that allows our nursery suppliers to better plan their planting.
- Reduced costs from avoiding transportation from continental Europe.
- Reduced carbon footprint due to less transportation.
- More UK economic benefit from spend with local suppliers.





Conclusion: A direct relationship with our plant suppliers enabling planning and development to take place to ensure our future requirements are met. The procurement will also act as a channel for better communication between the Environmental teams, major project and operations to enable enhancements and efficiencies in our environmental delivery.

Business Requirements

Requirement	Low Importance	1	2	3	4	5	High Importance
Assurance of supply	Disruption to supply has a minor impact on operations and / or brand perception					X	Security of supply is critical, disruption will affect safety and damage reputation
Quality	Quality issues have minimal impact on operations and/or					X	Quality performance has a major impact on our operations and/or brand
Regulatory, Ethical, Environmental	Compliance to ethical, environmental or regulations have a minimal impact on our operations or our brand					X	Compliance to regulatory, ethical and environmental issues has high impact on our operations and/or our brand
Service	Flexibility in delivery dates and service levels can be accommodated with minimal impact.					X	Late deliveries / poor service has a major impact on operations / brand
Cost	Cost competitiveness is not a major requirements.			X			Cost competitiveness is highly important for the business as is the ability to understand costs drivers of product / service
Innovation	R&D capability or investments in innovation has minimal impact on operations and/ or brands.				X		Excellent R&D / product engineers and investments to innovate are critical to our operations and/or brand









HE Directorate	Specific Objectives
MP CIP	<ul style="list-style-type: none"> No immediate known planned requirements
MP RIP	<ul style="list-style-type: none"> Trees procurement will help HE address the biodiversity targets in RP2 and beyond
Operations (Asset Delivery)	<ul style="list-style-type: none"> Secure an on-going supply of local provenance trees to meet both the needs of our capital schemes programmes
MP LTC	<ul style="list-style-type: none"> Currently evaluating 4 options: No change to process Forestry Commission management Internal tree procurement Outsource management
MP SMA	<ul style="list-style-type: none"> To be confirmed

Product Description – British Native Trees


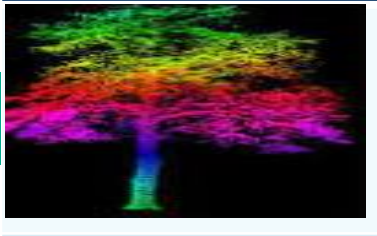


Name	Description	
Beech, common		<p>In the UK, common beech is only considered truly native to south-east England and south-east Wales. It requires a humid atmosphere and well-drained soil and can be sensitive to winter frost. Common Beach grows in woods or as single trees, usually on drier, free-draining soils such as chalk, limestone and light loams. Beech trees are home to an abundance of rare wildlife. Beach trees live for a long time, they provide gnarled and knotted habitats for many deadwood specialists, such as hole nesting birds and wood boring insects. Beech is sometimes susceptible to root rot from various fungal pathogens. Some trees can suffer from beech bark disease caused by sap suckling scale insect. Severe infestations can kill affected trees, they are also vulnerable to bark stripping by grey squirrels.</p>
English Oak		<p>There are more oaks in England than any other woodland tree, their distinctive shape makes them easy to spot in the English landscape (they can grow over 30 metres and can live over 1,000 years. The English oak is the second most common tree species in the UK especially in southern and central Britain. They are host to hundreds of insect species, supplying many birds with food source, in Autumn squirrels, badgers and deer feed on acorns. Oaks produce the hardest and most durable hardwood timbers on the planet, it takes up to 150 years before an oak is ready to use in construction. The native oak are under pressure and are declining at an unprecedented rate due to drought, flooding, pollution, pests and diseases.</p>
Silver Birch		<p>Favoured by gardeners who want to renew and purify their land for coming year. A striking medium sized tree, grows fast in its youth when mature can reach 30 m in height in 200 years. Silver birch provides food and habitat for more than 300 insect species. This native tree is tolerant of a wide range of temperatures and is wind and frost resistant. Its tolerance to pollution make the silver birch common sight in urban landscapes such as industrial areas and roadsides, parks and gardens. Planted birch appears to be susceptible to birch dieback caused by fungal diseases. Naturally regenerated birch (grown from fallen from a tree) appears to be less prone to the diseases.</p>
Sycamore		<p>The sycamore trees introduced in the sixteenth century are a popular choice in parks and gardens and along roadsides. Mature trees are extremely tolerant of wind, so often planted in coastal and exposed areas as a wind break. Sycamore trees can grow up to 35 metres and live up to 400 years. Small green flowers hang on spikes during the spring after pollination, they develop into brown seeds with wings which spiral to the ground like helicopter blades. Caterpillars and aphids feed on the leaves, the flowers provide pollen and nectar to bees and insects, their seeds are eaten by birds and small mammals. Sycamore trees are susceptible to sooty bark which lead to wilting of the crown and death of the tree as well fungal diseases.</p>

Note: The above are a sample of native trees but there are in excess of 60 native trees in the UK

