EELGA NSIPs Centre of Excellence Conference

Assessing the Effectiveness of NSIP EIA Predictions in Practice

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8 May 2024

Structure of presentation

1. Adaptive Environmental Assessment and Management

2. Examples of the Effectiveness of NSIP EIA Predictions in Practice : New Nuclear

3. Examples of the Effectiveness of NSIP EIA Predictions in Practice : Offshore Wind

4. Examples of Adaptive Assessment and Management

5. Some lessons for future NSIP EIA prediction and monitoring

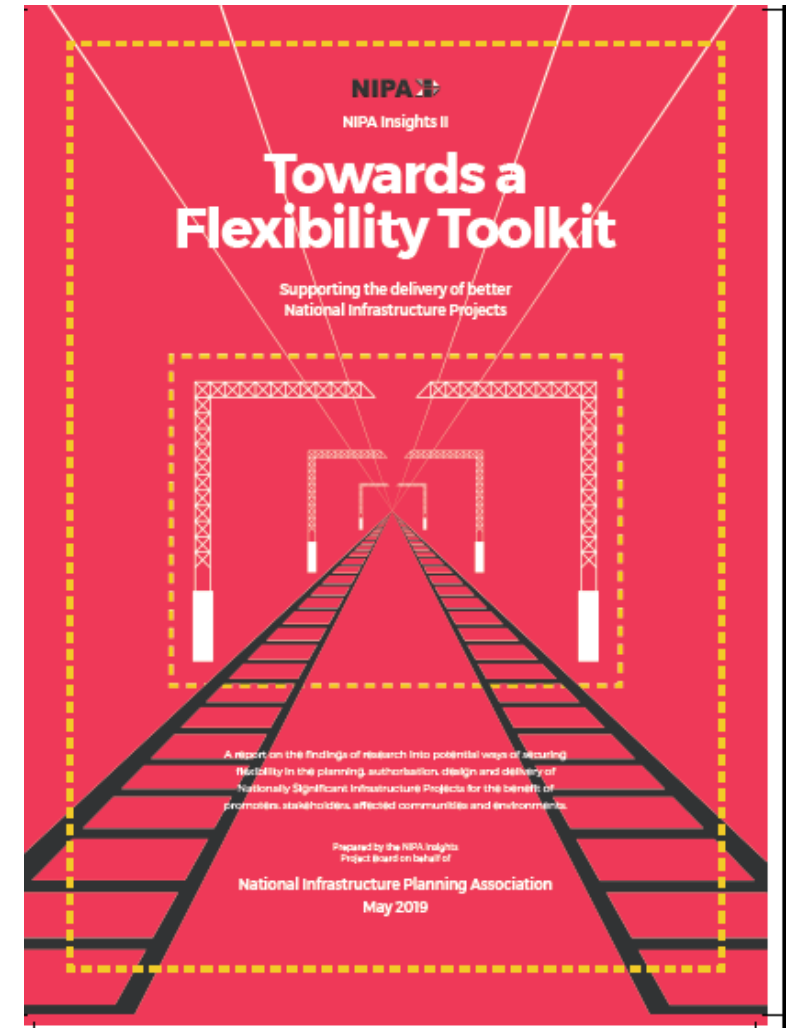# 1. Adaptive Environmental Assessment and Management

- EIA should be an iterative process rather than a one-off linear process –build it and forget it!

- Case is compelling given limitations of predicting socio-economic and biophysical impacts of complex projects

- Importance of an adaptive EIA process with a '**predict, monitor and manage approach**' (Holling 1978)

# Importance of monitoring and auditing NSIPs (NIPA 2019)

'

- 'There has been little research on the results of the effectiveness of the environmental monitoring and management during the construction of NSIPs

- The sharing of the findings of monitoring could improve decision making, could provide reassurance to communities for whom the anticipation of impact can be more daunting than the reality, and enable developers to improve environmental management practices.'

The report refers to the ongoing Oxford Brookes IAU research on HPC impacts monitoring to help to fill the gap.

NIPA
NIPA Insights II
Towards a Flexibility Toolkit
Supporting the delivery of better National Infrastructure Projects

A report on the findings of research into potential ways of securing flexibility in the planning, authorisation, design and delivery of Nationally Significant Infrastructure Projects for the benefit of promoters, stakeholders, affected communities and environments.

