

# Designing and Implementing Workforce Planning Process



## Plus Transmission Pilot's Results

Dr Stella Estevez, Global Head of Talent & Resourcing

Louise Farnworth, Global HRBP Transmission

Elise Whitfield, HRBP Transmission and HR Pilot Lead

**nationalgrid**

The power of action.™

# Agenda

**Situation, Definition and Objectives**

**Workforce Planning methodology**

**Business Scenarios**

**Demand and Supply**

**Pilot Insights**

**Forecast Gaps**

**Summary of Job Role gaps**

**Key Risks and Challenges from Findings**

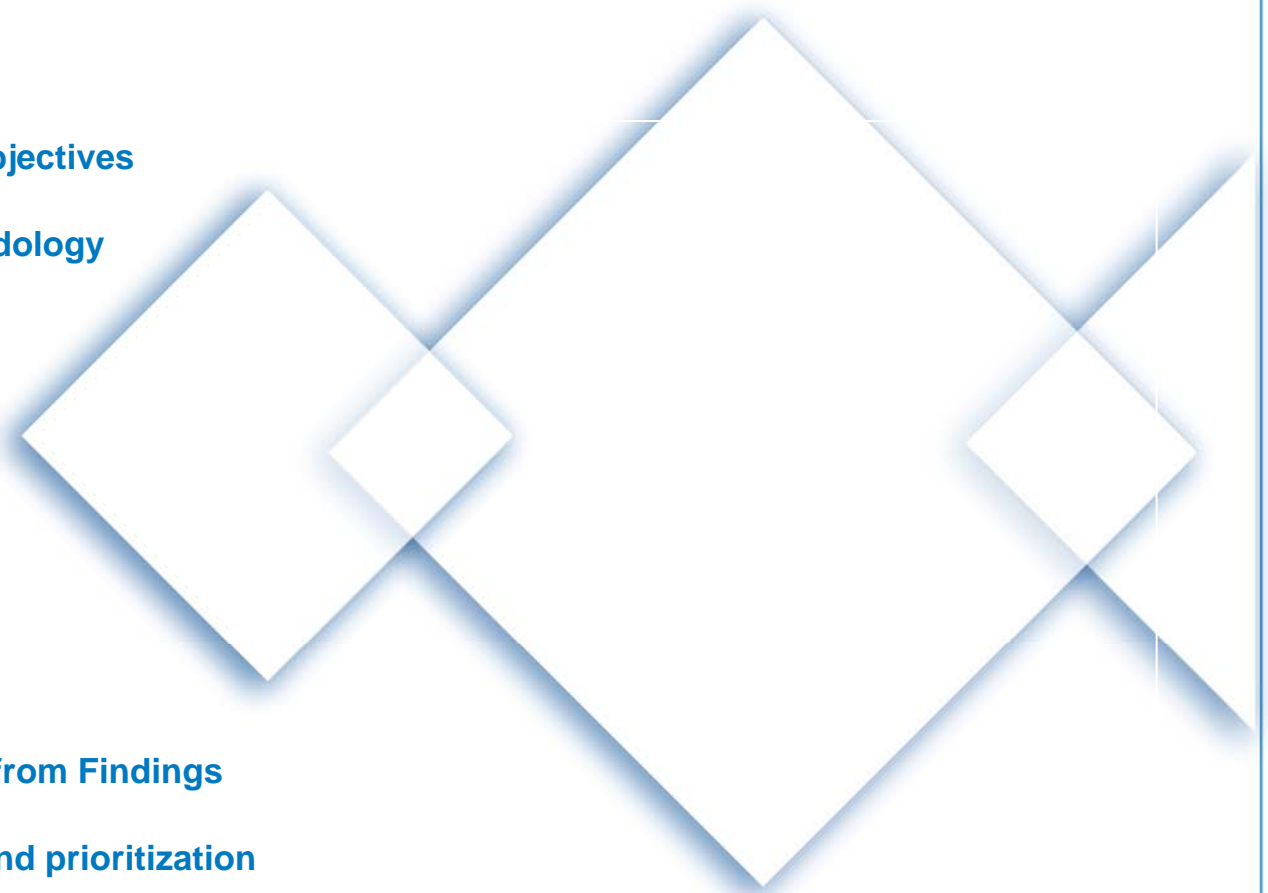
**Strategies: identification and prioritization**

**Key Learnings from the Pilot**

**Why WFP now?**

**Next steps**

**Questions**



**nationalgrid**

The power of action.™

# Situation, Definition and Objectives

**Workforce planning is a process to identify workforce needs to deliver business strategy. This process identifies the gaps between supply and demand and allows a business to plan best alternatives to acquire, develop and maintain the right talent and skills needed to deliver its business strategy.**

National Grid has recently completed a workforce planning pilot in **Transmission**, one of the pivotal areas of the business.

## **National Grid Pilot Project Objectives**

- Understand **current people implications** of Transmission's business requirements for both low change and high change scenarios. I.e. staffing, talent management, retirement and L&D implications
- Identify gaps -excess and/or shortfalls- in both **skills** and **talent** that could impact Transmission's capability to deliver its business strategy
- Create an **action plan** to address in most cost effective way to close the gaps identified
- Test workforce planning **methodology** and **lessons learnt** before potential roll-out into the wider business
- Develop **in-house skills** on workforce planning techniques
- Embed learning from workforce planning pilot into the **business planning process** for 2009/10

# Workforce Planning Methodology (from Infohrm)

## Critical Roles

- Power Systems Engineers
- Field Engineers / Capital Comm
  - Compressor Engineers
- Operational Engineers / Mngrs
  - Project Engineers
- Technicians (Sub-Station)
- Commercial Analysts

