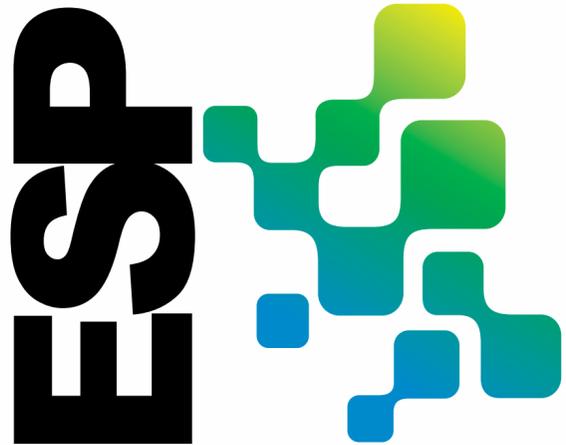


1



ANNUAL
REPORT

CONTENTS

3 • FOREWORD

4 • 2011 - 2012

5 • 2013

6 • 2014

7 • 2015

8 • 2016

9 • 2017

10 • 2018

11 • 2019

12 • 2020 - 21

13 • WHAT'S NEXT?

14 • ESP KEY FACTS

15 • WHAT YOU TOLD US

FOREWORD



SIMON HEWITT

Chair of
ESP Strategy Group
and Principal of
Dundee & Angus College

ESP is now celebrating its 10th anniversary and we felt it was appropriate to reflect on the past decade to review how our remit has extended and revisit some of the key milestones and achievements made by this key college partnership.

This year's Annual Report is therefore presented in a timeline format that clearly articulates when and why ESP's remit has extended, the key achievements and impacts and the transition from a newly established reactive organisation into a highly regarded strategic organisation recognised by the whole college sector, industry, government and agencies.

One of the key developments over the past year has been the shift in focus by everyone toward the climate emergency which has seen all the hard work of the team over the past 10 years come into its own following the publication of a number of key documents including the Climate Change Plan and the Climate Emergency

Skills Action Plan which aligns perfectly with ESP's sectors and focus on capability and capacity building, curriculum developments and priorities for new entrants, upskilling and reskilling as well as transition training.

This has given the team and our college members an extremely strong platform to work from in supporting Scottish Government, agencies and industry in taking on the climate emergency challenge, supporting the green recovery and maximising the economic benefits to be gained from the green revolution.



JIM BROWN

Director
ESP

The past year has been significant for ESP and a year which has seen the culmination of 10 years of dedicated effort from the team that has positioned ESP well to support a number of key policy areas particularly the focus on the climate emergency and the green recovery.

As part of our planning we have commissioned an independent review with the results far exceeding our expectations with response rates exceptionally high and feedback phenomenally positive.

We have reviewed our vision, aims and priorities, governance arrangements and secured recognition from the College Principals Group. ESP are the college sector agency for Energy, Engineering, Construction and STEM and the lead organisation for the sector in supporting the Climate Emergency Skills Action Plan.

The past year has been challenging for everyone and I am proud of what the team have achieved over the past ten years but over the 12 months everyone has stepped up and exceeded expectations in so many ways:

1. We are working directly with Scottish Government across numerous areas.
2. We have more partnerships and collaborations than ever.
3. We have secured more funding than any other year from a wide range of partners to support:
 - a. Capital investment in emerging technologies for colleges
 - b. CPD for college staff
 - c. New curriculum development and digital approaches

It is testament to the team, our member colleges and all our partners that our independent review was so positive and I would like to personally thank everyone for their efforts.



Energy Skills Partnership was formally established in September 2011 to support Scotland's transition to a low carbon economy that will deliver reduced greenhouse gas emissions, increase economic impact and generate many thousands of new jobs.

Jim Brown appointed as project director in December 2011.

One very positive achievement is the extension of membership to 25 core colleges providing coverage of all Scotland's regions. This will become more critical as the regionalisation agenda progresses.

This resulted in unprecedented collaboration between Scotland's colleges leading to a number of interventions across the college sector that established strong foundations to support future developments.

In 2012 Sarah Melville joined ESP as Project Administrator to support the Project Director and ESP members by contributing to the delivery of the ESP Strategy, supporting steering, industry and working groups, project activity and contracts to ensure the effective delivery of ESP aims.

To drive forward the energy work ESP established a number of groups to develop and drive forward work plans for the energy sector, namely:

1. **Steering Group**
2. **Theme Groups**
3. **Qualifications Working Group**

The demand for a skilled workforce was informed through close working with SFC, SDS and other skills bodies prioritising:

1. **Qualification framework development.**
2. **Teaching material development for wind turbine technicians.**
3. **Scottish Energy Training Database and Resource Matrix.**
4. **Development of Capability and Capacity Across Scotland's Colleges.**
5. **Micro-renewables (SDS funded).**

Key Activities

During 2012 moving into 2013 ESP secured additional funding and support from a range of sources for a number of projects including:

1. Scottish Government funds to support the development and delivery of demand led/work-readiness programmes, supporting articulation pathways and developing the capability and capacity of the college sector.
2. South West Wind Project funding from SPR and National Skills Academy for Power to establish the southwest wind programme.
3. Greater Glasgow Articulation Partnership funds to support the development of teaching materials for the Enhanced Maths programme.
4. National Skills Academy case studies.
5. National Skills Academy funding for Power Renewables CPD programmes.
6. Funding secured to help establish the Wind and Marine Training Network from SG/ESS.
7. Funding secured through SG to support an enhanced HNC/ Employer led programmes.

The demand for a skilled workforce was informed through close working with SDS and other skills bodies.

ESP and Energy Technology Partnership (ETP) led on a number of co-ordinated initiatives to provide training to industry and staff within colleges and universities.

ESP developed its own extensive work plan and had an active role in a number of wider projects and CPD provision including:

- Established Micro-renewables and Energy Efficiency Themed Group.

- 149 year 2,3 & 4 apprentices completed 2 day environmental awareness course
- Micro-renewables CPD training for 59 college lecturers
- Development of Micro-renewables teaching materials.
- Supported Build Up Skills project
- Commissioned Dundee College to develop 4 teaching packs in Environmental Technology Systems

BUILDING ON REGIONALISATION

Building on very positive achievements through the period of regionalisation with the extension of Core Membership to include coverage of all Scotland's regions.

Significant progress in developing the capability and capacity of Scotland's colleges, positioning the colleges with public sector agencies and building formal networks to support industry.

John Renwick joined ESP in November 2013 as Sector Manager for Construction to support ESP and lead on skills for the construction and emerging technology sectors.

The Scottish Government established Energy Skills Scotland (ESS) - ESP were heavily involved in the establishment of ESS.