Innovation in the Category

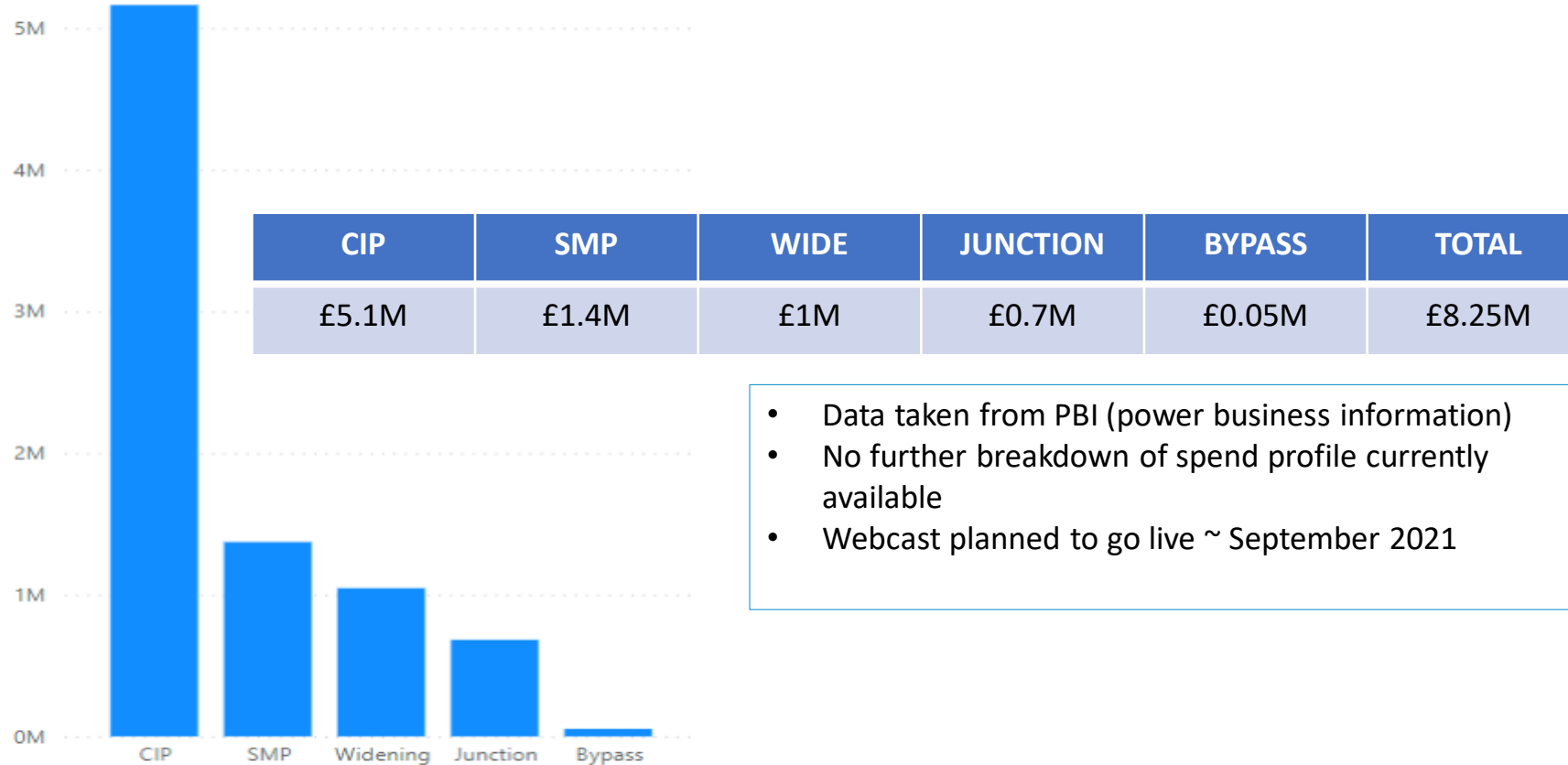
Innovation Theme	Description	Key Innovators	Exemplary Products
Cell Grown systems	<p>Cheviot Trees were among the first companies in the UK to produce cell grown plants three decades ago. The root system of the stock is supplied intact and can then be easily planted and offering a better chance of successful establishment than bare root plant. Cell grown trees can be planted all year round. The technique involves the seed to be in a controlled environment such as a container. Facilities include polytunnels to control temperatures and irrigations. Cheviot produce 2-3 crops a year.</p> <p><i>Cheviot Trees have been involved in a number of high profile infrastructure projects such as the Aberdeen bypass, the Forth Road Bridge and the M6</i> https://cheviot-trees.co.uk/content/11-benefits-of-cell-grown-trees</p>		
Tree Planting Drones	<p>Australian based company Dendra has developed AI-enabled drones to aerial deliver and assess land and fire nutrient-rich seed pods to the earth. Which gives the plants a better chance to grow on land that has been burned or converted for intensive farming.</p> <p>Dendra use advanced data science, artificial intelligence, and drone automation to rehabilitate land and restore biodiverse ecosystems at scale. The founder claims the method is 10 times quicker than planting by hand and far cheaper https://www.dendra.io/</p>		
Internet of Things (IoT) Tree monitoring system	<p>Defra and Vodafone have partnered to use Internet of Things (IoT) technology to monitor and research tree growth. Vodafone are pledging to source 100% renewables electricity by 2025 and working with Defra and Forest Research to monitor tree growth to uncover the best growing conditions. Sensors are attached to trees and will collect data on temperature, humidity and soil moisture on tree growth and function without the need for frequent site visits. https://newscentre.vodafone.co.uk/features/how-iot-is-helping-tree-scientists-learn-more-about-climate-change/</p>		
Seed Coating / Survival capsule	<p>SilviBio are piloting seed coating for conifers, which improves germination by 40% where there is drought stress. SilviBio bio formulation creates a survival capsule, the seed coating technology will retain moisture close to the seed and allow controlled delivery of vital nutrient and active ingredients which will result in improved seeding surfacing and survival. The Company has gained support of Forestry and Land Scotland. https://www.linkedin.com/company/silvibio</p>		

Innovation in the Category

Innovation Theme	Description	Key Innovators	Exemplary Products
Investing in new technology	<p>Tilhill is leading the way for essential research in the latest technology which is essential to ensure the health of green areas for now and the future. Tilhill are at the forefront of tailoring the use of 3D laser scanners and innovative analysis technology to ensure accurate and cost-efficient measurement before tree planting. https://www.tilhill.com/about-us/resources/research-development-and-innovation/</p>		
i-tree Eco	<p>I-Tree is a software tool which is designed by the USDA Forest service and collaborators to support urban foresters and planners to assess and manage urban tree populations. The tool is designed to analyse tree structure and air quality and is in use by a wide use of local authorities including, community groups and Highways England. https://www.itreetools.org/</p>		