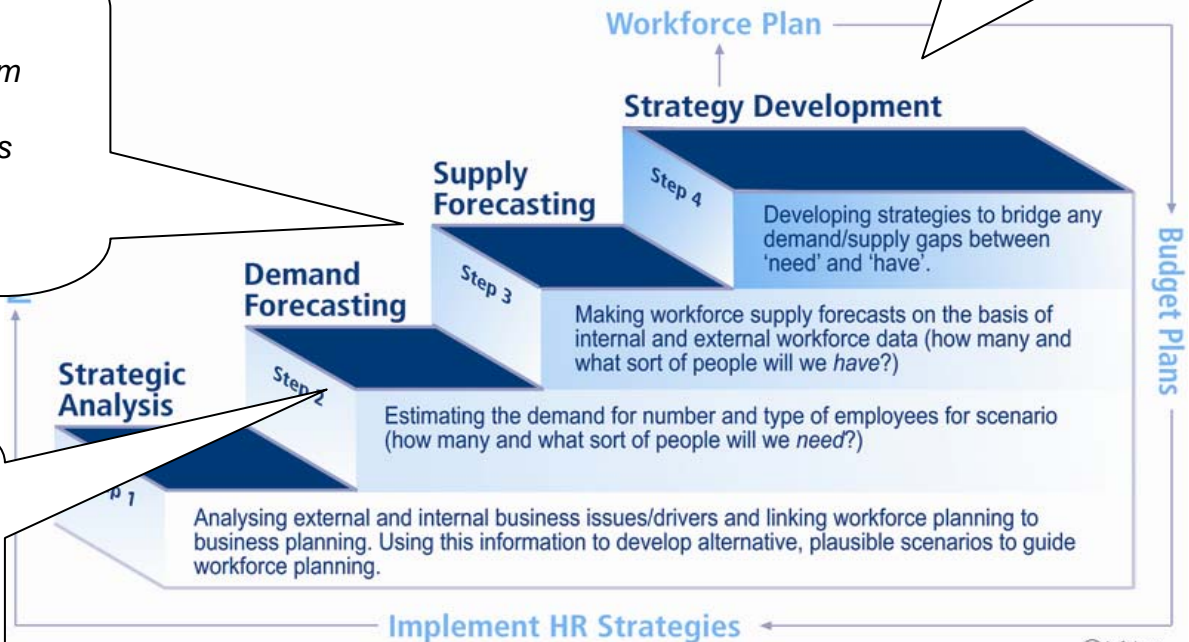
## Scenario Factor Development

- Asset Replacement Policy
- Environmental & SHES Policy
  - Energy Policy
- Technology Change
- Business Growth

## Education, Skills & Resourcing Strategy

Focused, integrated & disciplined approach to talent & organisational effectiveness

- Workforce Plan**
- Outcomes from WFP February
  - Input to Engineering our Future
  - Shape Resourcing / HR Strategy



**nationalgrid**

The power of action.

# The four stage process

## Step 1 - Scenario Development:

- **Transmission Scenario Factors were developed through a series of interviews with business leaders**
- **Identified five common factors which were believed to have most significant people implications for Transmission workforce:**
  - Asset replacement Policy
  - Environmental and SHES policy
  - Energy Policy
  - Technology Change
  - Business Growth
- **Worked with managers to develop low change and high change descriptors for each scenario factor**



**nationalgrid**

The power of action.™

# Strategy Development

## • Transmission Scenario Factors were developed: Low change and High Change



Scenario Factor	Low change	High Change
<b>Asset Replacement Policy</b>	<ul style="list-style-type: none"> <li>- Increased condition monitoring and reactive management of ageing asset base. Maintenance remains mainly 'interval based'</li> <li>- Fault &amp; defect rates slowly increase</li> <li>- Some asset replacement (30% less volumes than plan to do in price control)</li> <li>- More dynamic asset management in the long term</li> </ul>	<ul style="list-style-type: none"> <li>- We recover our asset replacement policy by 2017 (2X volume of work that is in price control plan)</li> <li>- Continue to do asset maintenance at current levels</li> </ul>
<b>Environmental and SHES policy</b>	<ul style="list-style-type: none"> <li>- Health, safety and environment legislation remains unchanged</li> <li>- Cable oil leaks at historic but deteriorating rate</li> <li>- Investment decisions carbon pricing introduced</li> </ul>	<ul style="list-style-type: none"> <li>- Legislation to ban the use of SF6</li> <li>- Penal fines and active policing of oil and other contamination</li> <li>- Link found between proximity to power lines (EMF) and illnesses such as cancer</li> </ul>
<b>Energy policy</b>	<ul style="list-style-type: none"> <li>- Unsuccessful at tenders for offshore work (offshore wind farm connection projects)</li> <li>- Some renewables connected but we do not meet renewable targets ('Business as usual' scenario -44% gas fired generation, 26% coal, 8% nuclear, 15% wind and 1% other renewables)</li> <li>- We do not receive consent through the Planning bill</li> </ul>	<ul style="list-style-type: none"> <li>- We are required to do all of the Offshore work (TO mandated from existing TOs)</li> <li>- Mandated Energy Policy which clears way to hit renewable targets (Gone Green' scenario 35% gas fired generation, 20% Coal, 7% Nuclear, 29% Wind and 6% other renewables)</li> <li>- Decarbonising transport mandated</li> <li>- Planning policy clears way for rapid permissions and preference to utilities meeting energy policy</li> </ul>
<b>Technology change</b>	<ul style="list-style-type: none"> <li>- Replace IEMS and BM pretty much like for like however the replacement BM system enables some greater level of balancing automation, but without AGC contracts</li> <li>- Increasing complexity on the transmission system (intertrips, multiple ended ccts)</li> <li>- The percentage of local control equipment AVCs and DARs unavailable increases</li> <li>- There are an increasing number of technical limitations on plant</li> <li>- Alarm handling remains much as now. Off-line security analysis requires much manual set-up and interpretation, scenario analysis is time consuming</li> </ul>	<ul style="list-style-type: none"> <li>- AGC and full automation of control and monitoring introduced into control centres</li> <li>- Embedded DC supported by appropriate control equipment. High reliability of control systems (AVC, DAR, ARS)</li> <li>- 35% electricity from intermittent renewables</li> <li>- Government mandate for SMART metering and home automation</li> <li>- SmartGrids mandated</li> <li>- Plug in Hybrid vehicles successfully launched and achieve 50% penetration by 2015</li> </ul>
<b>Business growth</b>	<ul style="list-style-type: none"> <li>- One US deal in next five years, European deal in next 10 years</li> <li>- Complete Britned interconnector</li> <li>- Global transformation achieves continual process improvements in investment planning, data management and limited improvement in work delivery</li> <li>- Secure unlicensed work for new generators</li> </ul>	<ul style="list-style-type: none"> <li>- One US deal in next five years. Acquire two national transmission infrastructures in Europe</li> <li>- Build and operate 3 more interconnectors (Belgium, France and Norway)</li> <li>- Unbundling agenda forced through European legislation resulting in unbundling of transmission</li> <li>- US transmission consolidates and unbundled</li> <li>- Effective and coordinated energy regulation European SO</li> <li>- Global transformation finds outsourcing opportunities for some technical roles in Electricity Planning, Network Investment and field maintenance teams. GTT also identifies Gas and Electricity synergy opportunities</li> </ul>

**nationalgrid**

The power of action.™



## Stage 2+3: Demand and Supply

- **Forecasting Workshops held with managers for each job role**

How many and what sort of people will we need?