As ESP emerged a number of working groups were established to take forward strategic activity namely:

- The Wind and Marine Training Network
- Power Transmission and Distribution Training Network
- Energy Efficiency Training Network

Key Activities

During 2013 ESP provided additional support to a number of projects and colleges including:

- Commissioning MAGMA Enterprises to develop teaching materials for Domestic Energy Assessor (DEA) programme.
- Supported 23 lecturers to be upskilled in environmental technologies.
- Energy Skills Challenge Fund supported 50 industry staff to upskill in energy efficiency and renewables measures.
- Formally established Energy Efficiency Training Network with Scottish Government to support colleges in the development of low carbon skills.
- Energy Skills Scotland Gateway – SDS worked with colleges to populate database with energy related courses offered by colleges.
- Facilitating a number of Challenge Fund projects supporting; Weir Group (Dumfries and Galloway College); Scottish Power Renewables' South West Wind project (Ayr College) and Angus Biofuels (Angus College).
- Environmental Technology Systems course materials - ESP commissioned Dundee College to develop teaching materials.
- ESP Commissioned Fife College to develop Science, Technology, Engineering and Maths (STEM) Strategy.

- Secured funding through SG to support an enhanced HNC/Employer led programmes for delivery in the academic year 2013/14.
- Secured funding to support Enhanced HNC - Level 2 PEO bolt-on. 219 students supported.

National Recruitment Campaign

ESP worked with College Development Networks' HR group and member colleges to develop a 4-week national media campaign to recruit vocational trainers / lecturers with a focus on Engineering for the energy sector. The campaign received in excess of 50 CVs which were made available to college HR contacts on ESP's website.

ESP rapidly established itself as a key partner and influencer having established a robust structure and focussing on action in developing demand led provision.

ESP was invited to participate in a number of key groups including:

- Energy Skills Action Group / Energy Skills Scotland (Scottish Government)
- Offshore Wind Industry Group (Scottish Government)
- Micro-generation Task Group (Scottish Government)
- Skills and Employment Strategy Group (RenewableUK)
- Renewable Training Network (RenewableUK)
- Power Network Working Group (EU Skills/NSAP)
- Skills and Employment Strategy Group (RenewableUK)
- East Coast Renewables
- Perth and Kinross Green Technology Business Accelerator
- Argyll and Bute Renewables Alliance (ABRA)
- Scottish Enterprise and Highlands and Islands Enterprise Key Contract Managers

A significant achievement this year was industry's recognition of ESP's work through the award of the Green Energy Award for Contribution to Skills.



GOING FROM STRENGTH TO STRENGTH

ESP's role had been recognised by the Scottish Funding Council who committed a further 3 years of core funding totalling £360,000. This was matched by colleges through their membership subscriptions with further funding secured through project funding and industry contributions.

Recognition In a motion on Skills Partnership raised in the Scottish Parliament on 24 September 2014 by Claudia Beamish MSP, Energy Skills Partnership was cited as an excellent example of partnership working with examples being highlighted of energy training related work being undertaken by member colleges in south Scotland. Angela Constance MSP, Cabinet Secretary for Training, Youth and Women's Employment is quoted as describing the partnership as "highly successful".



Linking Supply with Demand

On 22 January 2014 the Energy Skills Partnership hosted an extremely successful 'Supply meets Demand' Energy Careers Fair in Perth. The event was well received with 11 major employers representing the Oil & Gas and Power sectors and 4 partner organisations speaking to over 300 engineering students from 13 colleges across Scotland.

- **Oil and Gas** - AMEC, Petrofac, Schlumberger, Wood Group
- **Power** - B9 Energy, Community Wind Power, Scottish Power, Senvion, Siemens, SSE, Vattenfall
- **ESP Partners** – ECITB, NSAP, SDS, SQA

Develop Industry Focused Training Networks

ESP worked with industry to identify key colleges to support their sectors. This resulted in a number of formal networks being established, namely:

1. Wind and Marine Training Network
2. Generation and Grid Training Network
3. Energy Efficiency Training Network

Curriculum Development

The Qualifications Working Group has made a number of recommendations on the engineering qualifications underpinning the energy sector which were taken on board by SQA in their future work plans.

Qualifications/Courses

1. Maths for Engineering

ESP commissioned support to develop:

1. Science, Technology, Engineering and Maths (STEM) Strategy – (Fife College).
2. Marine Renewables Strategy (North Highland College UHI).

Teaching and Assessment Materials

1. Forth Valley College - HND Electrical.
2. Forth Valley College and Dumfries and Galloway College - Level 2 Certificate in Electrical Power Engineering.
3. Glasgow Clyde College - ISO9001.
4. Glasgow Kelvin College - Environmental Awareness unit.
5. Orkney College UHI - MCA Oral Exam Support Materials.
6. RenewableUK - Blade Repair and Inspection (BRAI) course.

Mainstreaming enhanced NC, HNC/D and industry focused programmes (such as the Wind Turbine Technician programme).

This enhanced programme focusses on students completing additional Performing Engineering Operations Level 2 SVQ to bolster their academic qualifications. This initiative aligns with industry apprenticeship programmes and the intention is to seek industry recognition of this programme as a direct entry to Modern Apprenticeships.

Other key achievements

- Establishment of the Wind and Marine Training Network (£500,000) from SG/ESS to support network development across 2013/14.
- Working with Colleges Scotland and Pagoda to arrange a series of MSP visits to colleges.
- SDS supported 821 college modern apprentices to gain their Environmental Awareness unit via the Low Carbon Skills Funding. An additional 111 college staff were upskilled in environmental technologies.
- 53 staff were supported in study trips including a visit to the Future of Buildings conference in Vienna.
- Collaborating with SNIPEF & SDS to secure funding through the Low Carbon Skills Fund to support 120 third - and fourth-year plumbing apprentices to

gain their air source and ground source heat pump qualification.

- The Economic Impact of Scotland's Colleges Parliamentary reception showcased equipment including Solar PV.



- Parliamentary debate took place around Skills Partnerships and recognised the work of the Energy Skills Partnership (ESP).
- ESP supported the development of learning materials to drive green skills and college standardisation including PAS 2030, Green Deal, Near Zero Energy Buildings, Environmental technology awareness, Energy efficiency awareness, Thermal bridging, Air tightness, Building Information Modelling (BIM), Insulation techniques and Micro-renewables.
- Commencement of the Erasmus+ Winds and Tides Project with EU Agencies.

2015

BUILDING ON SUCCESS

The demand for a skilled workforce had been informed through close working with SDS and other skills bodies. From the supply side perspective, ESP led on a number of co-ordinated initiatives to provide training to industry and staff within colleges to ensure there are industry ready employees in the workforce.

This brought with it a number of significant changes for ESP through the natural evolution of the skills agenda and related skills priorities as set out in the Skills Investment Plans.