Prepared by the NIPA Insights Project Board on behalf of

National Infrastructure Planning Association
May 2019

Key elements of EIA follow-up

Monitoring	For conformance with standards
	For compliance with conditions
Auditing	Evaluation of actual against predicted impacts
Management	For better project implementation
	For future consents and licences
Communication	Improved stakeholder communication on actual impacts of project and their management
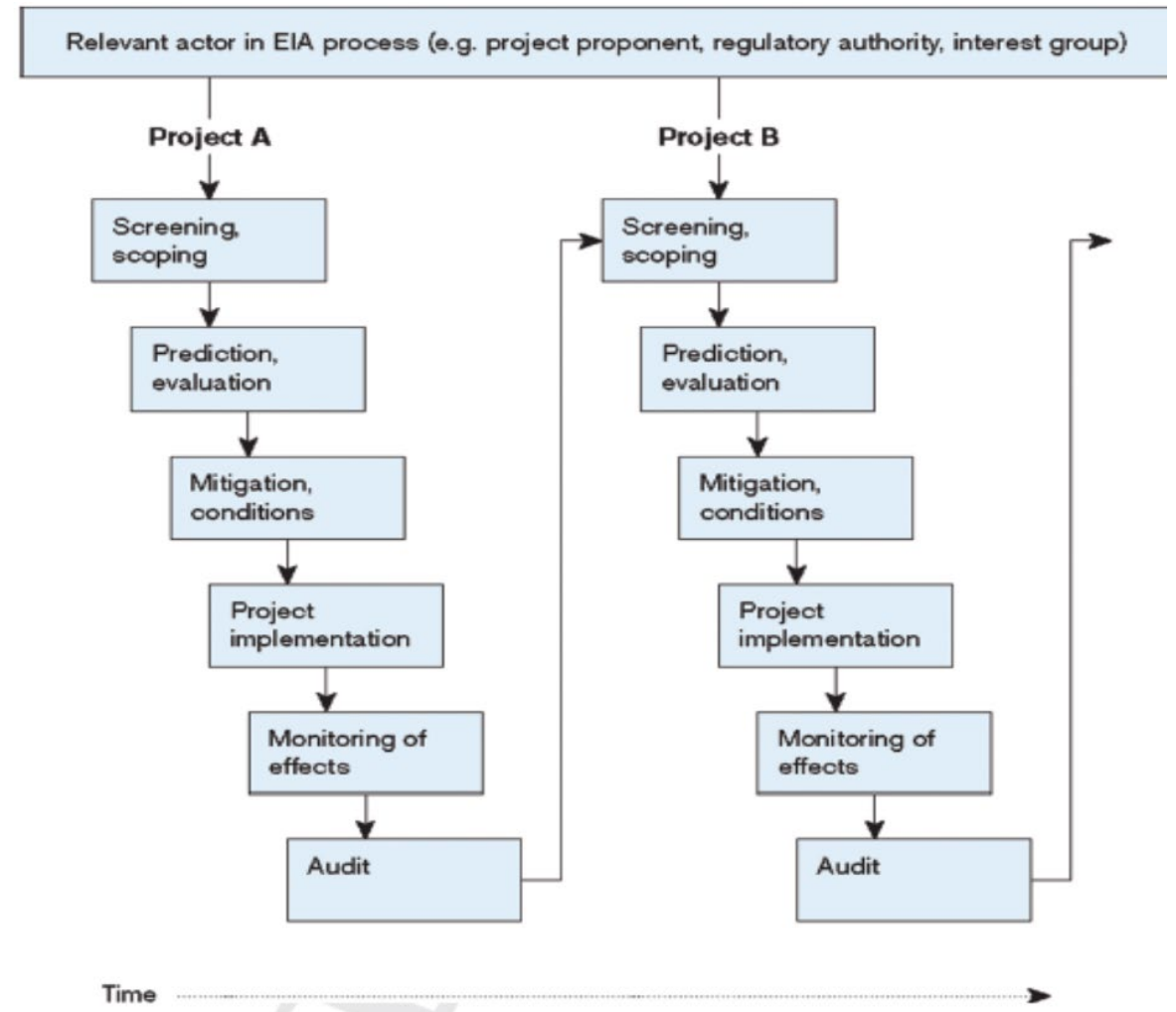
But some barriers to effective EIA follow-up

