

## Project:

**Title:** PhD student placement opportunity – “Can key physical attributes be used to quickly and effectively categorise spoil tips to delineate those assets where an instability potential requires greater statutory management duties?”

Following the events of the Tylorstown landslip, February 2020, Welsh Government committed to reviewing the current regime and legislative framework for disused coal tips in Wales. This review concluded that current legislation is not fit for the safe management of disused coal tips. As such, the First Minister (FM) has included a new coal tip safety bill within the programme for government for the current Senedd term.

Work on this policy area is led by the Coal Tip Safety (CTS) team in Welsh Government, sitting under the portfolio of the Minister for Climate Change. The team work closely with key internal and external stakeholders, including across local government, Natural Resources Wales (NRW) and the Coal Authority (CA).

General information on the CTS programme can be found at [Coal tip safety | GOV.WALES](https://gov.wales/coal-tip-safety)

### **Purpose of the Post**

There are a total 2456 disused coal tips in Wales, as of October 2021. As part of the policy development, Welsh Government are looking at options in how a new legislative framework can be quickly applied across the coal tips estate. One option identified is the potential introduction of a *De Minimus Tip* classification which will identify tip features that pose a suitably low or insignificant risk from slope stability failure. A new classification could prove crucial in the implementation of new legislation such that any obligations (e.g. management requirements) can be appropriately applied or discharged.

A similar approach was taken in the Mines and Quarries (Tips) Regulations, 1971, with the introduction of a Classified Tip (defined below) - this definition is only applicable for active sites and therefore does not apply currently to disused coal tips. A similar definition was continued in both the Quarries Regulations, 1999, and the Mines Regulations, 2014.

Classified Tip: A tip that consists of refuse accumulated or deposited wholly or mainly in a solid state and not in solution or suspension and –

- i. the superficial area of the land covered by the refuse exceeds 10,000 square metres; or
- ii. The height of the tip exceeds 15 metres; or
- iii. the average gradient of the land covered by the refuse exceeds 1 in 12

The research is to focus on three key attributes, as numbered below, determined from existing data. Attributes are as per those for a Classified Tip, with the potential addition of a fourth attribute looking at the slope angle of the natural ground upon which the tips structure is formed.

1. Surface area
2. Height
3. Tip gradients
4. Gradient of natural strata (basal plane)

Coal tips are a unique, man-made geohazard with characteristics shared with both natural features and engineered structures. As such, their geotechnical performance can be complex and changeable. The types of failure affecting coal tips, their triggers and characteristics will need to be deliberated.

A major consideration in the successful implementation of a new definition is that the attributes are to be clearly described such that they can be effectively determined and applied by non-specialists.

Welsh Government shall make available data relating to feature geometries, inspection records and topographical data, where available. The work should consider publically available information, such as Digital Terrain Model (DTM) data, geological mapping resources and historic tip records. Welsh Government can support and assist in accessing other data sources identified.

Findings need to be robust and conclusive, and are to be substantiated with detailed study, analysis, interpretation and assessment.

The post-holder will actively support the development of longer-term policy direction in developing a new coal tip safety regime. This area of research overlaps with other critical work streams and the results will be influential across the policy area.

## Doctoral Training Policy and Evidence Placement

### Key Tasks

- Review of disused coal tips dataset and selection of representative sites with Welsh Government
- Engagement with internal and external stakeholders
- Detailed analysis to support the development of a new definition
- Drafting of a technical paper to support policy direction

### Details

<b>Skills required:</b>	<p><b>Key Skills</b></p> <ul style="list-style-type: none"> <li>• Excellent research skills and the ability to analyse complex information and data</li> <li>• A background in geotechnical engineering/engineering geology with experience in slope stability</li> <li>• Ability to write clearly and concisely and present technical material in an accessible format</li> <li>• Presentation skills</li> </ul>
<b>Outputs:</b>	As agreed with line manager and in relation to the above priorities
<b>Host organisation:</b>	Welsh Government
<b>Placement Start Date</b>	ASAP
<b>Development Opportunities</b>	<p>The placement provides an opportunity to gain insight into the functioning of Welsh Government and evidence-based policy development at the highest level. The post-holder will work in an interesting and diverse team, contributing to the delivery of a cross-government programme in an area of policy in which, through its legislative framework, Wales leads the UK. The post-holder will be expected to work independently within parameters and guidelines provided by the Welsh Government. Working closely with a wide range of colleagues the successful candidate will build valuable working relationships, broaden their knowledge of public policy-making and enhance their existing transferable skills.</p> <p>This is an interesting and diverse role, working on a high-profile programme across Welsh Government portfolios which will allow the student to gain a broad knowledge and understanding of Welsh Government policy work. With support from their WG supervisor, the student will be expected to take responsibility for managing and delivery of work commitments during the placement period.</p>
<b>Duration, location, working arrangements and environment:</b>	<p>The role will be full-time and is normally based with the policy team in one of Welsh Government's regional offices. In view of current Covid-19 restrictions, the post-holder will be required to work from home in-line with working arrangements for all Welsh Government employees and it is unlikely that this will change for the foreseeable future.</p> <p>Post-holders will be provided with a laptop to facilitate regular contact with the policy team members and line management, other policy teams and external partners. Due to the remote nature of working, the policy team will ensure that the post-holder is fully supported during the placement and endeavour to ensure that the placement is as close to the in-team office-based experience as possible.</p> <p>The placement will be for a 3 month period and will focus on delivering the objectives set out in the job specification. The option to extend for a further 3 months is possible if the project team feel there is merit in doing so and if it is compatible with the post-holder's university research schedule and DTP/CDT arrangements.</p> <p>The Welsh Government is a bilingual organisation and Welsh language skills are considered an asset to the organisation. We encourage and support staff to use their Welsh language skills during a placement.</p> <p>Start date will be agreed following successful Welsh Government security clearance.</p>

### Funding

The placement will be funded by Welsh Government; will match the current minimum UKRI PhD stipend rate; will be payable in one sum at the end of the placement; and is in addition to the stipend a student normally receives from their university. The payment process aims to compliment PhD student university stipend payment structures, i.e. WG pay the university and the funds are passed-on to the student's account. Please note: we do not pay students directly

## Contact

**Name:** ResearchPlacements@gov.wales

## Application process

**Please submit CV and covering letter**

**All applicants must seek approval from the academic supervisor before applying**

If you have an impairment or health condition, or use British Sign Language and need to discuss reasonable adjustments for any part of the placement programme, or wish to discuss how we will support you if you are to be successful, please contact [ResearchPlacements@gov.wales](mailto:ResearchPlacements@gov.wales) as soon as possible to discuss your requirements and any questions you may have.