### Step 2 - Forecast demand

Asked managers to consider against

low change and high change

scenarios

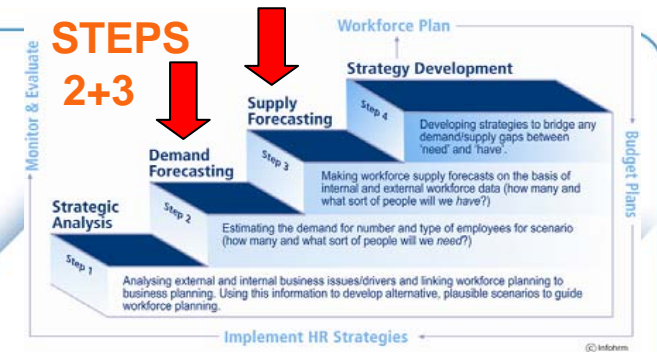
- Demand (numbers) - **Baseline headcount to identify volume based on low/high change**
- Demand (skills) - **Identified skills requirement changes**

- **Forecast reports produced for each job role and confirmed/agreed with managers**

### Step 3 - Forecasting supply

Used data from SAP to identify number of retirements (each of the pension schemes)

Asked managers to estimate % voluntary leavers they would expect in 2010/13/20



How many and what sort of people will we have?

**nationalgrid**

The power of action.™

# Transmission Pilot Insights

We now have an understanding of the magnitude of gap for each critical job role

- Total figures under low change (693) by 2020
- Total figures under high change (928) by 2020

For 5 job roles (even if high change doesn't happen and we assume a 2% per annum efficiency) **THE CURRENT PLANNED PIPELINE RECRUITMENT WILL NOT**

**FILL THE GAP. This reinforces:**

- The need to continue with our Grow your Own schemes and identifies where we need to modify/increase scheme intake
- The need to generate a greater supply pool through the Education and Skills agenda (Brunswick research)
- Our understanding of where we need to carry out direct experienced hire recruitment campaigns
- Our understanding of where we need to monitor our leavers rate (we have been conservative in our estimates 4% – 8%)
- Other actions to address loss of critical business knowledge due to retirements and turnover
- What we need to build into TPCR5 around the skills/resourcing requirements

For some roles it has strengthened our understanding of known risks (ENCC roles). For others it has highlighted risks that we were not fully aware of (GNCC roles where we have historically experienced 0% turnover)