Structural

- Weak legislation and implementation
- Resource implications—full cream or semi-skimmed version?
- Partial follow-up – missing sectors
- Lack of independent auditing

Procedural

- Difficulty identifying key issues and KPIs
- Lack of good monitoring data
- Lack of openness in process
- Stakeholder imbalance

2. Examples of the Effectiveness of NSIP EIA Predictions in Practice --- New Nuclear/HPC

Approach

The sector studies main steps:

- *Identifying issues and obligations;* indicators/KPIs and key data sources, drawing on HPC ES/DCO/S106/ LIR.

- *Monitoring impacts – establishing key indicator trends* over construction stage

- *Auditing impacts – assessing degree of accuracy of monitoring findings* against predictions; explanations of differences; gaps in monitoring and future proposals.
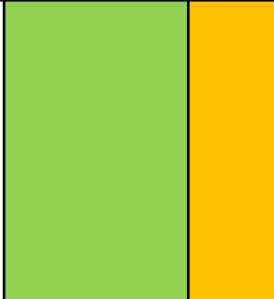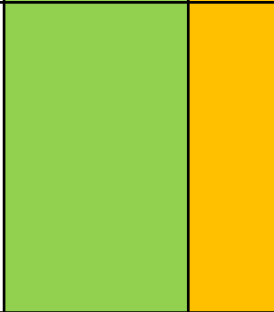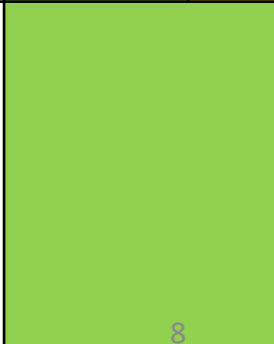
Key impact sectors

- **Economic development**   **Transport**

- **Social and Community**   **Accommodation**

- **Environmental Health**   **Biophysical Envt.**

RAG colour coding

G	Predictions very accurate with actuals. Fully compliant with conditions/obligations
LG	Most predictions are good, but with a few topic and/or time gaps, and inaccuracies; largely compliant
A	Mixed accuracy/with several topic and/or time gaps, and inaccuracies; only partially compliant
O	Prediction inaccuracies/gaps in many areas; very limited compliance
R	Predictions very inaccurate; non-compliant
B	No information available; auditing not possible at the time of the study

Overall summary of HPC monitoring and auditing findings: accuracy of actual vs predicted impacts to date

Sector	Brief comments	RAG coding	
Economic development	Good in many areas--local content, training/education, apprenticeships etc. Mitigation/enhancement measures working well. Debate about some data/gaps.	🟩	🟧
Transport	Good against predictions for many indicators -- mode share for workforce journey to site and HGV delivery caps. Issues on driving to P&R sites, and fly parking.	🟩	🟧
Social and community	Good performance against indicators, especially for health (on-site Medical Campus), and community safety, including Worker's Code of Conduct.	🟩	🟩

Overall summary (continued)

Sector	Brief comments	RAG coding
Accommodation	Complicated by differing views of predictions and definitions. Where there is data, there does seem to have been some useful housing support initiatives.	
Environmental health	Team found little publicly available information on monitoring of impacts, such as on noise, air and water quality, other than a low level of complaints.	
Biophysical environment	For impact topics, such as ecology, information not publicly available or located to date.	