Historical Spend RP1 (based on target prices with inflation adjustment)

Cost by Work Type



CIP	SMP	WIDE	JUNCTION	BYPASS	TOTAL
£5.1M	£1.4M	£1M	£0.7M	£0.05M	£8.25M

- Data taken from PBI (power business information)
- No further breakdown of spend profile currently available
- Webcast planned to go live ~ September 2021

CIP Spend:
A14 Lowther Forestry group planted over 668k trees and shrubs and 30 miles of new native hedgerow
RP1 CIP spend with Lowther £2.66m but no further breakdown aligning total spend to work undertaken

Future Forecast Spend

Demand and Forecast Methodology:

- Currently no centralised HE forecast demand profile available
- Demand and forecasting methodology still to be refined and agreed:

Initial Demand Planning Solution Process:

Delivery Schemes	Initially profiles to be based on	Product Type / Mix	Pricing:
<ul style="list-style-type: none"> • Identify scheme and delivery timeframe 	<ul style="list-style-type: none"> • Known design plans • Standard tree per hectare spacing • Percentage value of scheme cost • Inner or outer scheme delivery 	<ul style="list-style-type: none"> • Common tree type and local provenance per region 	<ul style="list-style-type: none"> • Estimate standard price per tree

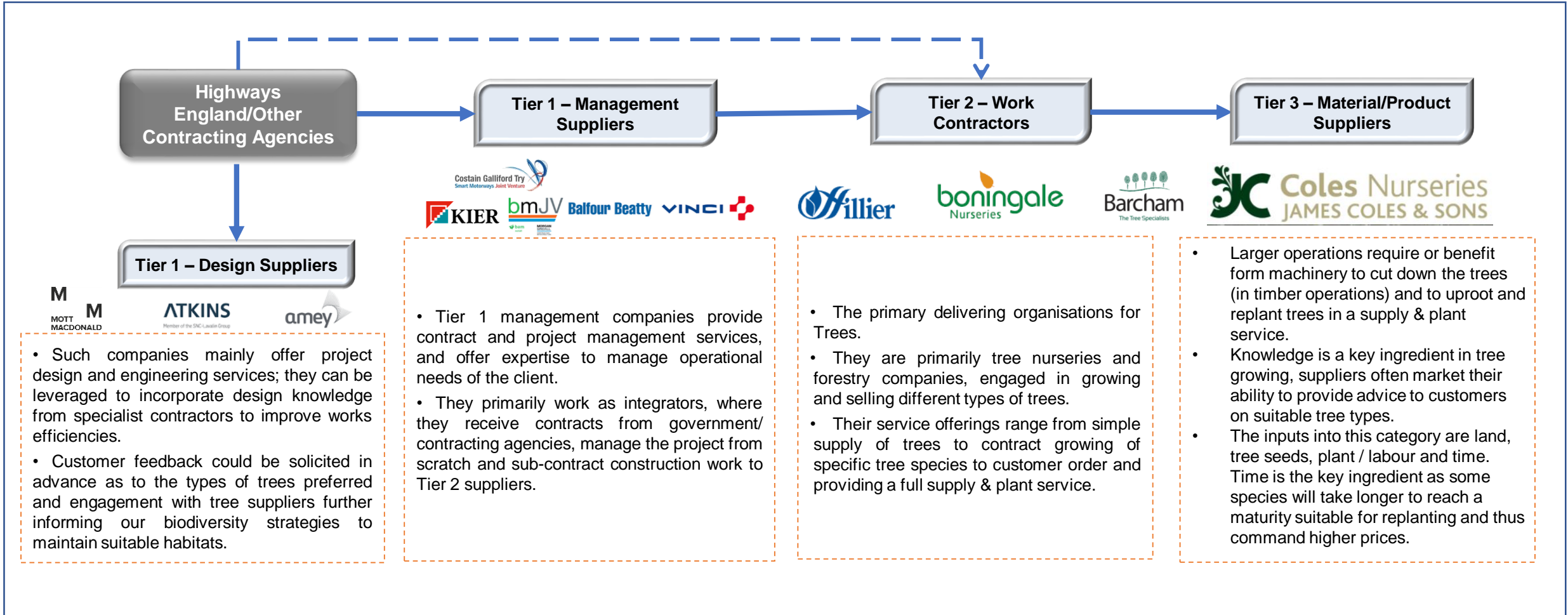
- In addition requirement to identify potential increase in demand above scheme requirements to meet carbon net zero targets
- Calculation of carbon off set against demand

Market Demand Profile:

- Early analysis shows an expected planting spend of around £50 million through RP2 however, this proposal is not driven by financial value rather by mitigating the reputational and environmental risks
- Government has targeted 30,000Ha (approx. 300 million trees) per annum of new woodland by 2025. In 2019-2020 only 13,500Ha (approx. 135 million trees) of new woodland was created so the 2025 target represents a 125% increase (165 million trees) in woodland creation (Source data from the Woodland Trust <https://www.woodlandtrust.org.uk/press-centre/2020/06/government-planting-figures/>)
- There is also the issue of felling trees due to ash dieback; with approximately 35% of our tree stock being Ash and ADB having an 80% kill rate, with trees becoming very dangerous by stage 4 of the disease, we will be felling an enormous number of trees. Admittedly many of these are self seeders, but at least a third, if not more, were planted and are going to need to be replaced.
- Trees, peat and net-zero: UK to enshrine new nature goals in law. The Government is set to enshrine a commitment to halt species decline and nature loss by 2030 in law and has pledged to treble tree planting this parliament. www.edie.net

Supply Chain Mapping – value and objectives

TSC (the smartcube) have been commissioned to undertake further market research to offer greater insight.