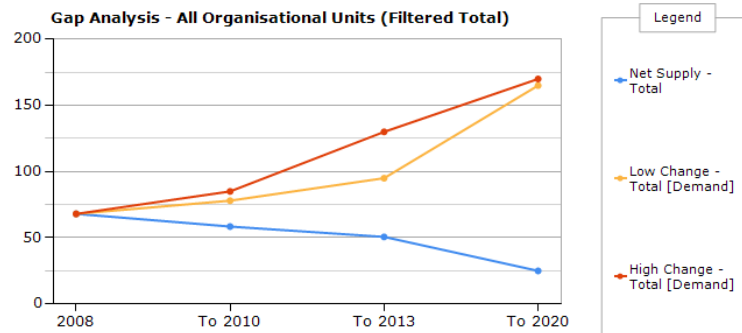
**nationalgrid**

The power of action.™

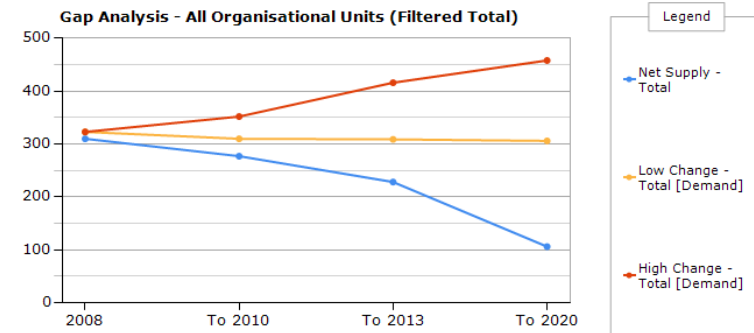


# Forecast gaps

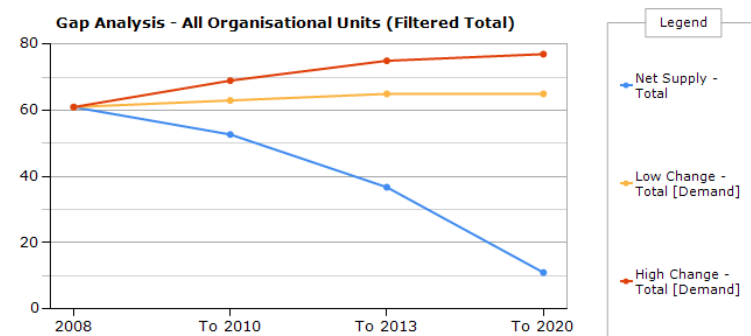
## Project Engineers



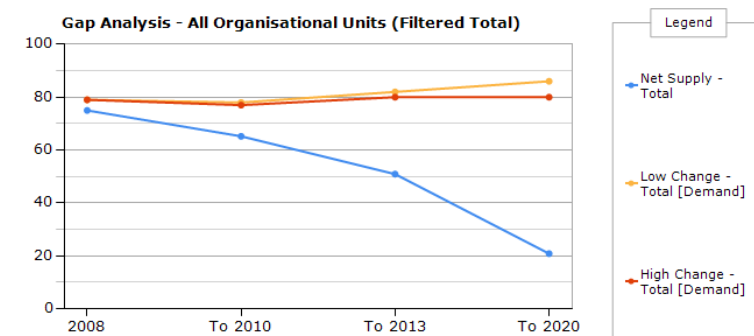
## Field Engineers



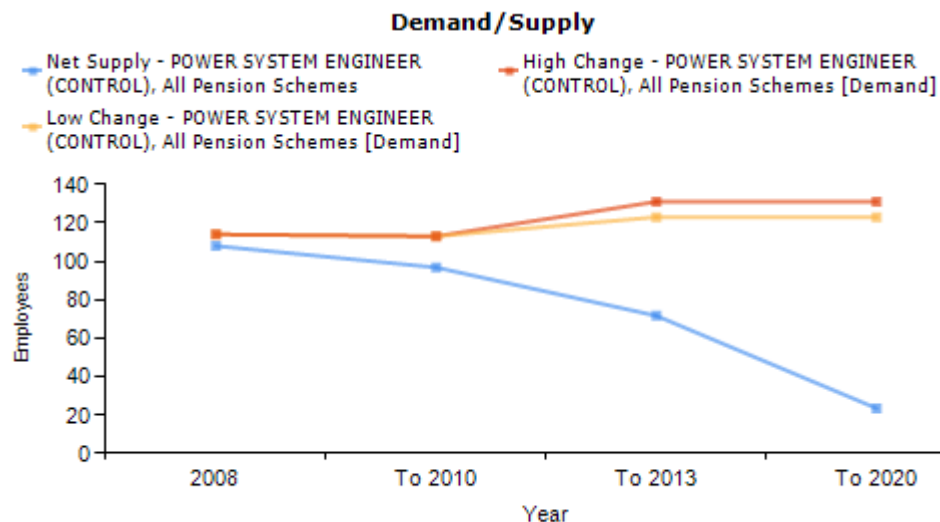
## Compressor Engineer



## Technician (Subs)



## Example of Job Family Forecast Report Power System Engineer – Basic Gap



### Supply assumptions

- ◆ Leaver rate to 2010: 3%
- ◆ Leaver rate 2010 to 2020: 8%
- ◆ Retirement age: 58

By 2020 - 99 new recruits required in low change and 107 in high change (nearly a whole new control room!)

Gap																		
Job Family	Pension Scheme	2008 Establishment Headcount	Demand						Net Supply				Gap (Shortage - / Surplus +)					
			To 2010		To 2013		To 2020		2008 Headcount	To 2010	To 2013	To 2020	To 2010		To 2013		To 2020	
			Low Change	High Change	Low Change	High Change	Low Change	High Change					Low Change	High Change	Low Change	High Change	Low Change	High Change
POWER SYSTEM ENGINEER (CONTROL)	All Pension Schemes	114	113	113	123	131	123	131	108	97	72	24	-16	-16	-51	-59	-99	-107
Subtotal		114	113	113	123	131	123	131	108	97	72	24	-16	-16	-51	-59	-99	-107

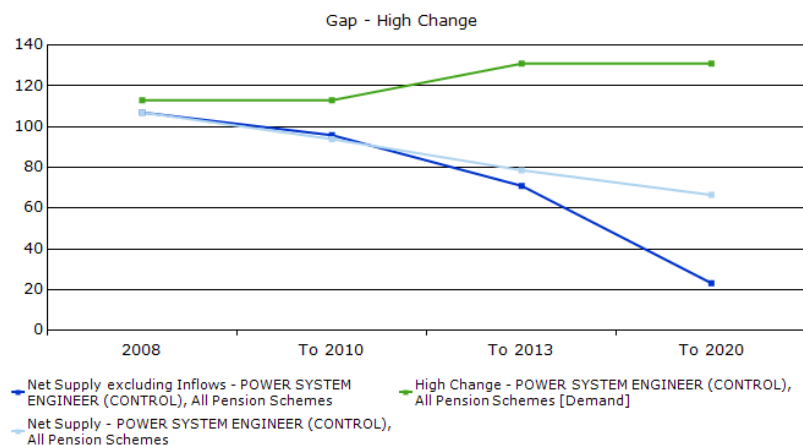
The significant gap is driven by decreasing supply, but is also a result of a proportionally small increase in demand under both scenarios

**nationalgrid**

The power of action.™

# Example of Job Family Forecast Report

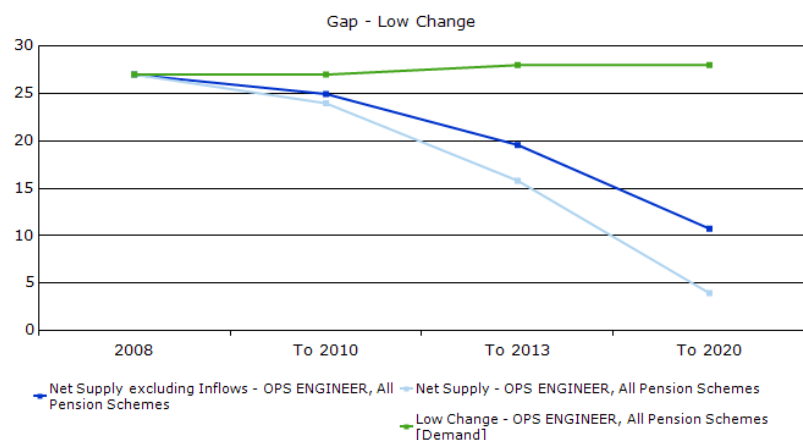
## Power System Engineer: Gap after Internal Movements



### Internal movement assumptions:

- Supply influenced negatively by promotions to fill gap for Ops Manager role
- Supply influenced positively by Foundation Engineers programme

Gap To 2010	Gap To 2013	Gap To 2020
-19	-53	-69
-17	-43	-58



### Risks:

- The new Foundation Engineer scheme goes some way to fill the PSE gap but a gap still exists under both scenarios in 2013 or 2020, even if all of the assumptions underpinning the internal movements hold true.
- Training of employees need to continue to be updated, particularly under a High Change scenario.
- We have assumed there is sufficient qualified PSE employees with the necessary skills (technical and behavioural) to fill the Ops Manager gap
- The implications for knowledge loss (as a result of retirements)