Examples of more detailed sector studies

Economic Development

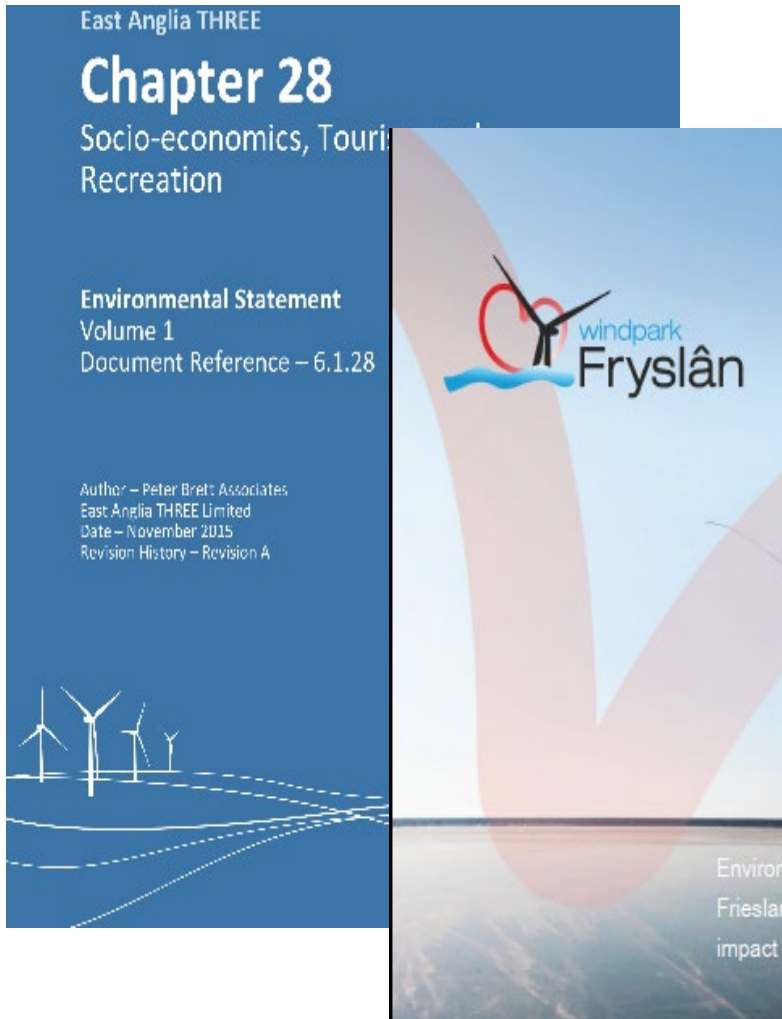| Indicator/KPI	Examples of audited impact	RAG coding
Overall level of workforce	Actual levels near/above 2012 prediction, but some caveats.	
Local content: CDCZ	Percentages better than predictions; but missing disaggregated data	
Recruitment from the unemployed	At 1% -- well below 8% target, but context has changed	
Apprenticeships	Good; 433 (April 2019) exceeds DCO target, and on course for 1000 aspirational target.	
Recruitment from women	19% female is good for civils work stage of major project	
Training and educational initiatives	Wide range of transformational initiatives, underpinned financially by EDFE, and others.	

Transport

	Examples of monitored impact	RAG coding
Workforce--journey to work to HPC site	HPC Site Journey to Work by Bus has a target of 87%. Since Q1 2017, has been well over 90% for each quarter.	🟩
Workforce – travel to P&R sites	Travel to and from J23 and J24 dominated by car drivers with target of 58/60% being consistently exceeded with 80/75% respectively. Promotion of HPC Car Share to meet targets in hand.	🟥
HGVs – deliveries targets	Consistent compliance with caps : Mon-Fri (750), Saturday (375) and Quarterly Average (500)	🟩
HGVs – breaches of construction works limits	Breaches of HGV limits, timing restrictions, routing violation have all been consistently in the very low single figures	🟧
Fly parking	Significant anti-social behaviour causing major public concern	🟫

Explanation of findings and differences between actual and predicted impacts -- positive and negative

- *Transformational training and education initiatives*
- *HPC Site Campus, with On-Site Medical Centre*
- *Workers Code of Conduct*
- *Whole array of Management Plans*
- *J23 and J24 P&R facilities, and bus links to site*
- *Whole array of funding initiatives*

- *Time delays in commencement of construction project (5 years)*
- *Changes in project and baseline conditions*
- *Lack of clarity on definition of some indicators*
- *Lack of trigger points in DCO/s106 obligations and requirements*
- *Over-focus on peak construction impacts*
- *Degree of accuracy of some predictive techniques*
- *Fragmented monitoring framework*

3. Examples of the Effectiveness of NSIP EIA Predictions in Practice --- Offshore Wind Farms (OWFS)

East Anglia THREE
Chapter 28
Socio-economics, Touri...
Recreation

Environmental Statement
Volume 1
Document Reference – 6.1.28

Author – Peter Brett Associates
East Anglia THREE Limited
Date – November 2015
Revision History – Revision A

windpark Fryslân

Environ...
Frieslar...
impact...

