

# A Meaningfully Just Transition for Mossmorran: The Case for a Site-Specific Just Transition Process

## Executive Summary and Recommendations

**The Mossmorran natural gas liquids processing plants face an uncertain future with significant vulnerabilities, including diminishing availability of natural gas liquids feedstock, reduced demand for ethylene used in plastic production, and the need to drastically reduce greenhouse gas emissions.**

Historic examples of successful transitions show that strong sectoral negotiations between unions, industry, and government, informed by site-specific worker discussions, are crucial.

### Pressures on Mossmorran's Inputs and Outputs

The Mossmorran plants represent a substantial proportion of industrial emissions in Scotland. They represent 9.4% of the carbon dioxide, nitrous oxide and methane emitted by all Scottish large sites regulated by SEPA and are the 3rd and 10th top industrial emitters in the country. Any credible plans to reach net zero emissions cannot afford to leave Mossmorran out.

If countries limit their extraction of oil and gas in line with the IPCC's 50:50 chance of a Paris-compliant 1.5 degree warming scenario, the availability of Mossmorran's main input (natural gas liquids) will decline by between 25% - 74% by 2030.

The outlook for demand for Mossmorran's main output, ethylene, is uncertain, due to international efforts to curb plastic waste. Ethylene is predominantly used to make polyethylene, a substantial proportion of which is used for packaging. The market for ethylene is expected to grow rapidly up to 2030, but the growth of policies limiting single-use plastics will chip away at demand.

### Tackling Direct Greenhouse Gas Emissions at Mossmorran

Ethylene production is hard to decarbonise, with the majority of emissions coming from burning fossil fuels to power high-temperature ethane cracking furnaces to split out ethylene and other products.

Current proposals from Scottish and UK governments and industry focus on either capturing and storing such

industrial carbon emissions (CCS) or using hydrogen as fuel.

However, CCS technology cannot be considered a sole solution to decarbonisation at Mossmorran, due to several risks: seismic data uncertainties, planning processes, likely high costs for CCS technology for combustion processes, and competition from other industrial sites for limited storage facilities. Whilst Grangemouth has a clear role in existing plans for a CCS-based Scottish industrial cluster, no mention is made of either of the plants at Mossmorran.

The report identifies five core pathways to decarbonisation at Mossmorran, which carry risks and trade-offs.

#### Decarbonisation Pathways for Mossmorran

Decarbonising Mossmorran could take a range of pathways, addressing both the feedstock and the fuel source challenges. Continued ethylene production is possible with two options for feedstock: natural gas liquids (as current) or biological feedstock. There are four primary options for fuel sources: methane (as current), blue hydrogen, green hydrogen, or electrified processes.

The report examined these options to identify 5 alternative core pathways to decarbonisation:

1. Natural gas liquids as feedstock, methane as fuel. Full reliance on CCS (at St Fergus, at NGL plant and at ethylene plant).
2. Natural gas liquids as feedstock, blue hydrogen as fuel. CCS required at St Fergus and at blue hydrogen production site.
3. Natural gas liquids as feedstock, green hydrogen as fuel. CCS required at St Fergus.
4. Bio-ethanol use as feedstock, electrified process as fuel. No CCS.
5. Alternative industrial uses, i.e., diversification or conversion to a different zero carbon production process.

All decarbonisation options have risks and trade-offs. These include the continued exposure to the risk of shrinking demand for ethanol, and the specific risks associated with relying on CCS technology, which faces constraints around costs, geological uncertainties, and competition for limited storage infrastructure.

These risks and trade-offs should be explored in more detail, backed by workforce engagement and sufficient investment.

## A Just Transition for the Workforce

The two Mossmorran plants directly employ approximately 250 workers, and periodically many more through short-term maintenance contracts hired in from other parts of Scotland, or further afield. Pay, benefits, health and safety, and other conditions for staff on site are protected by robust agreements.

Existing experiences with renewable energy jobs make many unionised workers sceptical of the prospects of decarbonisation and whether a just transition will be delivered. Reasons cited include the use of exploited foreign labour at waste to energy plants to dodge collective bargaining agreements, the lack of renewable energy jobs and in particular, the collapse of nearby BiFab fabrication yards due to not being able to win contracts from wind power companies operating in Scottish seas.

Other than the Just Transition Commission, publicly-supported UK and Scottish bodies shaping the transition have no or minimal worker representation..

The history of collective bargaining in the engineering and construction sector represents a real opportunity in terms of the institutional infrastructure needed to understand and plan for the change that needs to happen now. Lessons can be learned from the industry-union negotiating forum for engineering and construction, the National Joint Council for the Engineering Construction Industry (NJC), on how to facilitate this.

## Recommendations

A planning process that considers the technological options, alongside options for diversification or industrial conversion at the site, should begin as soon as possible and involve Mossmorran workers and the local community at its heart.

There are substantial barriers to overcome. Public investment available for industrial decarbonisation so far is not at the scale that will be required. There is the lack of transparency over the numbers and skill mixes of staff and the state of infrastructure and equipment on site. There is mistrust amongst unions and workers around the promises of quality green jobs not materialising and the lived experiences of undermining local labour conditions. Unfortunately, despite the urgent need for coordination, Mossmorran does not currently feature prominently in sectoral plans, which are dominated by business interests. Sectoral plans are also too narrowly focused on technologies such as CCS and blue hydrogen, without sufficient consideration to diversification options.

Technocratic and top-down decision making will not fix this. It risks missing the opportunity for innovative choices

that would be better for workers, the wider community, and longer-term environmental goals.

On a national level, there is an acceptance by the Scottish Government of recommendations by the Just Transition Commission that transition plans must be distributionally and procedurally just and the new Commission has a remit to hold them to account on this. Policy needs to be both more coherent on a national level and meaningfully involve workers and local communities on the site level. Otherwise, the community connected to the Mossmorran plants risk being left behind once again.

Key recommendations for the Scottish Government include:

- Make a clear commitment that the Mossmorran plants will need to decarbonise in line with a 1.5 degree future, and that livelihoods and job quality will be protected with nobody left behind.
- Urgently engage with trade unions, Shell, and ExxonMobil to understand in detail the needs of workers at both plants at Mossmorran and commit to ensuring that collective agreements are adhered to for all employees, contractors, and subcontractors.
- Partner with trade unions to facilitate worker-led planning to develop options for production changes on site, with the potential to link up such planning across the Scottish Cluster.
- In line with worker-led planning and community engagement, identify funding to investigate the full range of technology pathways to 100% full lifecycle decarbonisation covering feedstock, processes and outputs, including options without CCS dependence.
- An independent recognised national group, such as the Just Transition Commission, should facilitate negotiations between Unite, GMB, Fife Council, local civil society, Shell, ExxonMobil, and the Scottish Government to create a decision-making process for Mossmorran's future that balances power and rights amongst the different actors as much as possible.
- Pro-active public investment should drive decarbonisation of high carbon industrial sectors including Mossmorran with involvement from trade unions within the process.
- A Community Just Transition Fund is required for Fife communities around Mossmorran to support economic diversification and develop alternative industries.

The report also includes recommendations for employers, ExxonMobil, and Shell, focused on (delivering a just transition through trade union involvement that protects job quality and skills, as well as committing to exploring and implementing decarbonisation options for the Mossmorran plants within a 1.5 degree compliant timeline.