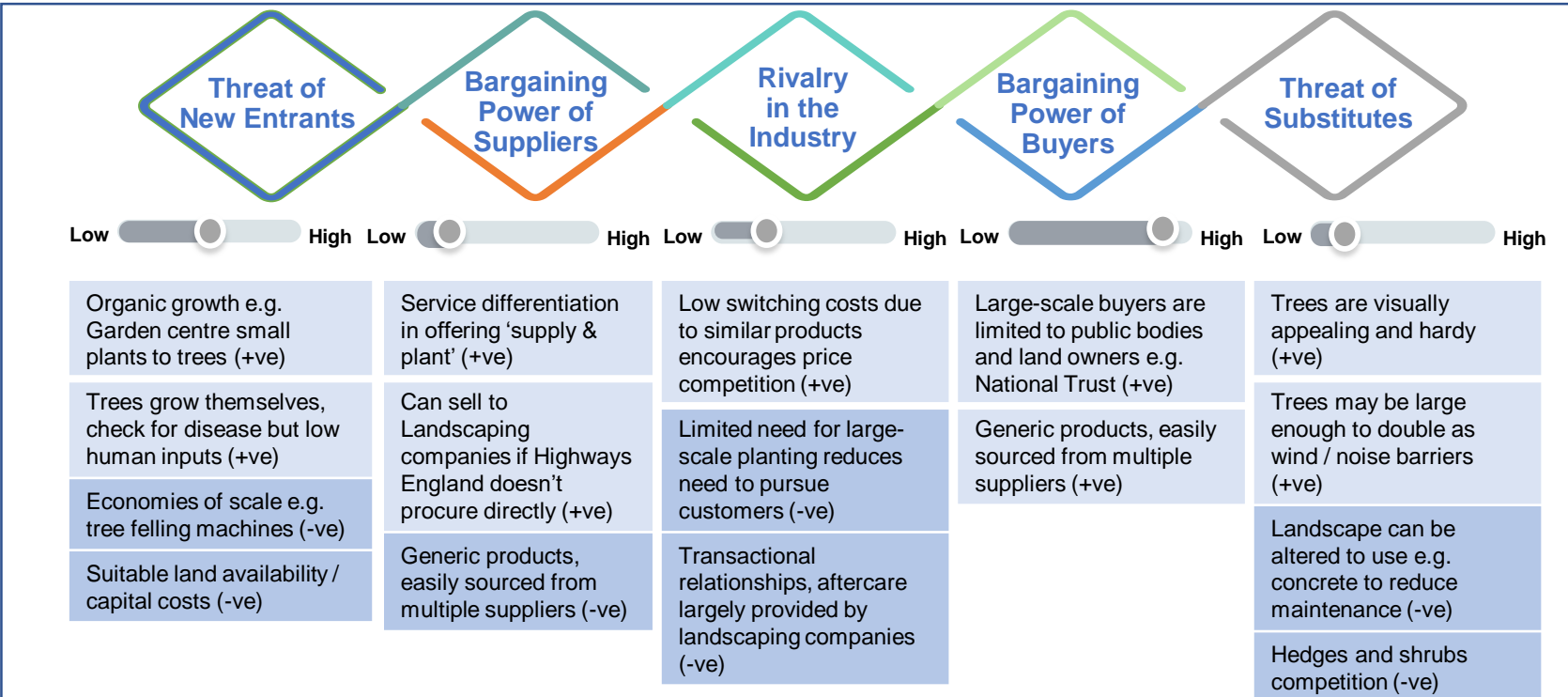


Tree growing is a relatively uncomplicated category. Biodiversity requirements such as insect habitats, local tree & plant life and rooting behaviours (so as not to destabilise retaining walls or nearby carriageways) will be the principle considerations when selecting trees.

Market Insight and Landscape

TSC (the smartcube) have been commissioned to undertake further market research to offer greater insight.

- There is substantial overlap with the Landscaping & Ecology Category; with the vast majority of L&E Suppliers also offering to provide trees, shrubs and plantings as part of their landscaping offering. Relatively few appear to grow their own trees with a notable cross-over being Tilhill Forestry.
- Investigating tree planting across the SRN uncovers the potential of our soft estate to sequester additional carbon if tree planting was prioritised (alongside safety and biodiversity). An English oak of about 30cm in diameter will contain about 500kg (0.5 tonnes) of carbon in its wood and leaves. By comparison, a passenger on a flight from London to New York is responsible for emitting about 0.2 tonnes of carbon.
- Few of the reviewed suppliers has been required to publish a Revenue figure therefore market domination is not apparent in the wholesale trees market. This is compounded by the low numbers of potential buyers, the largest of which are Local Authorities or land owners e.g. National Trust, English Heritage.



Conclusion: Trees are widely available from multiple suppliers. Price competition and the availability of additional services such as planting the trees make some suppliers more attractive but tree species availability is likely a key differential for Highways England.