European Offshore Wind Deployment Centre
Non-Technical Summary
Aberdeen Offshore Wind Farm Limited
Volume 1 of 4   July 2011

All major OWF projects have Environmental Statements – but how good are the predictions?

IAU research for Vattenfall &EU programme focused on socio-economic impacts.

How significant –'Out of sight out of mind' –but projects do come ashore and have such impacts.

Review of socio-economic impacts in ESs and actual impacts at Aberdeen, Beatrice and Hornsea case studies.

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Actual economic impacts of Aberdeen OWF

Small (96MW), innovative project (large turbines; suction buckets)

- ***Local leakage of predicted offshore construction work***; at peak, had c500 workers on 33 installation vessels , involving 15 nationalities: Europeans (80%), British (10%), other (10%);very few local.

- ***Onshore construction* work generates much higher ratio of local jobs**; *O&M staffing* is predominantly local and for at least 20 years

- **ES jobs predictions were too high for construction stage; but too low for O&M stage**.

- Use and misuse of scenario approach by developers with very wide range in economic predictions across the scenarios.

# Actual Social Impacts from Aberdeen case study – are important

- *Importance of social interaction programme* -- ongoing engagement between Vattenfall and Aberdeen community; Local Liaison Officer

- Establishment of a *Community Benefits Fund* of £150,000 pa for 20 years O&M stage. For Aberdeen City/Shire, with 10% pa ringfenced for Blackdog most impacted community.

- Jan 2019 *survey of local residents* -- respondents were *generally positive about impacts over the life cycle to date*, but for the O&M stage, there was surprise at size and nearness to shore of the windfarm.

- Perceived impacts are important—role of media; changes over lifecycle

(a) Showing the spread and degree of dominance of **negative themes** across all stages of the project(shape sizes indicate the frequency of mention of the issues identified).
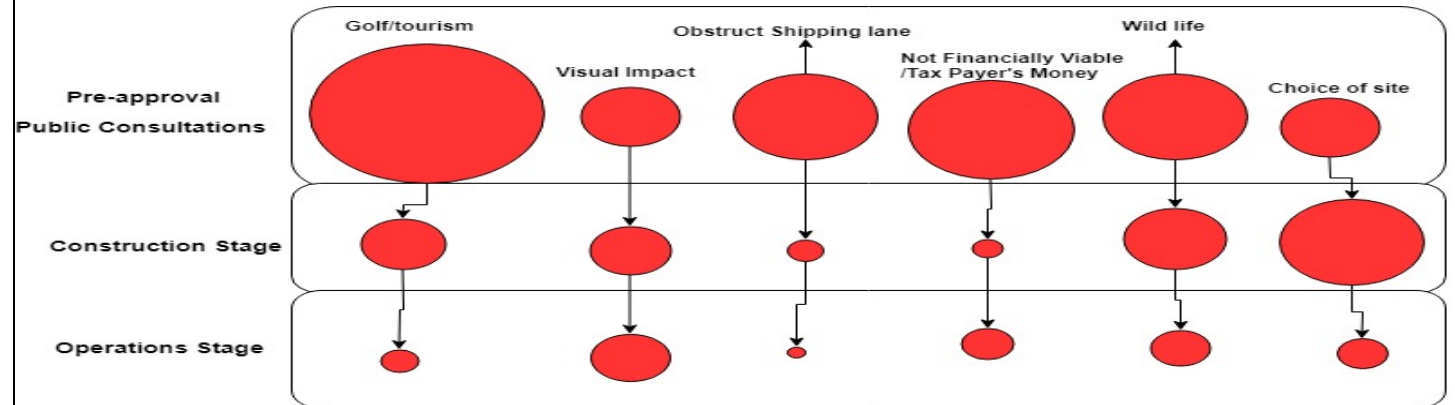
A graphic representation of how the major negative themes in public perception dominated the different stages of the project

