



GŁÓWNY  
INSTYTUT  
GÓRNICWA



# **LoCAL**

## **Low-Carbon After-Life (LoCAL): sustainable use of flooded coal mine voids as a thermal energy source - a baseline activity for minimising post- closure environmental risks**

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Department of Water Protection

# PROJECT PARTNERS

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## Beneficiaries:

- Główny Instytut Górnictwa (GIG) – project leader
- Universidad De Oviedo (UOVE)
- Hulleras del Norte S.A. (HUNOSA)
- University of Glasgow (UGLW)
- Alkane Energy UK limited (Alkane)
- Armada Development S.A. (Armada)
- Sector (Coal /Steel): Coal
- Technical Group: TGC1
- Start Date: 01.07.2014
- End Date: 30.06.2017



<http://socialmediatoday.com/index.php?q=SMC/187523>

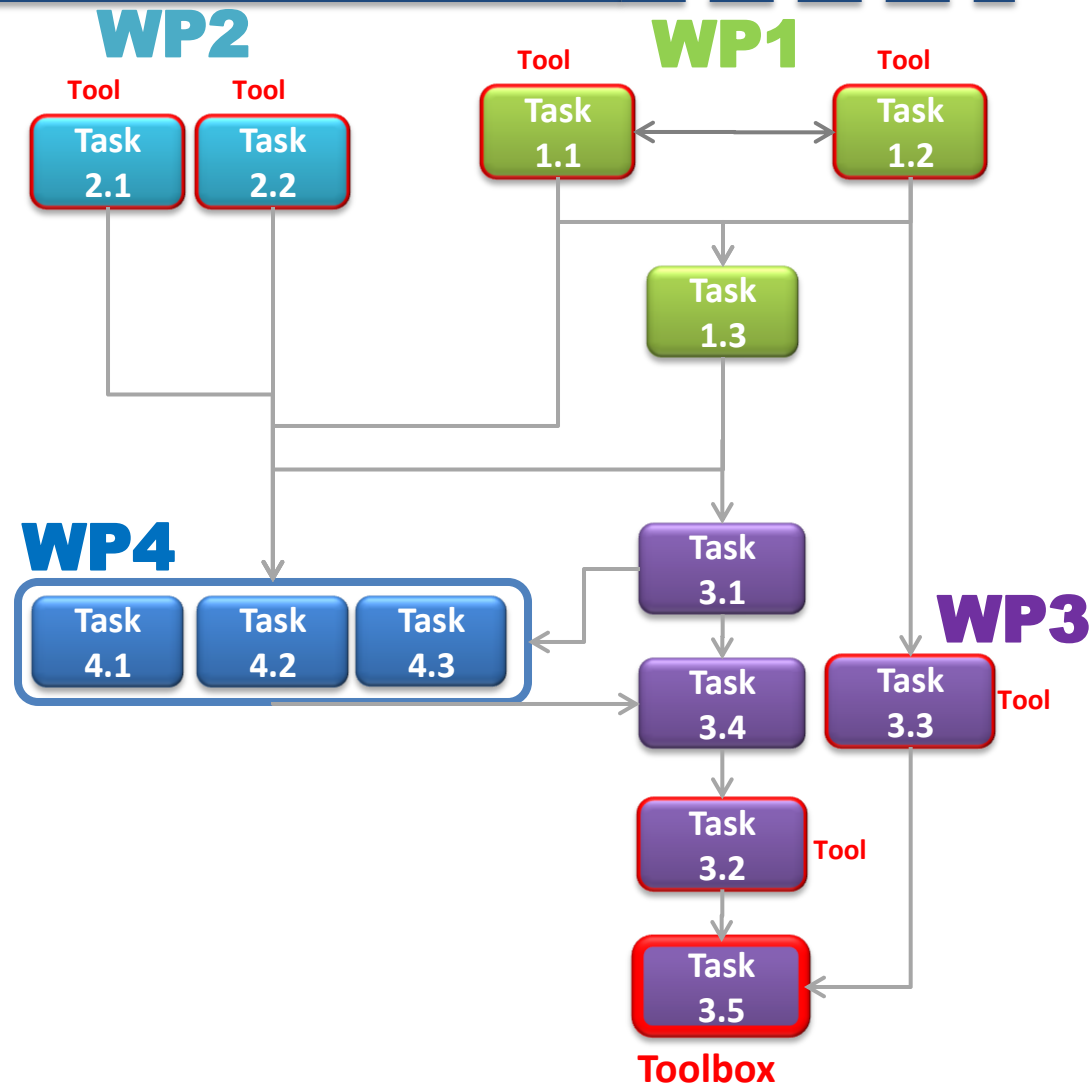
# MAIN AIM

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- **Aim:** Bringing together the state-of-the-art in modelling and management of abandoned coal mine workings to use the mine water as a heat source.
- **Approach:** An active, low-carbon after-life for old mine voids after closure, and also delivers ongoing monitoring of water levels and quality. Use of mine water as an energy source can also help subsidise the cost of other environmental monitoring.
- **Pilot projects:** Using mine water as a heat source aimed at obtaining a low-carbon energy source from the remains of the high-carbon past, but also in terms of the CO<sub>2</sub> capture agenda they will also yield information on hydraulic behaviour of very deep mine voids (> 750m)