Supplier Engagement



- Grow stock in England only
- Grow over 150 species of trees
- Capacity to grow over 750,000 trees
- National supplier. Plant Health certified
- Supply trees from 8-10cm girth. All readily available
- Lead in 6 years min offer 10-12 cm girth – these are youngest stock of supply
- Supply trees as bare root, rootballed and potted
- Plant Health certified



- Do not grow tree stock in the UK
- Grow stock in France, Germany, Holland, Italy and grow them in airports and containerised
- Own 27 acres with 11,000 semi mature trees of 500 varieties – hedging, topiary and pleached rock, do not supply bareroot
- Provide installation and 1 year warranty



- Grow tree stock in the UK
- Capacity to supply native trees
- Current availability 8.5 million
- National supplier
- Depending on HE Specification and subject to correct provenance of seed availability a minimum of 1 year. Up to 4 years for slower growing species
- Supply of infrastructure planting, weed mats, bonded fiber, woven matting
- Trailing tape planting
- Registered to issue provenance certification by Forestry Commission. Approved by Woodland Trust



- Supply in accordance with biosecurity policy which promises if trees have been imported, they have been in UK for one full growing season
- Limited stock in native trees
- Plant Health Certified



- National supplier
- Grow Stock in the UK
- Current capacity to supply 8 million per year
- Require 3 years lead in from seeds to planting
- Plant and tree protection supply only
- Plant Health Certified & issue plant passports



- Grow in UK some from Holland or Germany. All tree supplied are UK native or UK grown. Shrub production is from own house propagation unit
- Plant approx. 175-200,000 trees each year
- National supplier
- Operate as growers and suppliers, with healthy network of landscapers across the UK for collaboration requirements
- Plant Health Certified
- DEFRA inspections carried out to ensure stock lines are free of pests and disease



- Grow stock in England only
- Supply a varied number not specified by figures
- Capacity to supply 4 million broadleaves
- National supplier
- Dependant on species Oaks 2 years, other species can be ready for planting in 12 months
- Plant Health Certified



- Do not grow tree stock in the UK
- Grown in North East Europe
- Supply very limited
- Offer tree and hedge transplanting, boosting soil biology to help trees establish for longevity and resilience
- Decompaction/ Aeration
- Trenches through root systems
- Innovations in Soil biology to boost stressed trees hedge transplanting at 4m in height not coppiced tree transplanting use tree spades also with larger rootballs
- Working with HS2



Supplier Engagement



- Operate regionally SE/SW only
- Seed in Holland then grow in UK
- Currently limited supply
- Lead in from seed to planting 3-4 years
- Plant Health Certified



- National supplier
- Grow in the UK but some stock imported from Germany and Holland
- Plant Health Certified



- Grow stock in the UK
- Supply of varied native seeding and transplant up to 15-175cm (h). Grown range of native trees from 200 cm up to 20cm girth
- Approx. production of 5M seedlings and transplant 100,000 trees 2 mtr to 20 cm girth
- National supplier
- Lead in seedlings to transplant 1 to 5 years. Trees 3 to 12 years
- Innovation seed bed construction, toppings, budding techniques
- Plant Health Certified



- Grow stock in the UK
- Supply 2 m tree annually
- Supply of varied native stock
- National supplier
- Plant Health certified and IKiSG



- National supplier
- Grow tree stock in the UK, with some use of imported stock from Europe
- Work with a network of UK growers to supply larger contracts
- Lead in 18 - 24months
- Not Plant Health Certified



- Regional supply - SE
- Stock not grown in the UK
- Stock grown in Holland, France, Italy, Ireland, Germany
- Started growing containerised stock
- Working closely with DEFRA to ensure fully compliant supplier
- Plant Health Certified



- Operate nationally
- Grow stock in the UK
- Produce over 10 million trees per year
- Require 2 years lead in from seeding to planting
- Plant Health Certified/ Conform

Conclusion:

A short supplier engagement survey was sent to nurseries across the UK.

The survey set out to understand their capacity and capability to supply British native stock. The following supply base distinctly stated they grow trees within the UK (Hillier, Barchams, Trees Please, Cheviot Trees, Wee Trees, British Hardwood Trees, Oakover Nursery and Wyevale). The remaining suppliers stated the seeds were grown in Europe mostly in the Netherlands and imported to plant in the UK.

Timescales for planting is dependent on the species. Oaks will take 2 years before they can be planted.

Supplier Engagement

Supplier Engagement Analysis

UK stock

- Currently seeing shortages this year
- Native trees increasingly sought after; stock is limited for some species such as oak

Risks

- Lack of seed availability, particularly for UK native trees
- There are not enough UK growers to supply plants for the UK market
- Forestry/hedging nurseries facing challenges in procuring seed
- Skills shortage and recruitment of people with horticultural skill base

Early Engagement

- Early engagement with nurseries is necessary before HE set the specification. Many specs can involve unnecessary cost so collaboration is key.
- Large tendered supply requires early engagement (early seeding) to ensure full supply
- Supply under contract will require adequate lead time to establish the crop at specified grade