(b) Showing the spread and degree of dominance of **positive themes** across all stages of the project (shape sizes indicate the frequency of mention of the issues identified).
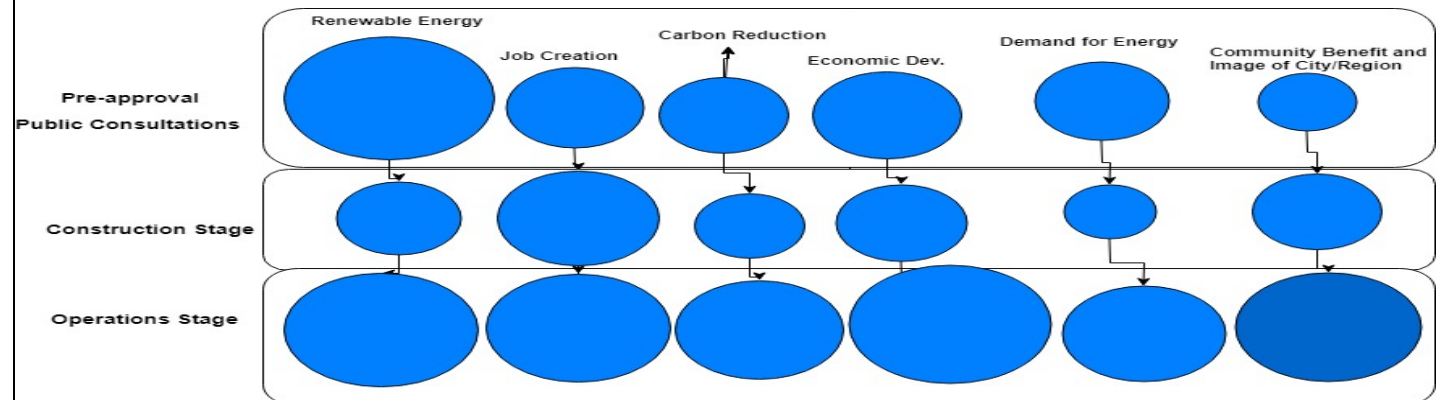
A graphic representation of how the major positives themes in public perception dominated the different stages of the project

4. Examples of Adaptive Assessment and Management: New Nuclear

- Adapting to major revisions in construction workforce numbers: SZB, HPC (peak prediction 5600>8500>10500)

- Provision of more purpose built worker accommodation: SZB,HPC (campus increase from c2000 to c3500, including Pontins Brean Down)

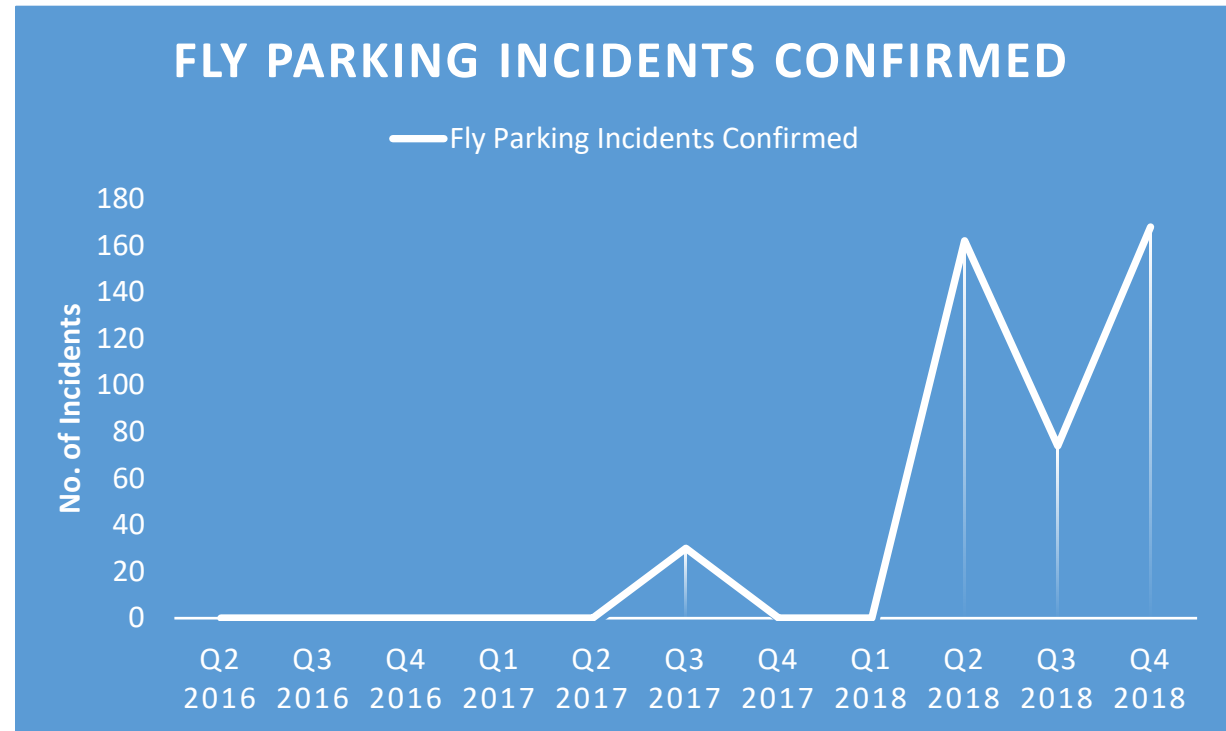- Responding to social issues, including increasing crime and worker behavioural issues : SZB , HPC