- Energy Skills Investment Plan (SIP)
- Engineering SIP
- Construction SIP
- Manufacturing Action Plan
- Developing the Young Workforce

In 2014/15 ESP's Steering Group agreed to extend the remit to cover emerging priorities aligning with government, government agency priorities and emerging industry demand. Through work with the various groups ESP extended its remit to include:

- Science, Technology, Engineering and Maths (STEM)
- Smart Metering
- Building Information Modelling (BIM)
- Manufacturing
- Resource Efficiency and Waste Management
- Low Carbon Transport

In 2015 Alex Sinclair joined the ESP team as Project Administrator to provide additional support to ESP as its remit and priorities extended.

Curriculum Developments

1. SMART Metering.
2. Foundation Apprenticeship framework development for Engineering and Energy.
3. HND Electrical Engineering distance learning.
4. Wind Turbine Technician Programme.

During 2015 ESP provided additional support to a number of projects and colleges including:

1. FLIR were commissioned by ESP to introduce thermal imaging devices to colleges lecturers.
2. Erasmus+ project was awarded in partnership with other EU agencies. This project supported the development of innovative and competitive professional approaches in the building sector using Building Information Modelling (BIM) technology.
3. Wind and Marine Composites - ESP, working with industry partners commissioned a composites master

class held at Ayrshire College in Non-destructive Testing.

4. Working in partnership with Energy Savings Trust, Historic Scotland, West College Scotland, and Orkney College UHI, ESP supported a pilot project to deliver PAS2030 for companies to become certified installers.
5. With the predicted move away from petrol and diesel vehicles gathering pace, ESP identified the need to upskill Scotland's colleges' motor vehicle lecturers to deliver courses to cater for future demand. In November ESP commissioned train-the-trainer events in
 - IMI Level 3 Award in Electrically Propelled Vehicle Repair and Replacement.
 - IMI Level 4 Award in the Diagnosis, Testing and Repair of Electric/Hybrid Vehicles and Components.
6. Hydrogen Fuel Cell Awareness - Working with the Hydrogen Office in Methil, Fife, ESP supported 24 college staff to attend an appreciation course in hydrogen.

CPD

128 college staff were supported in 2015 in the following visits:

- Passive House
- Introduction to Building Information Modelling (BIM)
- Battery Storage
- South Lanarkshire College's BREAM Building
- Honeywell Manufacturing
- ECOBUILD (London)

Supply Meets Demand — Energy Careers Fair 2015

On Wednesday 21 January 2015 ESP, working with key partners including SDS, ECITB, NSAP, OPITO and The Crown Estates hosted another extremely successful 'Supply meets Demand' Energy Careers Fair in Perth. The event, opened by the Cabinet Secretary for Fair Work, Skills and Training, Roseanna Cunningham MSP, attracted 597 engineering students, wind turbine technicians and college staff from colleges across Scotland.

13 employers attended the event including: Petrofac, B9 Energy O&M Ltd, Schlumberger, Amec Foster Wheeler, Scottish Power, Siemens, Weirs Group, Senvion, Doosan Babcock, EnerMech Ltd, 3 Sun Group, SSE and Babcock International.

College showcase:

- Hydraulics & Pneumatics from West College Scotland
- Electronics from City of Glasgow College
- Wind Turbine Blade Repair from Ayrshire College
- Wind Turbine Trainers from Fife College. Virtual reality working at heights from Herriot Watt University's ICE (Immersive Controlled Environment) Project



Shared Resources

ESP supported the purchase, development and sponsorship/donation of a significant number of shared resources.

These included:

- Virtual Welding Mobile Unit
- Wind Turbine Components
- Immersive Hybrid Reality (iHR)
- Air Tightness Testing Kit
- Teaching Materials



STEM Strategy

ESP began building its STEM strategy and worked with a number of partners to coordinate activities across Scotland including:

- Engineering UK – Big Bang Scotland
- Edinburgh Science Festival
- Glasgow Science Centre
- Shell Girls in Energy
- Foundation Apprenticeships
- Energy Skills Scotland's Education Strategy

ESP were awarded the Contribution to Skills & Training at the Green Energy Awards hosted by Scottish Renewables. The award recognised the collaboration and partnership with colleges to deliver micro-renewables training to students. The college network provided air source and ground source heat pump upskilling to plumbing apprentices equipping them with the skills for the future.



NEW PRIORITIES

Following the publication of a number of key policy documents and changes to existing organisational structures ESP had been identified by partners as the key delivery partner to take forward a number of new priority areas including:

- Automotive and Transport
- The wider manufacturing sectors such as Food and Drink and Chemical and Life Sciences
- SMART Metering
- Re-focus on Oil and Gas

ESP worked with a number of new sectoral agencies and industry organisations to ensure colleges were represented and made aware of key priorities.

Roddy Scott joined ESP in January 2016 as Sector Manager for Engineering & STEM working with all of Scotland's colleges and industry groups on a range of skills projects across Manufacture, Automotive, Oil & Gas and the Renewables sectors.

As well as establishing key industry groups ESP had been invited to represent the college network on a number of strategic boards including:

1. **Scottish Futures Trust BIM Industry Forum**
2. **Smart Metering Skills Action Group**
3. **Oil & Gas Decommissioning Group**
4. **Scottish Energy Efficiency Programme (SEEP) Partnership Forum**
5. **Manufacture Action Plan Skills Group**
6. **College Innovation Working Group**
7. **STEM Hub Steering Group**
8. **Digital Skills Partnership (DSP)**

Other key developments

1. **Energy Efficiency Awareness** - provided to over 600 college construction students.
2. **SEEP** - ESP represented Scotland's colleges at the Scottish Energy Efficiency Programme (SEEP).
3. **Wind and Marine Training Network**
 - 51 Wind Turbine Technicians gained their GWO/RUK suite of certificates.
 - 10 students gained employment with Wind company Gamesa.
 - 3 students gained required health and safety certificates to attend wind turbine technician training with German based wind turbine maintenance company Deutsche Windtechnik.
4. **Automotive Training Network** - Network established with 12 staff trained to IMI Level 2 Hybrid Vehicle and 12 staff trained at C&G Level 3 Hybrid Vehicle.
5. **The Institute for Sustainable Construction** at Edinburgh Napier University were commissioned to develop thermal imaging and building acoustic learning materials.