**nationalgrid**

The power of action.™

# Summary of Job Role Gaps

Job families	Low Change gap (after currently planned internal movements)		High Change gap (after currently planned internal movements)		Large Gap Between Scenarios	Forecast Technical Skills Gaps	Forecast Behavioural Skills Gaps
	2013	2020	2013	2020			
Commercial Analyst	!	×	×	×			Creative solutions skills
Ops Engineers	×	×	×	×	🚩	Compressor operations, emergency and non standard conditions, gas quality, NTS operations and NTS system and housekeeping	Commercial solutions.
Principal Ops Engineers	✓	✓	✓	!	🚩		Commercial solutions, leadership qualities, problem solving.
Power System Engineer (AM)	✓	✓	×	×	🚩	New technologies will impact skills to be developed.	Communication, commercial, project management, leadership qualities.
Asset Engineers (ENI)	!	!	!	!		Technical skills in optimising old assets, as well as in new technologies.	Leadership qualities, project management, communication
Power System Engineers (Control)	!	×	×	×		New technologies will impact skills to be developed.	Problem solving, commercial, communication, IT systems.
Operational Managers (Control)	✓	✓	✓	✓			Communication and leadership qualities.
Technician (Subs)	!	×	!	×		General electrical and mechanical skills.	Communication
Field Engineers	✓	×	×	×	🚩	General electrical and mechanical skills. Telecoms Engineers	Project management, communication.
Project Engineers	✓	×	×	×		New technologies and environmental policy changes will impact skills.	Important to know the 'National Grid way'.
Compressor Engineer	✓	✓	!	!	🚩	Instrumentation Skills	Leadership qualities, project management, communication

## Key

Red – 40% of population gap    Yellow – 25%-40% of population gap  
Green – little or no gap

**nationalgrid**

The power of action.™

# Key risks and challenges from findings

## Workforce availability

- Retirements (of the 869 employees 98 are forecast to retire by 2013 and 274 by 2020)
- External supply
- Voluntary leavers rates

## Building new technical skills

## Building commercial and business related skills

## Retaining and developing deep specialists

## Training and mentoring capability

**nationalgrid**

The power of action.™

# Key risks and challenges from findings

- **Workforce Availability**– lack of workforce availability in core operational areas has the potential to impact service delivery. For example, embracing new sources of energy and the use of smart technology; and connecting to new sources of energy production such as off-shore wind.
- **Retirements**– pending retirements may reduce organisational capability and knowledge. Job roles with more than 40% at risk of retirement by 2020 include POE, OE, Compressor Engineers, Technicians (Subs), PSE (Control), and OM (Control).
- **Technology Skills**– scarcity of experts with knowledge in new assets and technologies may impact the ability of National Grid to acquire and deploy these skills at the rate required. This is particularly relevant for the energy policy changes such as offshore TOs under the High Change scenario.
- **Voluntary Leavers**– while short term voluntary turnover is forecasted to be maintained at current levels, increases in voluntary leavers are expected as a result of tighter external supply (eg other green providers competing for scarce skills, impact of the 2012 Olympics) and the increasing mobility of employees. This may limit National Grid's ability to deliver on its current and future business goals.



## Key risks and challenges from findings - continued

- **Talent Management-** projected levels of recruitment and projected skills changes will require higher on the job development, mentoring and learning activities. The job roles with the highest forecast activity are Project Engineers, Field Engineers and Asset Engineers (ENI).
- **Recruitment Capability**– with an increasingly tough external supply and potential increased competition for talent pools, particularly in the areas of Asset Engineers (ENI), inhibit National Grid's ability to attract and secure potential candidates even in the current economic environment?
- **Retaining Deep Specialists** – are the retention strategies, including, compensation and development opportunities for deep specialists in Power System Engineers (such as experts in dynamic stability, power quality and harmonics, digital protection, system power system constraint modelling) sufficient for National Grid to retain these key employees?
- **Commercial Skills Sets**– if employees do not develop sufficient commercial skills sets this will have a detrimental effect on service delivery in an increasingly complex and fluid working environment. For example, control rooms (POE, OE, PSE and OM) must increasingly be able to form solutions that are technically correct, but that have also factored in the commercial and cost impacts.

## Stage 4: Strategy Development

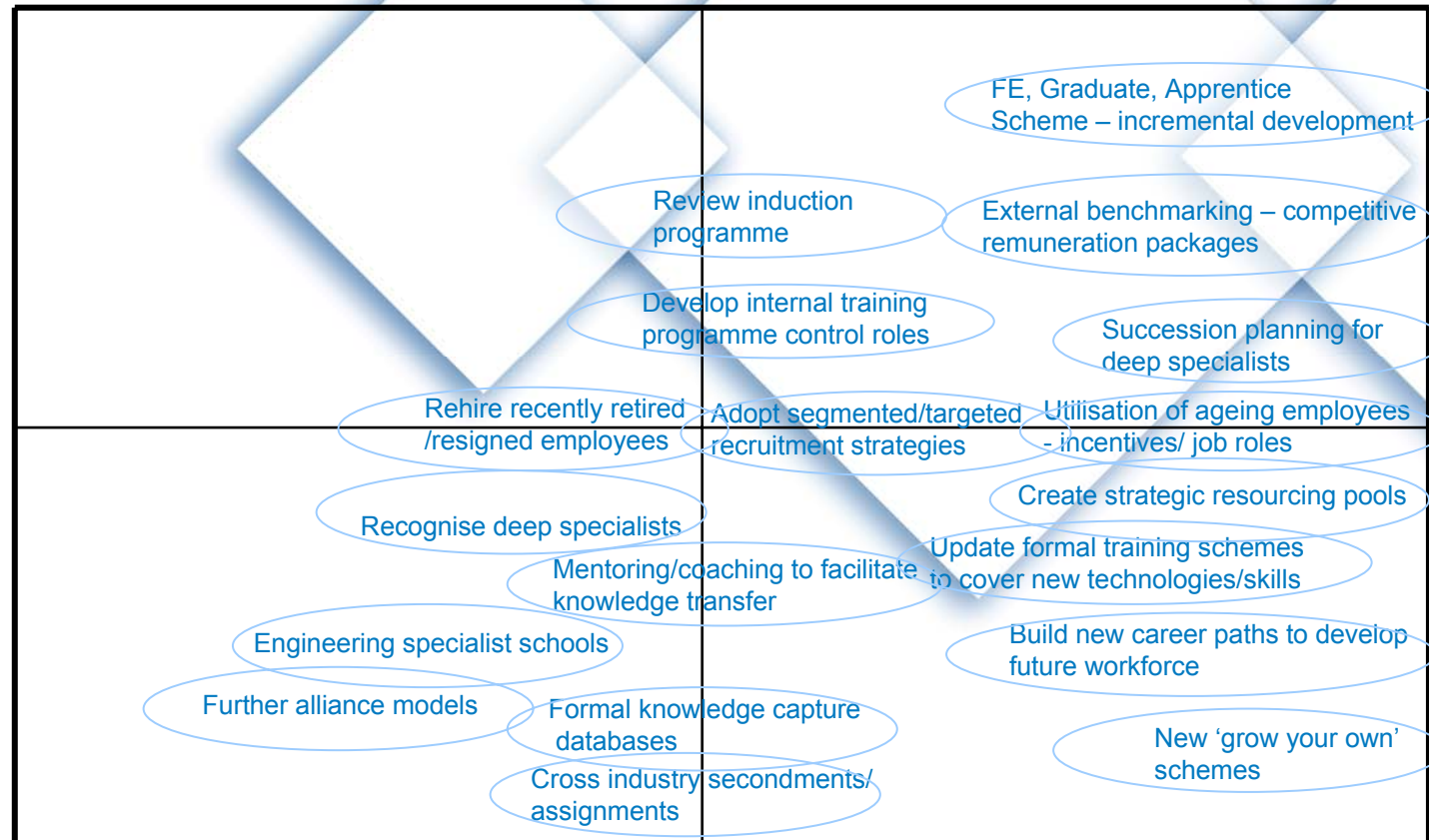
Identifying and prioritising strategies to address projected gaps :