Managing some social impacts - some more intractable than others

- SZB drink driving

(a) Drink Driving

- HPC Code of Conduct generally working well
- But – surprising, community irritating and intractable fly-parking issue

Example of Adaptive Assessment and Management: OWFs

Increasing local employment input

Build requirement for an *Employment and Skills Plan into the DCO*

eg Hornsea 2 DCO Requirement 17 (PINS 2015) --- No part of the authorized development may be commenced until an employment and skills plan has been submitted to and approved by the Lincolnshire local authorities and the Humber LEP
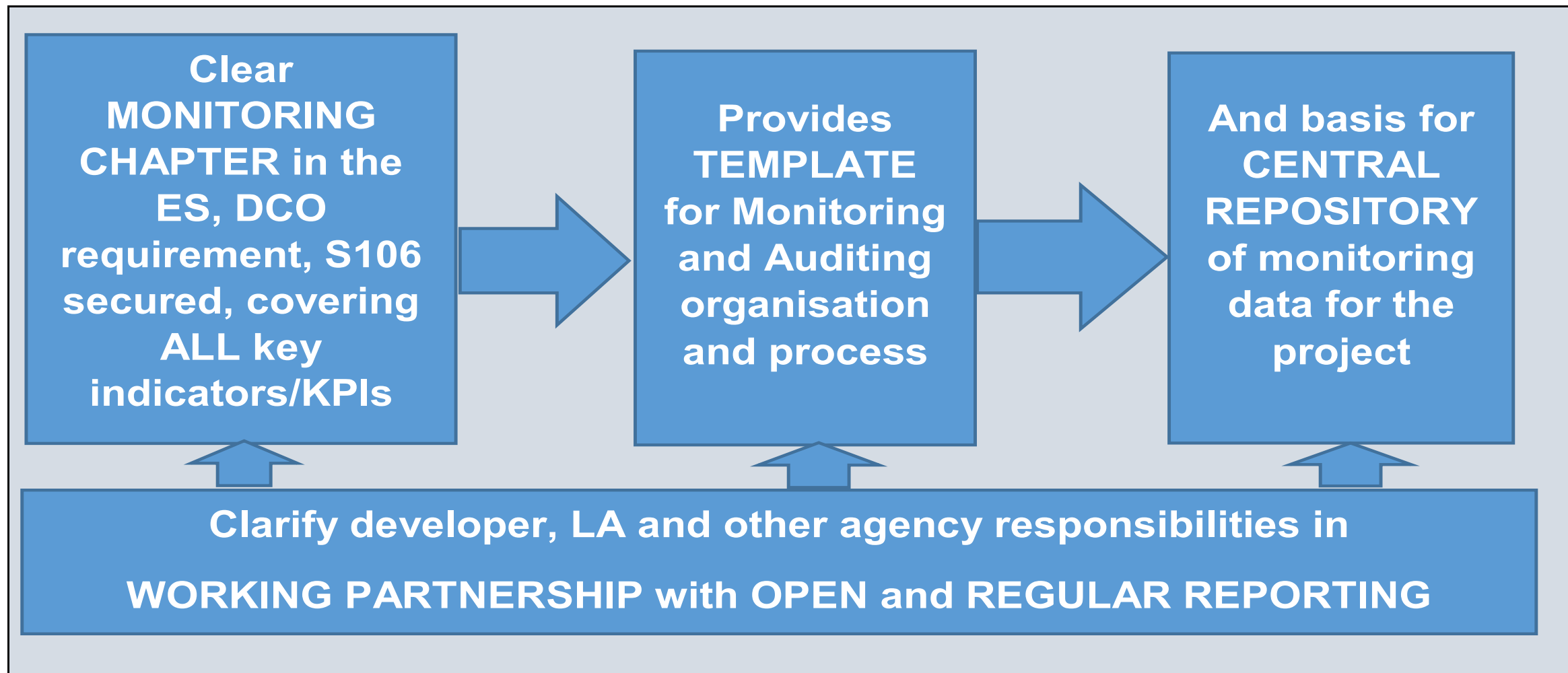
Developing hub status ?
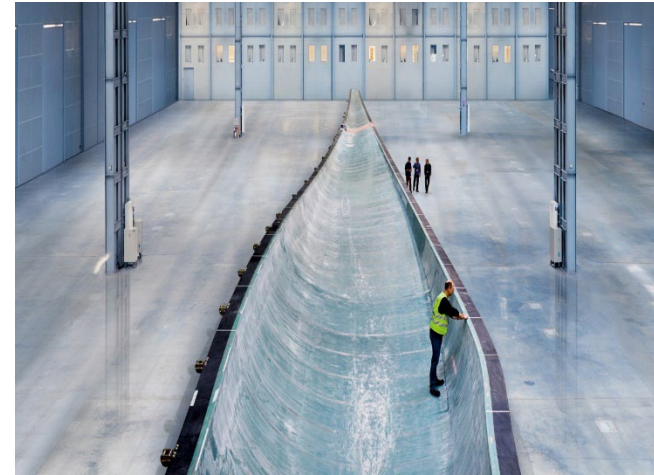
5. Some lessons for future NSIP EIA prediction and monitoring -- for LAs and especially for Examiners