Supporting Curriculum Developments

3 Energy Units:

- Oil/Gas Extraction
- Energy: Energy and the Individual
- Offshore Renewable Energy Systems
- Level 2 Certificate in Electrical Power Engineering -Distribution and Transmission (Technical Knowledge) (2339 -17) – supporting the Power Industry Distribution and Transmission apprenticeships at Level 2 and Transition Training Programs
- Winds and Tides Offshore Renewable Energy Awareness
- Maths for Engineering teaching materials
- Foundation Apprenticeship framework development for Engineering and Energy
- HND Electrical Engineering distance learning
- Influencing the Building Engineering Services apprenticeship frameworks
- Wind Turbine Blade Repair and Inspection course development with RenewableUK and ORE Catapult

6. **Building Information Management (BIM)** - seminar held at Fife College to upskill 55 college staff from across Scotland.
7. **SMART Metering** - 32 students gained training and employment as SMART metering technicians.
8. **Erasmus+ Student Mobilities** - As part of an Erasmus + student exchange project ESP organised a visit for Norwegian students to visit companies across Scotland and Fife College students travelled to Cherbourg, France as part of their learning journey.



9. **Erasmus+ Energy Links and Integration Tools for Efficiency (ELITE)** - project supported the development of Building Information Modelling (BIM) technology.
10. **Interactive College Resource Map** - A key development that evolved was the launch of the ESP Interactive Map.

A focus on STEM

Since the launch of the STEM: Education and Training Strategy, ESP worked with a number of partners including the Army Careers, Education Scotland, SSERC, Bloodhound, Microsoft to coordinate STEM activities and establish 13 regional partnership STEM hubs across Scotland. Key STEM activities of 2015/16 include:

Big Bang Scotland - The event hosted at Glasgow Science Centre supported by EngineeringUK, showcased STEM activity taking place in colleges across Scotland with interactive exhibits and activities.

The event saw 212 school pupils attending the one day event.



STEM Partnership - As a result of the success of STEM activity ESP became a strategic partner with Education Scotland, SSERC and Skills Development Scotland and established the Scottish STEM Partnership to coordinate activity between colleges and Schools in Scotland.

Bloodhound Scotland - ESP with its partners Education Scotland, SSERC, Bloodhound and the Army established 15 regional delivery hubs across Scotland. These hubs run by 40 trained staff in member colleges engaged with 120 local schools, raising awareness of STEM subjects to over 800 pupils whilst participating in the Bloodhound Challenge.

By June 2016, 40 College staff were trained and links with the Army were made to engage over 800 school pupils.



ENERGY SKILLS PARTNERSHIP TO ESP

The impact and contribution of ESP to the college sector and our extended sectoral coverage was recognised by the Scottish Funding Council who committed to a further 5 years of funding.

ESP revisited its governance arrangements and this resulted in the establishment of two Strategy Groups, Engineering and Manufacturing (including energy, advanced and wider manufacturing and transport) and Construction (including Energy Efficiency).

Brand confusion around Energy Skills Partnership and the wider remit lead to changing the brand to ESP.



Wendy Findlay joined ESP in February 2017 as the EngineeringUK Employer Support Manager, helping industry partners to develop their STEM engagement strategies and also coordinating the delivery of STEM events. Wendy is now employed directly by ESP as the Programme Manager for STEM.

• Both Strategy Groups now operated under 4 key priorities:

- Influencing
- Capacity and Capability in Support of Emerging Technologies
- Funding and Resources
- Curriculum and Learning and Teaching Development

• ESP staff visited colleges across Scotland to discuss future requirements.

ESP worked with a number of new sectoral agencies and industry organisations to ensure colleges are represented and are aware of key priorities.

Strategic Partnerships / Group Memberships included:

- Scottish Futures Trust BIM Industry Forum
- Energy Efficient Scotland Partnership Forum
- Oil & Gas Decommissioning Group
- College Principals' Group and Scotland's Skilled Workforce Forum
- National Manufacturing Institute of Scotland (NMIS)
- Manufacture Action Plan Skills Group
- College Innovation Working Group
- Scottish STEM Hub Steering Group
- Digital Skills Partnership (DSP)

Other key activities.

1. **STEM Ambassadors** - All ESP Staff members became certified STEM Ambassadors.
2. **Interactive Map** - ESP worked with The Soluis Group to create an interactive online map. In 2017 Cherry Lameg started a temporary role with ESP to assist with data input to the [Interactive Map project](#) while studying HND Admin and IT at Forth Valley College. Cherry became a full-time member after completing her studies to provide project administration support to ESP.
3. **ELITE Building Information Modelling** - (BIM) and Energy Efficiency event hosted at Fife College.
4. **Wind and Marine Training Network** - Further support was provided for by SG.
5. **Food and Drink Manufacture** - SDS funding to boost priorities identified for the food and drinks sector.
6. **Future of Buildings conference** - ten people represented Scotland at the Future of Buildings conference in Vienna.
7. **Seanergy** - staff members and representatives from Fife college and City of Glasgow college visited the Energy event at Le Havre.



8. Immersive Hybrid Reality (iHR)

- SG supported ESP to enhance the Virtual Reality working at Heights previously developed by Heriot Watt University and ESP. Working with ORE Catapult, Herriot Watt University and Animmersion, ESP:
- Purchased shared resource immersive Hybrid Reality (iHR)

9. **The (iHR) laboratory** - Fife College iHR laboratory was officially opened by Scottish Government Minister for Further Education, Higher Education and Science, Shirley-Anne Somerville MSP. The Lab enables students to enhance their training and development and conduct virtual inspections of an offshore wind turbine, based on ORE Catapult's Levenmouth Demonstration Turbine.



10. **Automotive Training Network** - ESP worked in partnership with Transport Scotland, Energy Savings Trust and the Scottish Motor Trade Association on:

- Hybrid vehicle training for colleges. Training in diagnosis, testing and repair of electric and Hybrid vehicles to level 4.
- Support for colleges to purchase hybrid vehicles
- MOT training for college staff which ESP supported, with 6 staff receiving their MOT Nominated Testers Award.

11. Big Bang Near Me/Big Bang Scotland

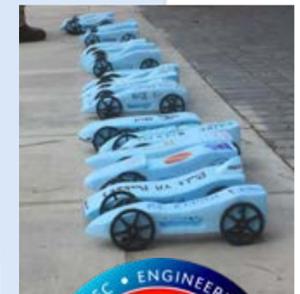
- Big Bang Scotland Fair was held at Perth College UHI's Academy for Sport and Wellbeing. The event welcomed 535 school pupils from 37 schools across Scotland and was supported by 7 colleges and 34 industry partners who delivered interactive STEM activities, careers talks and showcased STEM initiatives.

Funding from EngineeringUK also allowed ESP to support the development of a number of Big Bang Near Me events run by college hubs across Scotland allowing 2975 young people to experience a STEM event in their own region.



12. **Bloodhound Scotland** - The Bloodhound Scotland Rocket car competition saw 32 teams from over Scotland (1247 students) make it to the final held in Perth.

13. **GreenPower** - National discounts were negotiated for bulk purchases of GreenPower Formula 24/ 24+ karts with a grant available for colleges to establish a network of teams competing in the Scottish League.