Demand

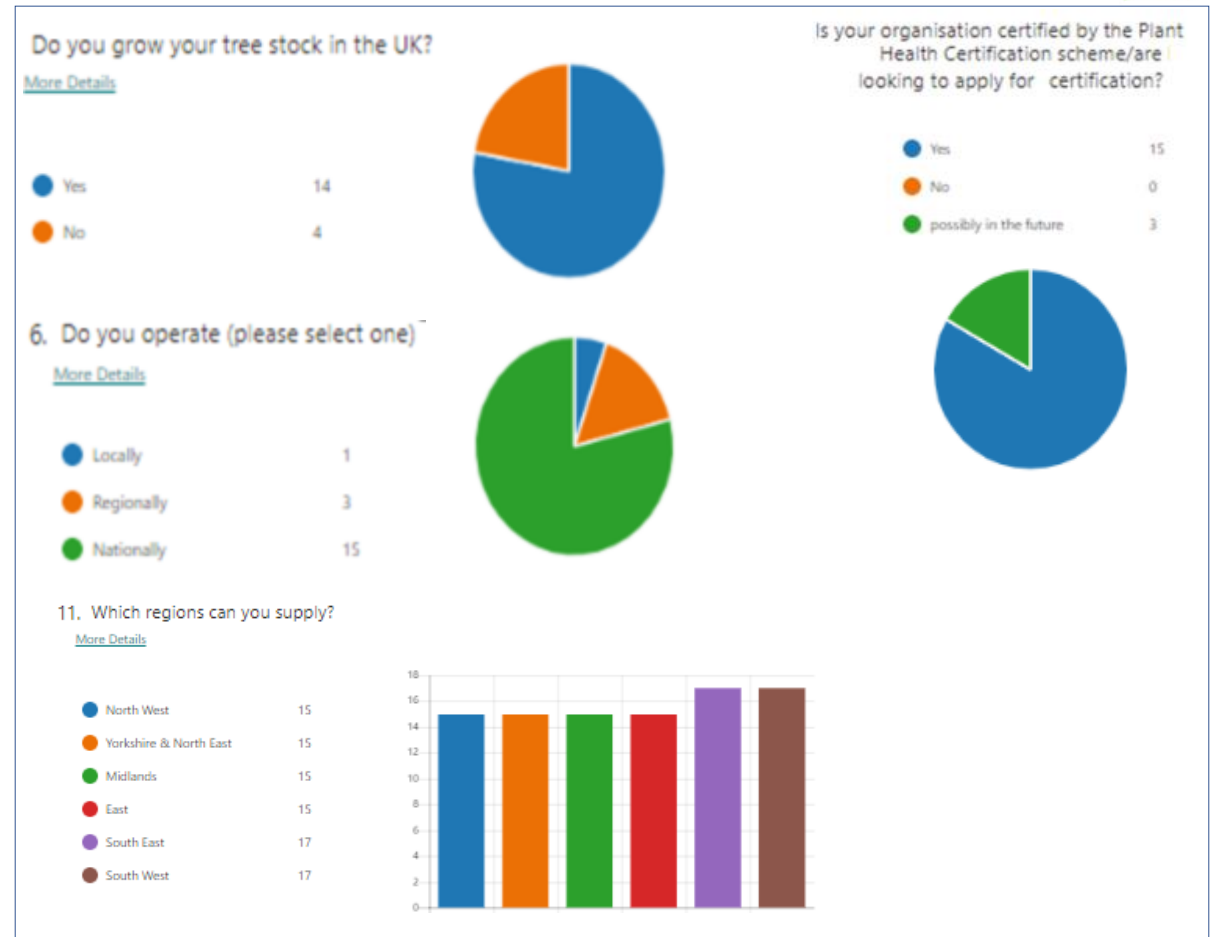
- Demand for native stock is very difficult to forecast. Growing of native stock is speculative and expensive **and** as a result, raising production levels is slow. This leads to shortages; forward notice and regular ongoing contracts will help reduce shortages and encourage businesses to invest in more production.

Innovation/trial of new methods

- Usage of green compost to reduce and eliminate peat usage
- Trialling new grass and plant lay crops for fallow land
- Tape planting, seed bed construction, toppings, budding techniques
- Need for automated processes for grading/ packing plants
- Soil biology to aid stressed trees
- Decompaction/Aeration, trenches through root systems

Brexit/Covid

- Brexit has required new level of compliance and processes in order to import plants in the UK
- Lock down reduced planting/sowing levels due to staff shortage and will have a knock-on effect for next season
- Brexit has impacted on customers who export to Northern Ireland
- Increased administration process of importing plants from the EU to UK has escalated demand for UK stock



Category Analysis

Strengths

- Plant stocks secured to meet our delivery needs in a high demand market.
- Better quality plant stock arising from locally source plants adapted to the local climate and soils.
- Less disease and dieback replacement due to better bio-security (importing of pests and disease)

Weakness

- No consolidated demand profile
- Insufficient plant and tree stocks in the UK market to meet our planting needs
- Increased reliance on imported plants and trees
- Increase in replacement cost due to die back from less suitable planting
- Less availability of local species for our planting mixes

Opportunity

- Regional commitment and industry investment
- Buying gains from bulk procurement that allows our nursery suppliers to better plan their planting
- Reduced costs from avoiding transportation from continental Europe
- Reduced carbon footprint due to less transportation
- More UK economic benefit from spend with local suppliers

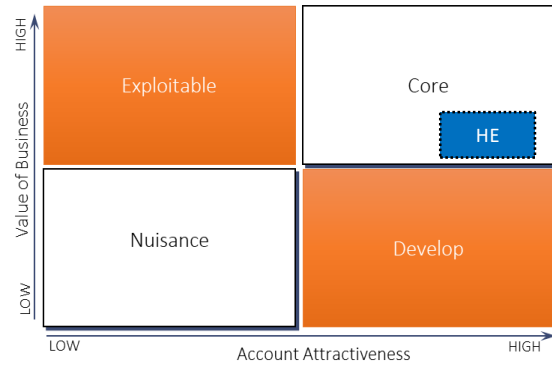
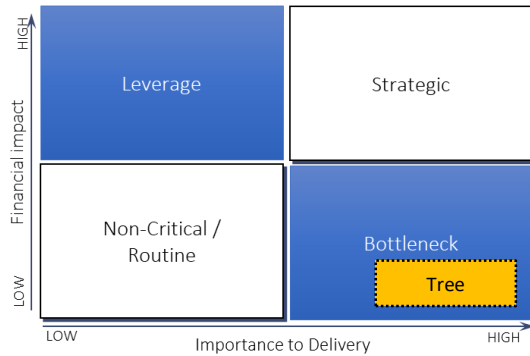
Threats

- Higher cost due to increased transportation
- Bio-security, HE would suffer huge reputational damage if it was found we imported plant diseases such as Xylella because of insufficient planning and local sourcing of our plant stocks.
- Negative publicity arising from high failure rates of planting
- Maintain current route to market agreements