**EASE  
OF  
IMPLEMENTATION**

High

Low



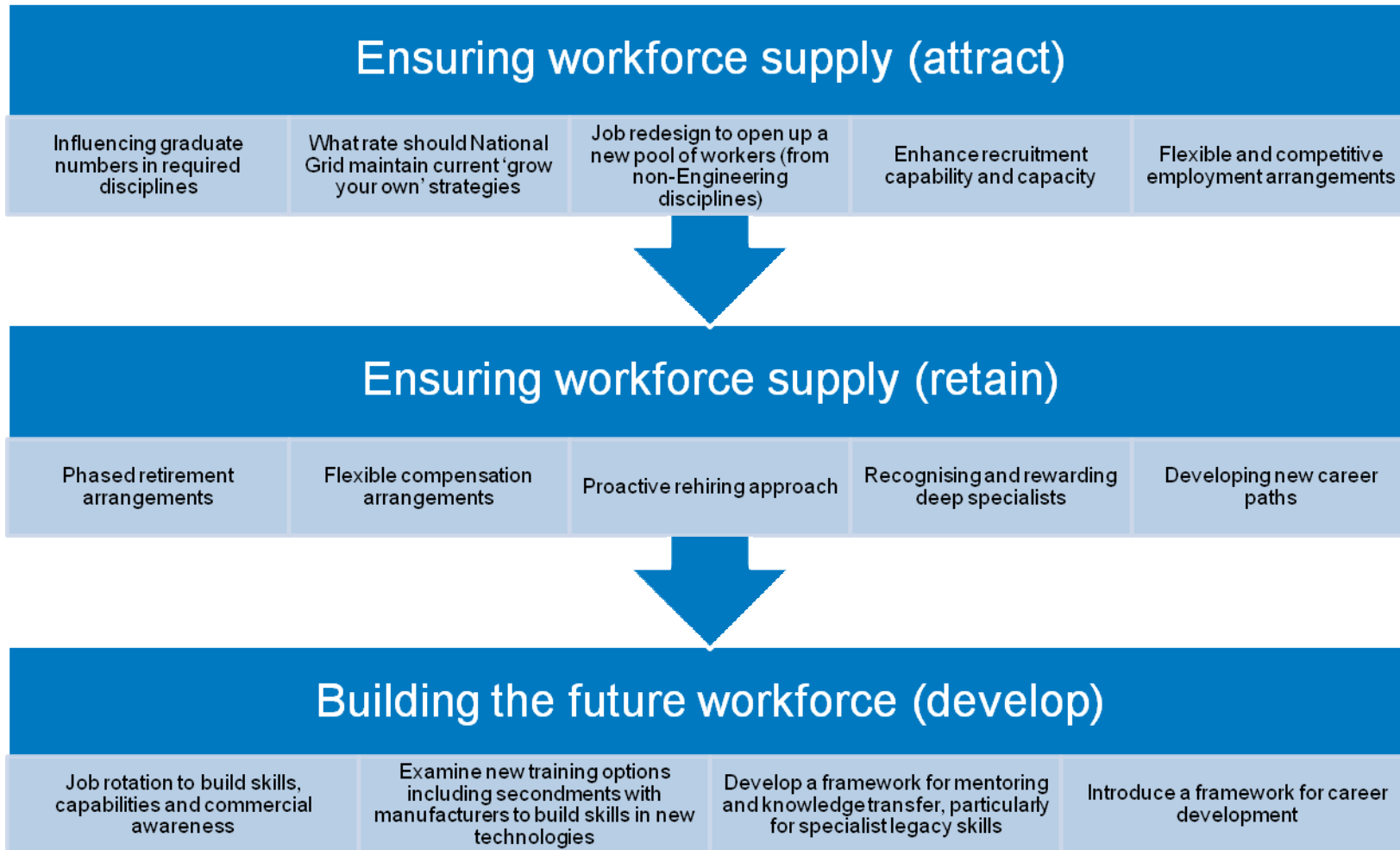
Low

High

**nationalgrid**

The power of action.™

# Potential Strategies



# Strategy 1

## Upgrade 'grow your own' schemes

### Proposed approach

#### Review entry points for current training schemes:

- ♦ Engineering graduates
- ♦ Foundation Engineers
- ♦ Apprentices

-Create strategic resource pool – generic Engineering training to facilitate flexible career paths

-Review what schemes need scaling up

### Actions

Complete 'Entry Level Talent Review'

Explore synergies across training schemes

Determine cost and capacity for training centre to support any potential ramp up

Continue to develop Education and Skills strategy

Assess considerations/costings of 'grow your own' vs. other strategies

**nationalgrid**

The power of action.™

## Strategy 2

### Build flexible career paths

#### Proposed approach

- ◆ Identify the critical skills for each job role.
- ◆ Identify other job roles/positions (including projects and secondments) which allow for the development of these skills.
- ◆ Create new career maps to develop multiple new career paths
- ◆ Communicate and make the career maps available to all employees, and promote these positions to employees as opportunities to develop skills and as career building opportunities.
- ◆ Create individual development programmes for employees, including identification of possible project work, outplacements and secondments to enhance individual development.