2018

AN INCREASED STRATEGIC ROLE

Throughout 2018 ESP continued to be recognised by government and agencies as a strategic partner. Direct engagement from a wider range of Scottish Government departments and government agencies saw ESPs influence increase significantly.

Key highlights have been working with:

1. Colleges Scotland on Construction Apprenticeship Funding.
2. Highlands and Island Enterprise and University of the Highlands and Islands.
3. Energy Savings Trust.
4. Scottish Government.
 - a. Wind
 - b. Energy Efficiency
 - c. Transport

Rachel Tulloch joined ESP in April 2018 as Project Support Manager for engineering to provide support for wider and advanced manufacture as ESP's remit expanded to cover priorities in the manufacturing action plan.

2018 required a significant focus on working with industry and industry bodies on a number of fronts resulting in a number of formal partnerships and groups being established to agree delivery frameworks for specific industries.

ESP were identified by partners as an important delivery partner following on from the publication of key policies.

Key Activities

1. Advanced Manufacture Working Group (AMWG).
2. Offsite Construction Working Group (OCWG).
3. Quality & Skills Working Group.
4. The OPIT Skills & Expertise Group was formed by Historic Environment Scotland (HES).

Other Key Activities

1. **Wind and Marine Training Network** - ESP supported the three Wind Turbine Technician Training colleges to secure approval to deliver the new Global Wind Organisation Basic Technical Training course.
2. **Augmented Reality Training** - hosted for college staff.
3. **EST Innovation event** - ESP and four colleges attended Glasgow Science Centre focussing on Scotland's Energy Efficiency Programme (SEEP).



4. **The Big Bang Scotland Fair** - run in partnership with EngineeringUK's Tomorrow's Engineers initiative brought together over 60 exhibitors from industry and colleges along with 13 inspirational speakers from industry partners. Attended by over 1300 school pupils from schools across Scotland.



5. **Elite Erasmus+ BIM project** - ESP and Ayrshire College staff visited Piacenza in Italy with partners from France, Italy, Portugal, and Estonia.

6. **Scottish STEM Hub Steering Group** - Convened by SFC, ESP worked with Education Scotland, SSERC, SDS and others to support colleges in establishing 13 Regional STEM Hub Partnerships across Scotland.
7. **AC Whyte Ltd.** - ESP worked with AC Whyte to set up the External Wall Insulation Academy in partnership with West College Scotland.



8. **The Institution of Engineering and Technology (IET)** - ESP formed a strategic partnership with the IET becoming the Scottish delivery partner for the IET FIRST® LEGO® League.

9. **RAF100: Aiming for Awesome** - ESP supported and helped to deliver a number of STEM activities funded by the RAF including teacher CPD. MTa STEM kits for distribution to colleges were funded by the RAF and have been used to provide train the trainer to college staff and to deliver regional teacher CPD to teachers.

10. **Tomorrow's Engineers EEP Robotics Challenge** - Scheme expanded to 18 new Scottish schools.

11. **Shared Resources** - ESP supported the purchase, development and sponsorship of a number of resources including:

- Laser Alignment.
- Hydraulic Torque Equipment.
- Immersive Hybrid Reality mobile units -two additional units purchased.
- Hybrid vehicles.
- Powering the Future (Glasgow Science Centre) - Interactive exhibit about the future of energy, exploring how to make energy more affordable, secure and sustainable.

12. **STEM@the Helix** - ESP was part of the development team for the inaugural event which with industry partners engaged schools across all of Forth Valley in STEM activities with a families day for over 3000 participants at the weekend.

13. **Future of Building congress (Vienna)** - attended by six colleges along with fifty nations.



14. **MoD** - ESP had significant support from the Army, Navy and RAF which resulted in ESP being recognised as the MoD delivery partner in Scotland.

15. **Honeywell** - ESP worked in partnership with Honeywell Control Systems Ltd for CPD on smart heating controls.

16. **STEM Best Practice Day** - ESP held a STEM networking event at Forth Valley College in Stirling attended by staff from 14 colleges and representatives from 35 organisations.



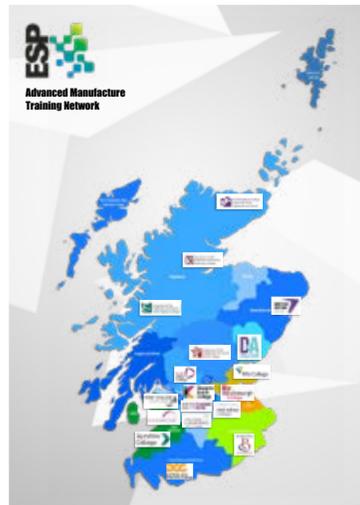
A FOCUS ON INDUSTRY

ESP actively worked with a range of government departments/agencies including:

- Offshore Wind
- Energy Efficiency
- Construction
- Hydrogen
- STEM

2019 was a highly successful year for collaboration with existing and new technology partners with a renewed focus on working with industry and industry bodies and a number of formal partnerships and groups were established.

Juliet Mallace joined ESP in August 2019 as Project Support Manager to support on the development and delivery of a Green Economy Fund project to build colleges Renewables and Energy Efficiency capability and capacity.



The Advanced Manufacture Conference hosted at Forth Valley College for college management and lecturing staff was where ESP's Advanced Manufacture Training Network was officially launched by Jamie Hepburn MSP, Minister for Business, Fair Work and Skills.

ESP worked with our Advanced Manufacture Training Network, SQA and industry to agree the development of a number of Professional Development Awards in:

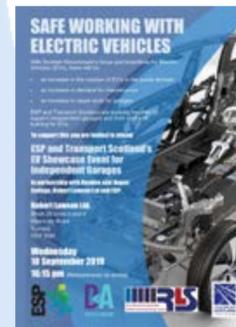
1. Hydrogen
2. Advanced Manufacture
3. Industrial Automation

Key Activites

1. **Advancing Manufacture Challenge Fund** - ESP were key in ensuring Scotland's colleges were included in the call for bids into the £18m fund.
2. **SQA Engineering Qualifications Review** - ESP's Engineering Strategy Group continued to influence and shape SQA's engineering offering with two new PDAs in Industrial Automation and Advanced Manufacture approved and the group involved in HN Next Gen qualifications. During Annual Year 2019/20 ESP and the group engaged with SQA around the pilot phase of HN Next Gen and review of engineering frameworks.
3. **Industry visits and staff CPD (389 staff across engineering).**
4. **Energy Efficiency Skills Competency Framework** - ESP Developed the Energy Efficiency Skills Competency Framework in partnership with Scottish Government to address the minimum skills competencies.