# WORKFLOW

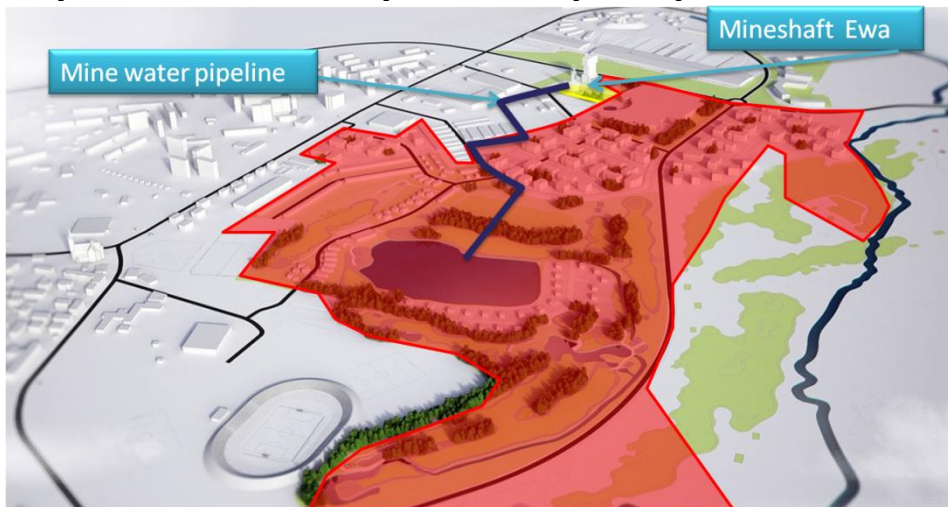
- **WP 1** Bespoke tools for investigating flow and heat transfer in flooded mineworkings (UGLW)
- **WP 2** Overcoming the hydrochemical barriers to effective heat transfer from raw and treated mine water transfer from raw and treated mine waters (UOVE)
- **WP 3** Models for efficiency of energy extraction and distribution (GIG)
- **WP 4** Pilot Implementations (Alkane)
- **WP 5** Coordination & dissemination (GIG)



# PILOT SITE IN BYTOM

- Periodic pumping of mine water in mineshaft Ewa;
- Efficient mine water uptake and dump to the water reservoir;
- Permissions (environmental decision, water permit of dumping minewater, building permit).

**Armada Development area with location of “Ewa” shaft and mine water pipeline with possible water uptake for pilot plant.**



# DISSEMINATION

- providing project results on the **LoCAL web-site** <http://www.local.gig.eu/>
- publishing project products: Guidelines and Reports,
- promotion materials for example advertisement of the planned events,
- organisation of thematic Workshop and Final Conference.



<http://www.samuidissemination.com/samui-projects.php>



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# THANK YOU FOR ATTENTION!

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