#### Actions

To test approach through two job roles (Project Engineer, Ops Manager)

**nationalgrid**

The power of action.™

# Strategy 3

## Utilise ageing workforce

### Proposed approach

- ◆ Review compensation and benefits strategy including
  - Allowing employees to come off shift but keep part of their allowance
  - Incentives if new goals are met
  - Flexible benefits, such as health insurance
- ◆ Clarity about National Grid's commitment to these valuable employees
- ◆ Develop meaningful roles for these employees
- ◆ Flexible work conditions, such as working part time or doing seasonal work

### Identify roles required

- ◆ Stay in same role
- ◆ Formal training and mentoring assignments
- ◆ Projects and secondments (or even lower graded roles where there are gaps?)

### Actions - First step

- ◆ Systematic retirements intention survey

**nationalgrid**

The power of action.™



## Strategy 4

### Develop strategic partnerships (cross industry assignments)

#### Proposed approach

Create formal relationships with other industry organisations to develop employees:

- Manufacturers of new technologies: e.g. ABB, Siemens, Areva
- Other organisations in the supply chain, including smaller organisations such as renewable electricity generators
- Alliances
- ◆ Provide Secondments of National Grid employees, and vice versa
- ◆ Explore collective training programmes: can Government funding/incentives be given to a collective approach to new training

#### Actions

To test approach pilot for one job role (Asset Engineer)

**nationalgrid**

The power of action.™

## Strategy 5

### Effective segmented/targeted recruitment strategies

#### Proposed approach

Between 693 and 928 new employees will be needed over the period, therefore we need to prepare for this activity in advance

- ◆ Current planned pipeline recruitment contemplates 345 new hires into Grow Your Own schemes
- ◆ By 2020, in addition to planned pipeline recruitment another 387 (Low Change) and 621 (High Change) new employees, will be needed: most of these will be externally recruited through Grow Your Own schemes or through experienced hires.
- ◆ This has recruitment, onboarding and training cost implications

#### Actions

To support this level of external recruitment we must:

- ◆ Continue with the current onboarding and development programmes
- ◆ Consider and execute on recruitment campaigns and consider the National Grid brand proposition
- ◆ Consider target markets (alumni, females, part time, international markets)
- ◆ Obtain better benchmark data

**nationalgrid**

The power of action.™

# Potential Resourcing (Attract) Strategies

## Example of Field Engineers

Gap To 2000	<ul style="list-style-type: none"><li>• Low Change 190</li><li>• High Change 350</li></ul>
Key Risks	<ul style="list-style-type: none"><li>• Large gap</li><li>• Recruitment and on-boarding capability</li><li>• Attracting staff</li></ul>
Strategies in Place	Foundation Engineering Scheme
Investigate	<ul style="list-style-type: none"><li>• More rotation with field workforce</li><li>• Strengthening relationships with manufacturers (secondments)</li></ul>
Recommendations	<ul style="list-style-type: none"><li>• Recognise and reward deep specialists for retention</li><li>• Career Path for deep specialists</li><li>• Mentoring/Knowledge transfer</li><li>• Quality of work conditions</li></ul>

# Key Learnings from the Pilot

## Job Roles

- The relevant coding of job roles into SAP is critical
- Clear definition of job roles

## Scenarios

- Link with existing scenario work and existing processes and projects
- Two scenarios initially

## Demand Forecasting

- Identify the managers to be involved in forecasting early and get into their diaries
- Bring together all of the managers who will be involved in demand forecasting at the beginning of the process to explain what workforce planning is
- It is preferable to have the supply data before the forecasting interviews are held

## Supply Forecasting

- Start IS interface early

## Strategies

- Recommend combining HR and managers into the one strategy development session

**nationalgrid**

The power of action.™

# Why WFP now?

## Current climate does not change the picture for critical roles

- Our current employees are still ageing,
- There are still less graduates coming through universities,
- And those graduating do not necessarily have the right skills, demand for them is increasing while business related technologies are changing

## Time to build critical roles people and skills are critical

- Development through current formal schemes take minimum 2 to 3 years
- Allows for informed decisions regarding correct skill/number mix (staff with the skills or knowledge to perform future tasks vs. surplus staff with inappropriate skills in the future.
- In-house development and redeployment rather than external recruitment whenever appropriate

## Unique opportunity to attract top talent given current climate

- Knowing specific gaps allows to focus current recruiting and development activities on identified critical areas