5. **Safe Working With Electric Vehicles (SWEV)** - ESP collaborated with Transport Scotland to build capability and capacity across our Automotive Training Network. The SWEV project aims to:

- Upskill college staff to Levels 2 & 3 in Electric Vehicle Maintenance
- Purchase High Voltage training aids with related cloud based learning
- Run awareness events for independent garages



6. **Energy Efficiency Training Network (EETN)** – The EETN was re-established.
7. **Marine & Maritime** - Two events were held in partnership with Highlands & Islands Enterprise (HIE) with a view to understanding maritime training across Scotland with particular focus on the Highlands and Islands region.

8. **Construction Modern Apprentice Working Group (MAWG)** - ESP and Colleges Scotland established a Construction Modern Apprentice Working Group (MAWG) to engage with CITB around changes to the construction SVQ3 MA programme. The impact of this group resulted in an increase of MA funding from £,2301 to £4,500 (per candidate), a 95% increase that equates to a total of £3.3 Million additional income annually to colleges.
9. **SP Energy Networks Green Economy Fund** - £500k capital investment programme in low carbon and energy efficient technologies for colleges in Central & Southern.
10. **SUBS in Schools** - ESP designed and delivered the Subs in Schools pilot which allowed schools to design and operate their own underwater vehicle.
11. **MOU with Ministry of Defence** - ESP signed a MOU with the MOD as a strategic partner for STEM engagement in Scotland.



13. **CITB Assessors project** - CITB commission ESP to help with the recruitment and training of 150 assessors across all of Scotland's construction Colleges.

Funding to support development and delivery of:

- A national assessor recruitment campaign
- National training of assessors (9 Virtual Assessor Training Programmes)
- Development & Implementation of an e-Portfolio
- Funding towards assessors gaining L&D9i, L&D11 and CSCS cards



12. **IET FIRST® LEGO® League** - The IET FIRST® LEGO® League Into Orbit Season saw 72 teams competing in 7 tournaments, this included the Western Isles where the World's first ever 'Virtual' tournament was judged via video link.



14. **IET** - ESP became an Education Partner of IET providing support to a number of initiatives in order to help widen IET's outreach across Scotland.

15. **Step Into STEM** - Big Bang events rebranded as 'Step into STEM'.



2020-21

COPING WITH COVID

ESP worked more closely than ever with Scottish Government and agencies on a range of policy interventions and industry in identifying future skills needs. In doing so, we worked with our Engineering and Construction Strategy Groups to develop appropriate responses.

Through the college sector COVID-19 response and the exceptional work carried out by colleges ESP committed to supporting college members through the sharing of teaching material, securing online resources and facilitating collaborations.

From a future skills perspective, ESP continued to work with Catapults and Innovation Centres.

The team secured significant funding, most of which was allocated directly to colleges, to provide support and services for projects and investment in capital equipment and staff development.

Shared Resources

Funding from Transport Scotland allowed us to purchase a number of shared resources to support our automotive and hydrogen training networks. These include:

1. Electude lock-out trainers supported by online learning
2. Lucas Nuelle equipment that replicates car, van and heavy electric vehicles and comes with a comprehensive online learning package.
3. Lucas Nuelle hydrogen fuel cell resources and supporting online learning package.

ESP created a video with Transport Scotland to replace face to face SWEV awareness events paused by Covid19.



CPD

IMI Training for Automotive colleges - Throughout 2020 and 2021 ESP have supported New College Lanarkshire and Edinburgh College to have all automotive staff in the colleges trained to IMI L2 and L3 electric/hybrid vehicle system repair and replacement.

Energy Efficiency - Working in partnership with Vaillant to offer CPD to college lecturers online training was offered on the following: Hydrogen, Decarbonisation of the Heat & Low Carbon Technologies, Heating, Water quality and Safe Isolation.

Other key activities

1. **EV in the Highlands & Islands** - ESP has been working with colleges in the region to increase the capability and capacity to allow colleges within the UHI region to prepare EV training.
2. **Construction COVID response** - ESP established 3 new construction working groups – Technicians, Building Services and Crafts to support college lectures with MS Teams sector specific portals.
3. **Heavy Duty Vehicles (HDV)** - In 2020 ESP established an HDV sub-group of colleges within our Automotive Training Network who offer HDV training.
4. **CENSIS** - ESP continued to collaborate with CENSIS, the innovation centre for sensors and internet of things (IoT) and towards the end on AY 2020-21 held a number of lunch and learn sessions for colleges in a number of ESP's training networks.
5. **Manufacture** - ESP progressed with the developed collaboration agreement with NMIS and are partners in the Digital Manufacture on a Shoestring project working with Scottish Manufacturing Advisory Service (SMAS).

6. Energy Efficient Scotland

- ESP, Scottish Government and Energy Savings Trust presented to a virtual audience on the Scottish Government's Energy Efficient Scotland programme and the need for qualified tradespeople to upskill to help Scotland meet its Net Zero targets.
- ESP & Scot Excel worked in partnership to develop a skills supply chain survey.
- ESP established the Insulation Training Network.
- The insulation industry signed collaborative partnership agreements in response to ESP's work in developing key partnerships.
- ESP Launched GEF Renewable & Energy Efficiency Training Centres in nine Central & Southern Scotland colleges.



Projects

1. ESP secured substantial funding in partnership with SG to launch the Energy Capital Investment programme for colleges in North Scotland.
2. Low Carbon Skills Grant - ESP awarded funding to colleges to upskill plumbing and heating engineers.
3. Industry led Pathways to Construction pilot launched in partnership with SFC, SDS, South Lanarkshire College and Dundee and Angus College.
4. SFC commissioned ESP to undertake a National Transition Training (NTTF) project.
5. CITB funded Assessor Project supported:
 - a. Assessor recruitment campaign.
 - b. Training programme.
 - c. Assessor/Verifier awards.
 - d. developing an electronic portfolio for the Scottish Construction Sector.

Curriculum



Offshore Wind Awareness course - online awareness course in offshore wind gives an overview of the installation, operation associated offshore wind farms.

Wind Technician Qualification - the withdrawal of City & Guilds from the Wind Technician Qualification required a coordinated and fast response. Through our Wind Training Network, ESP designed an alternative using existing SQA qualifications. This allowed a seamless transition for college delivery into academic year 2021-22.

Parallel to our discussions surrounding a replacement wind qualification we set up and facilitated an industry group tasked with designing a transition training course for candidates looking to join the wind sector from oil & gas.

Hydrogen

Hydrogen is emerging as an alternative fuel source worldwide with many countries publishing hydrogen strategies. ESP has been forging links to colleges in other countries with a view to sharing best practice and staff CPD.