PESTLE	Developments	Significance H/M/L
Political	<ul style="list-style-type: none"> Government policy and environmental targets Future project(s) approval Brexit: Industry is seasonal and reliant on migrant labour 	M
Economic	<ul style="list-style-type: none"> Growing Infrastructure spend across the UK, coupled with increasing environmental impact mitigation on these projects will put pressure on plant stocks available from UK nurseries Covid 19 impact: financial stability and future investment 	M
Social	<ul style="list-style-type: none"> Delivery is not driven by financial value rather by mitigating the reputational and environmental risks 	H
Technological	<ul style="list-style-type: none"> Importing plants on a large scale threatens our bio-security, increases cost and raises planting failure rates due to a lack of local provenance (plants grown locally are adapted to the local climate and soils) 	M
Legal/Regulatory	<ul style="list-style-type: none"> Health and Safety requirements 	M
Environmental	<ul style="list-style-type: none"> Zero carbon targets and environmental policy 	H

Highways England Perspective

Supplier Perspective



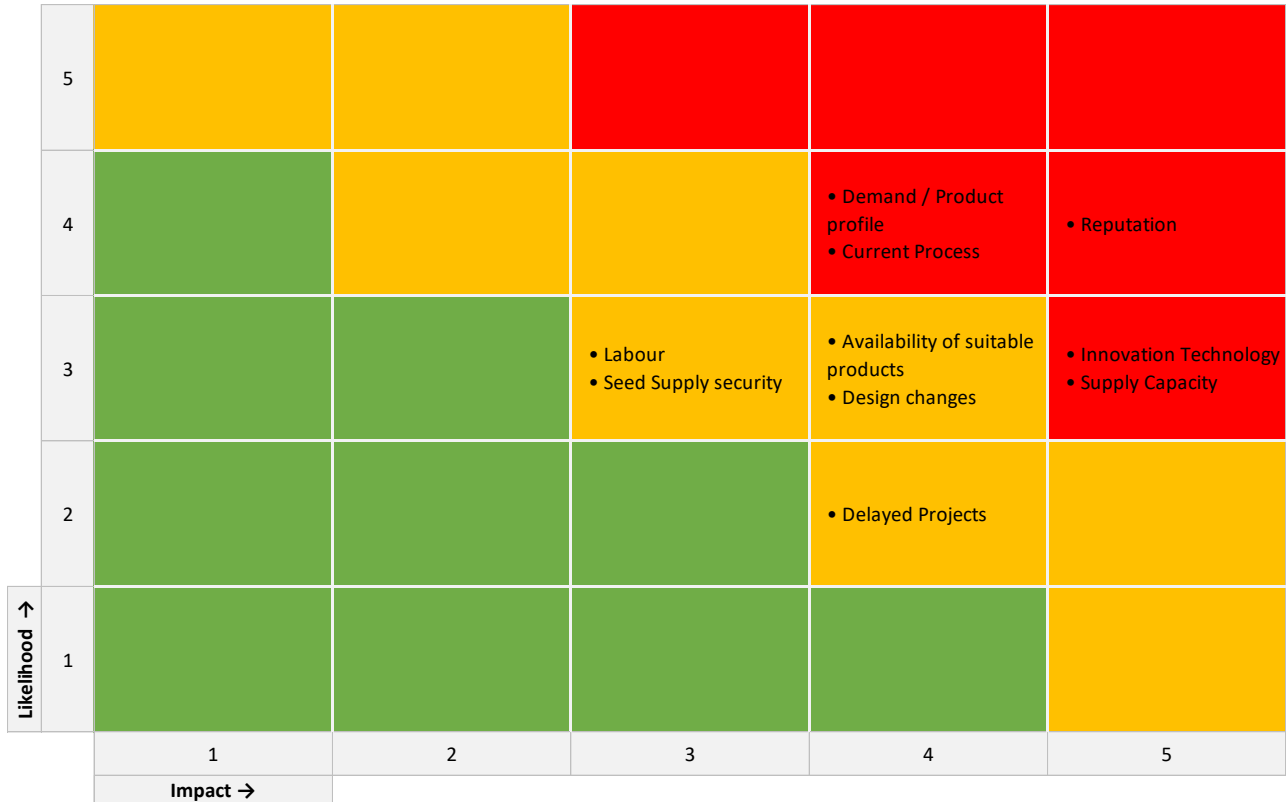
Conclusion:
HE is still an attractive proposition for the supply chain market however limited supply options within the market coupled with increased demand will put a strain on availability.

Key Supplier Risks

Risk type	Risk Description	Impact	Priority	Mitigation/Action
HE	<ul style="list-style-type: none"> Alignment on demand, product profile and timelines across all delivery schemes 	<ul style="list-style-type: none"> Shortage of supply 	High	<ul style="list-style-type: none"> Internal demand and forecast methodology
Supply Chain	<ul style="list-style-type: none"> Available tree types unsuitable for SRN verge planting 	<ul style="list-style-type: none"> No trees planted 	Medium	<ul style="list-style-type: none"> Regional investment and long term industry commitment Consider alternatives e.g. hedging plants, shrubs
Supply Chain	<ul style="list-style-type: none"> If a significant proportion of HE projects are delayed, we may have tree stock ready that we cannot plant 	<ul style="list-style-type: none"> Over supply 	Medium	<ul style="list-style-type: none"> Sell back to the market Plant more trees within existing projects
Innovation	<ul style="list-style-type: none"> Opportunities to engage with nurseries to collaborate on design and specifications is vital. Many suppliers are investing in research and development to ensure healthy tree stock to grow resilient trees 	<ul style="list-style-type: none"> Resilient trees 	Medium	<ul style="list-style-type: none"> Engage with nurseries in design stage to utilise their knowledge and expertise
Capacity	<ul style="list-style-type: none"> Tree growing takes a number of years, dependent on tree species. Risk of lack of immediate capacity for full SRN planting 	<ul style="list-style-type: none"> Limited availability for regional or national lots 	High	<ul style="list-style-type: none"> Identify species requirements and test supplier market for availability Long term carbon-strategy planning linked to trees category
Capacity	<ul style="list-style-type: none"> Maintain current process of tier 1 supply and manage (just in time) 	<ul style="list-style-type: none"> No trees planted 	HIGH	<ul style="list-style-type: none"> Alternate route to market strategy

Conclusion: Product availability and suitability are the principal considerations. Early identification of requirements and acceptable of long-term strategies & impacts will contribute to a socially acceptable approach i.e. carbon offsetting, whilst creating an aesthetically pleasing landscape for the customers travelling on the SRN.