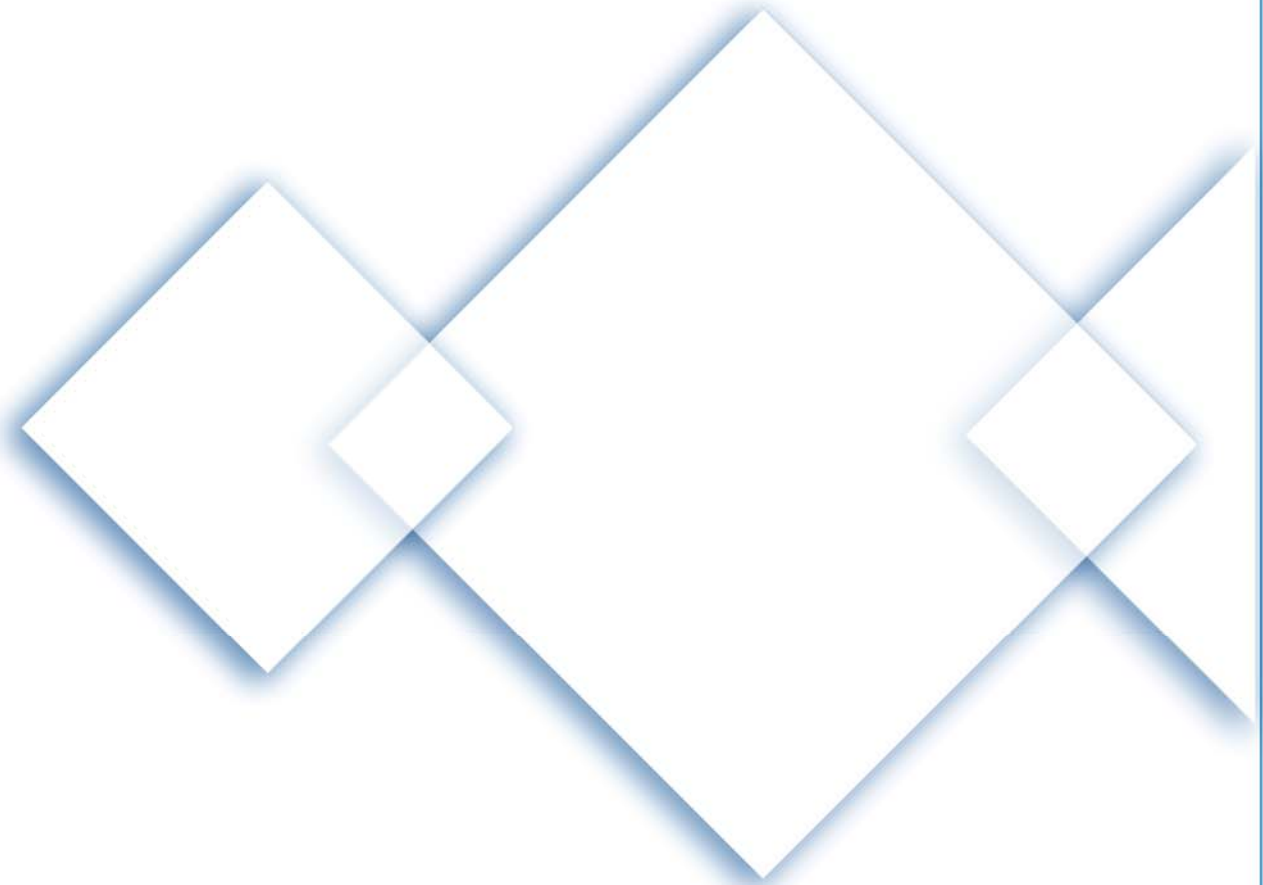
## WFP and the paths to gap closure demonstrate a clear commitment to our people, further improving employee engagement

- Makes development transparent
- Employees are held accountable by their understanding of effective career management options
- Proactive retention of high performers
- Proactive retention of critical experienced employees

**nationalgrid**

The power of action.™

## Next Steps



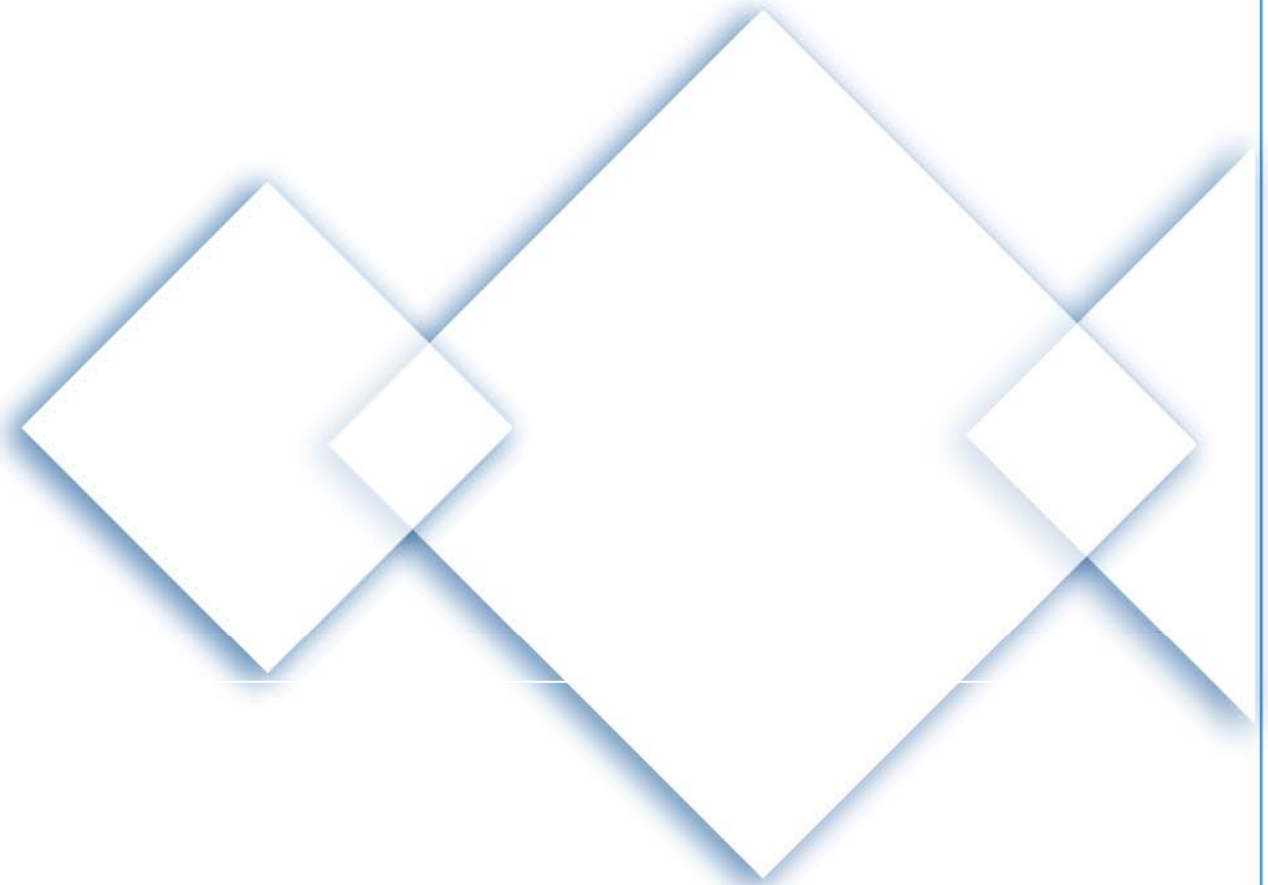
- Extend workforce planning for National Grid beyond Transmission
- Rollout of Infohrm program and methodology across UK and USA covering SAP and two separate PeopleSoft systems
  - Will conduct a run 3 separate systems until we are using SAP globally.

**nationalgrid**

The power of action.™



# Questions



**nationalgrid**

The power of action.™