1. [Hydrogen Awareness Course](#).
2. Hydrogen transport course.
3. Discussions with hydrogen industry leaders highlighted a gap in Operational Safety with development underway.
4. Working with Lews Castle College UHI and SQA to develop a [PDA, Hydrogen: An Introduction for Technicians](#) and support materials.

Marine & Maritime Training Network

Our Marine & Maritime Training Network working with Lews Castle College UHI submitted the NPA Maritime Studies to SQA.

STEM

1. **STEP Into STEM** - 4 events hosted.
2. **STEP Into Renewables** - Following the cancellation of physical events, ESP sought advice from Education Scotland, DYW and TechFest to look at online outreach. Supported by a number of industry partners an online platform was developed to highlight careers in the renewables sector and its supply chain. Including details of relevant college courses.
3. **STEM@Home** - ESP created a webpage to provide a single portal to highlight a variety of our partners' free STEM activities and resources which are aimed at pupils from 4 to 17 years of age. The page has had over 900 views to date.
4. **IET FIRST® LEGO® League (City Shaper season)**
 - Nine tournaments were delivered in Colleges across Scotland with the season culminating in a Scottish final for



the top 24 teams. Teams qualified for international events in Chicago, Brazil and Greece.

5. **IET FIRST® LEGO® League (Replay/Playmakers Season)**
 - 640 children reached
 - 8 Schools funded for Boomtown Build Season
 - 10 ASN classes supported (180 Children).
 - CfE Alignment.
 - IET FIRST® LEGO® League Replay™ and Playmakers™ Season was run remotely with 3 Challenge Tournaments held (33 registered Teams). McLaren HS from Callendar went on to win the (remote) UK Season Celebration event and to win the Breakthrough Award at the Asia Pacific Open Championship. 7 Remote Explore Festivals were run for Scottish Teams with reviewers joining pupils online to hear about all they had learned and see their models.
6. **IET FIRST® LEGO® League Junior (Explore)**
 - 39 Boomtown Build Explore sets provided to Education Hubs running for vulnerable youngsters and the children of Key Workers. Distribution of kits was coordinated by RAiSE Officers / PSDOs.

WHAT'S NEXT?

After ten years, ESP has increased our influence through engagement with Scottish Government, agencies, key strategic groups and established relationships with further additional strategic partnerships. These new relationships were formed to support new curriculum developments, promote careers and learn from Innovation Centres and Catapults to understand how research and development can translate into skills interventions to support both students and industry.

To ensure that supply and demand needs for a skilled workforce are met ESP work closely with SDS and industry bodies to understand the demand for a skilled workforce. ESP also leads on a number of co-ordinated initiatives to provide training to industry and staff through colleges to ensure there are industry ready students graduating from Scotland's colleges.

ESP's role has changed significantly since its establishment in 2011 through the natural evolution of the skills agenda and related skills priorities as set out in the Scottish Government's Energy Strategy, Climate Change Plan and aligning with the Climate Emergency Skills Action Plan. STEM is an intrinsic part of the work of ESP with key involvement with individual colleges, SFC and Scottish Government STEM Strategies where ESP will take on the Secretariat role.

Whilst our role has changed significantly over the ten years, we endeavour to support historical activity whilst adapting to meet emerging priorities stemming from our continued stakeholder and industry engagement.

ESP works with colleges, government, agencies and industry and operates under 3 aims:

1 ENGAGE & INFLUENCE

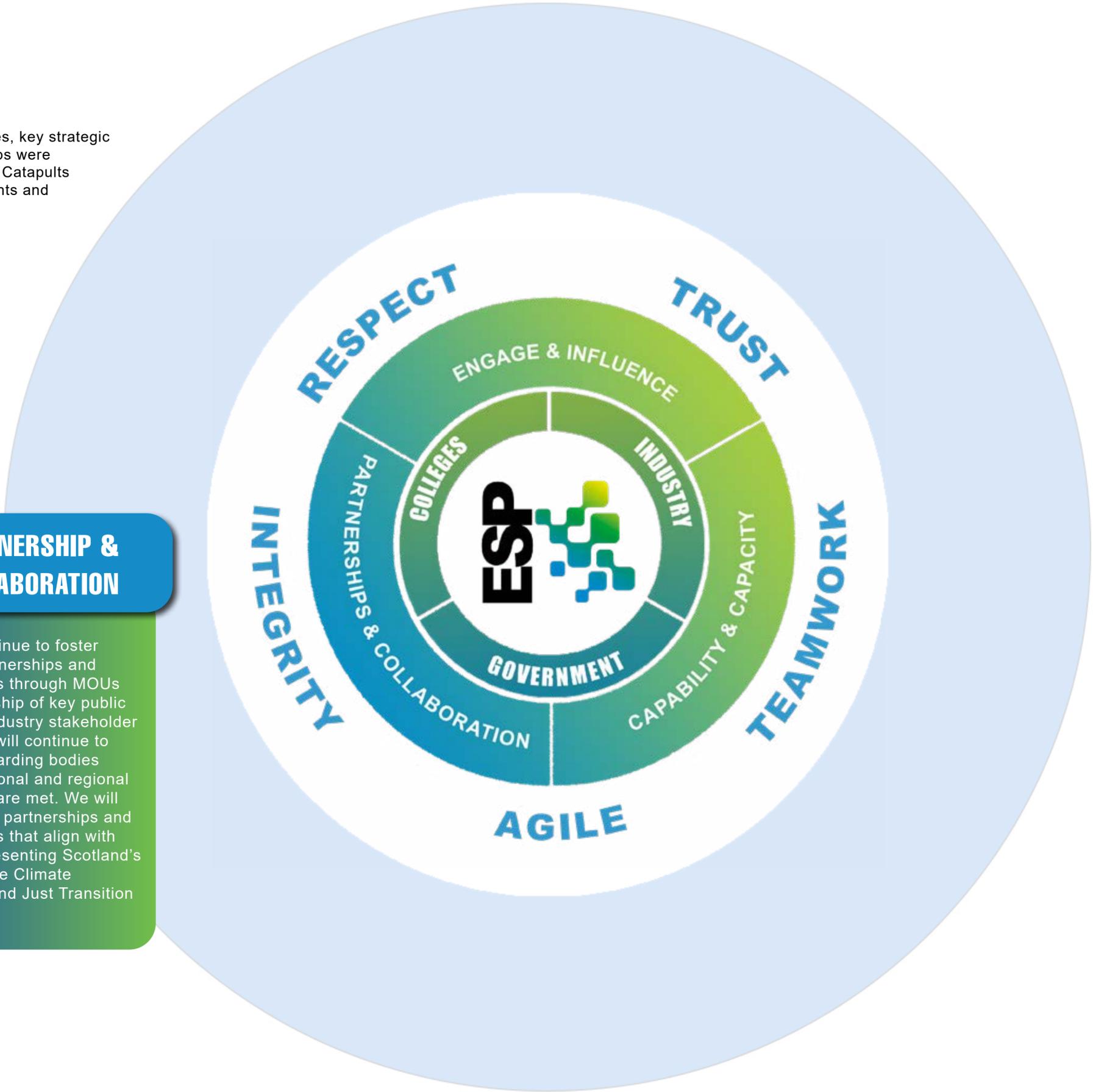
ESP will continue to engage and influence government, agencies, strategic groups and industry to continuously monitor the policy developments that impact our sectors allowing us to engage and respond. We will represent college interests across energy, engineering, construction, STEM and the Climate Emergency to position colleges by ensuring our operational plans are aligning with these priorities.