Risk Map



Title	Risk Description	RAG
Demand / Product profile	No Demand / Forecast	R
Availability of suitable products	Provenance Availability	A
Delayed Projects	HE projects are delayed, excess stock	A
Innovation Technology	Investment in Innovation	R
Supply Capacity	Risk of lack of immediate capacity for full SRN planting	R
Current Process	Maintain current process of tier 1 supply and manage	R
Labour	Industry rely on seasonal migrant labour	A
Seed Supply security	Single UK provider	A
Design changes	Operations spec the plant schemes not nursery specifications which leads to non-availability	A
Reputation	If we do not plant the required volume of trees	R

Opportunity

Strategic Themes	Opportunities	Benefits	Obstacles
Supplier Relationship Management	<ul style="list-style-type: none"> Investment in the industry Social value 	<ul style="list-style-type: none"> HE leading engagement and industry commitment 	<ul style="list-style-type: none"> Approval of alternate strategic approach
Sourcing Strategy	<ul style="list-style-type: none"> Long term commitments Regional supply chain Scheduled payments HE Centralised end to end supply chain management 	<ul style="list-style-type: none"> Security of supply End to end supply chain management Synergy with Land and Ecology strategic sourcing strategy 	<ul style="list-style-type: none"> Change in strategic management and route to market HE responsibility and accountability
Continuous Improvement	<ul style="list-style-type: none"> Demand and forecast methodology 	<ul style="list-style-type: none"> Industry commitments Investment opportunities Market sustainability 	<ul style="list-style-type: none"> Industry wide solutions Cost of investment
Innovation	<ul style="list-style-type: none"> Investment in technology and innovation Harvesting productivity Sustainable environmental solutions 	<ul style="list-style-type: none"> Capacity, capability and availability 	<ul style="list-style-type: none"> Industry wide solutions Cost of investment
Performance Indicators	<ul style="list-style-type: none"> Increased capacity and availability Quality of product On time delivery 	<ul style="list-style-type: none"> Deliver environmental and carbon neutral targets 	<ul style="list-style-type: none"> HE will need to have a deeper understanding of the supply chain

Strategy - Short to Medium Term

Tree Procurement Strategy	Description	Benefit	Action
Demand Planning and Forecast	<ul style="list-style-type: none"> Demand planning methodology 	<ul style="list-style-type: none"> Industry commitment and investment Security of supply 	<ul style="list-style-type: none"> Working group to develop for approval Obtain all relevant scheme delivery data
Security of Supply: Seed Supply	<ul style="list-style-type: none"> Long term supply agreement with single source supplier STA (single tender agreement) 	<ul style="list-style-type: none"> Security of supply Influence tree type, size and maturity No breach of Bio-security by Highways England. 	<ul style="list-style-type: none"> Scope requirements Develop tender Execute agreement
Security of Supply: Nurseries	<ul style="list-style-type: none"> Long term regional nursery framework agreement including scheduled phased payments Secure an on-going supply of local provenance trees to meet both the needs of our capital schemes programmes and our aspirations to expand tree cover on the existing network to capture and store carbon plant and tree stocks available to projects as required 	<ul style="list-style-type: none"> Security of supply Industry investment Capacity expansion Locally sourced plants and trees grown in local climatic and soil conditions. Better species variety in our planting. Less die back and maintenance required. No breach of Bio-security by Highways England 	<ul style="list-style-type: none"> Scope requirements Develop tender Execute agreement
Alignment: Centralised HE Management	<ul style="list-style-type: none"> Creation of a HE centralised team to align design, procurement, forecast and demand installation and aftercare 	<ul style="list-style-type: none"> End to end supply chain management Deliver against carbon targets and social value Reduction in number of trees dying End to end supply chain management efficiencies 	<ul style="list-style-type: none"> Develop the concept Agree RACI (Responsible, Accountable, Consulted and Informed) Obtain funding Recruitment
Tree installation and aftercare supply chain solution	<ul style="list-style-type: none"> Long term regional agreement for all services from tree installation to continued aftercare obligations 	<ul style="list-style-type: none"> Synergy and efficiency through alignment between tree installation and aftercare management services Synergy with Land and Ecology strategic sourcing strategy 	<ul style="list-style-type: none"> Scope requirements Develop tender Execute agreement
Industry Investment	<ul style="list-style-type: none"> Establish industry specific technology innovations to support harvesting efficiency and productivity and mitigate industry reliance on seasonal migrant labour Alternate growing solutions Alternate environmental sustainable solutions for tree growth and aftercare 	<ul style="list-style-type: none"> Investment in the industry Increase capacity and productivity Environmental sustainable solutions Social Value Carbon, biodiversity and environmental targets Entice new entrants to the market 	<ul style="list-style-type: none"> Engage with supply chain and associations Identify and analyse industry opportunities Establish cost benefit analysis Secure funding

Recommendations

Benefits Strategy	Description	Recommendation
See Strategy - Short to Medium Term slide	See Executive Summary – Strategy ‘ASK’ slide	<ul style="list-style-type: none">• Approval of strategic sourcing strategy