- Seek to **manage uncertainty** in the predictive exercises : narrowing scenarios; probability of impacts; sensitivity analysis; adaptive EIA

- Consolidated **monitoring section in ES** including key indicators and monitoring implementation framework

- Adopt robust approach in DCO to *clarify commitments*, and *establish open process of monitoring and public reporting of performance* against a full set of indicators.

- Ensure clear '*trigger points*' in DCO in relation to completion of associated developments – such as temporary jetty, campus accommodation.

- Ensure predictions contain *longtitudinal timelines*, showing evolution of impacts over key phases of construction stage.

- **Establish agreement on key socio-economic issues**, such as *what is a worker, what is latent accommodation?*

Improving the monitoring and auditing process
Pre-construction planning and assessment – developer and LAs

Clear MONITORING CHAPTER in the ES, DCO requirement, S106 secured, covering ALL key indicators/KPIs

Provides TEMPLATE for Monitoring and Auditing organisation and process

And basis for CENTRAL REPOSITORY of monitoring data for the project

Clarify developer, LA and other agency responsibilities in WORKING PARTNERSHIP with OPEN and REGULAR REPORTING

Construction stage – developer and LAs

Monitoring and auditing should be a *planning and implementation activity* with a number of features including:

A **MONITORING WEBSITE**, public access, reviewing impacts / reporting concerns

A consistent 3-stage '**event-action-plan approach**' to manage audited impacts

Publicly available **Annual Impacts Monitoring and Auditing Report—Year 1**	→	**Year 2**	→	**Etc**

Openness to refresh against a timeline in an ADAPTIVE IMPACT ASSESSMENT approach; plus an openness to INDEPENDENT ANALYSIS AND VERIFICATION

Many thanks for your attention

Questions please

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