2 CAPABILITY & CAPACITY

ESP will work with member colleges to increase capability and capacity in order to support innovation and collaboration across existing and emerging technologies. We will seek to secure funds to allow provision of college staff CPD, development of curriculum and investment in capital equipment where there is an identified need, whilst integrating digital and blended materials in a post-COVID era.

3 PARTNERSHIP & COLLABORATION

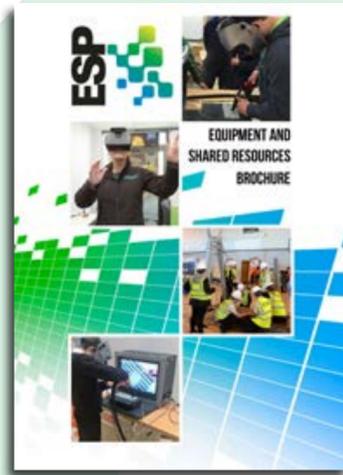
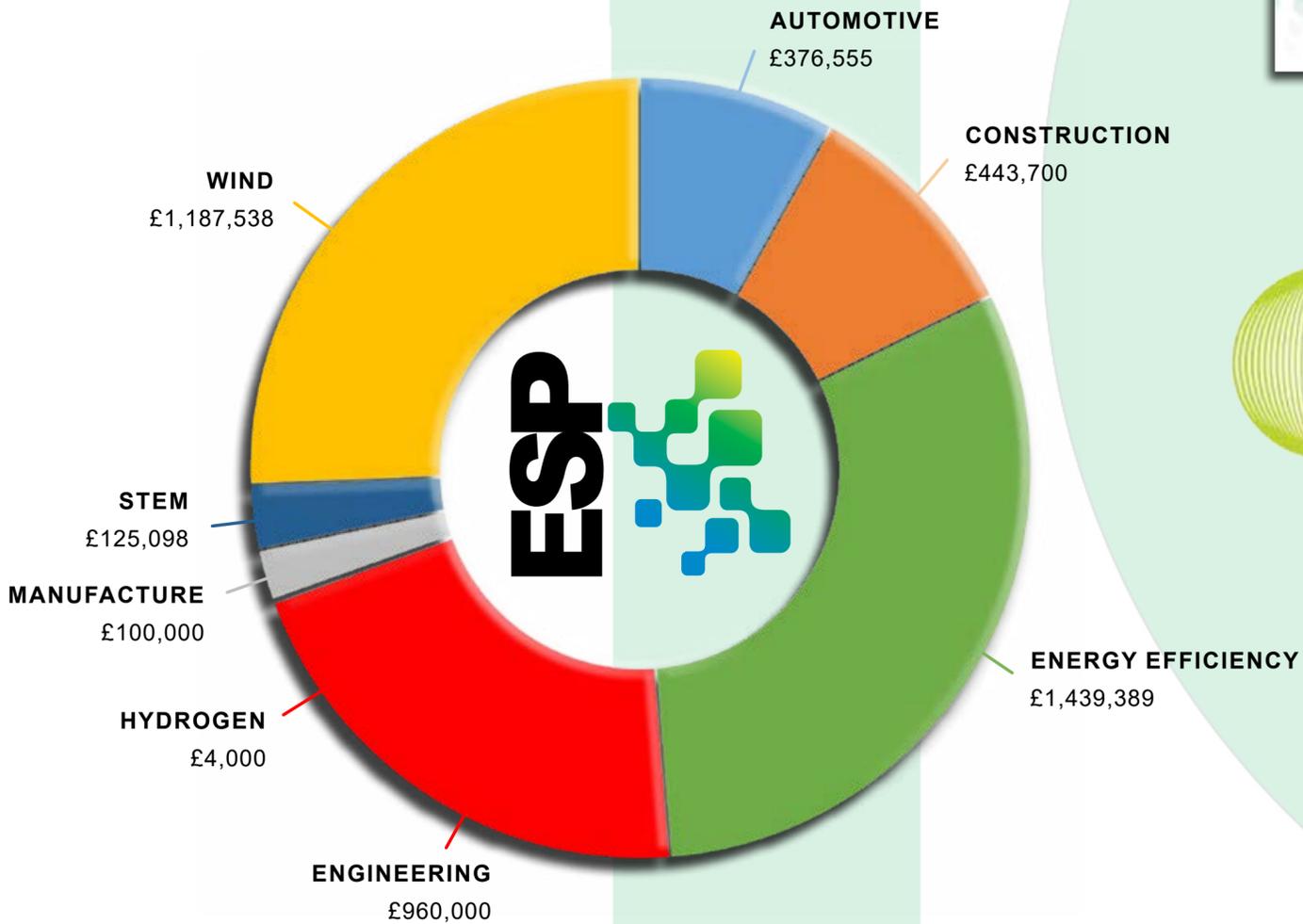
ESP will continue to foster strategic partnerships and collaborations through MOUs and membership of key public sector and industry stakeholder groups. We will continue to work with awarding bodies ensuring national and regional skills' needs are met. We will seek out new partnerships and collaborations that align with our role representing Scotland's colleges in the Climate Emergency and Just Transition to Net-zero.



ESP KEY FACTS

Total funding invested into colleges since 2011

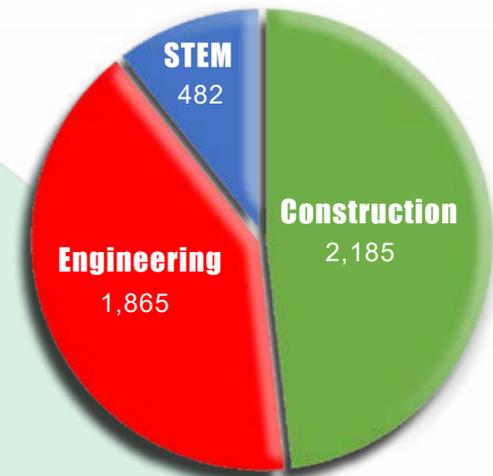
£4,636,280



A significant number of equipment & shared resources purchased and made available to colleges

4,532

College staff supported with CPD since 2011



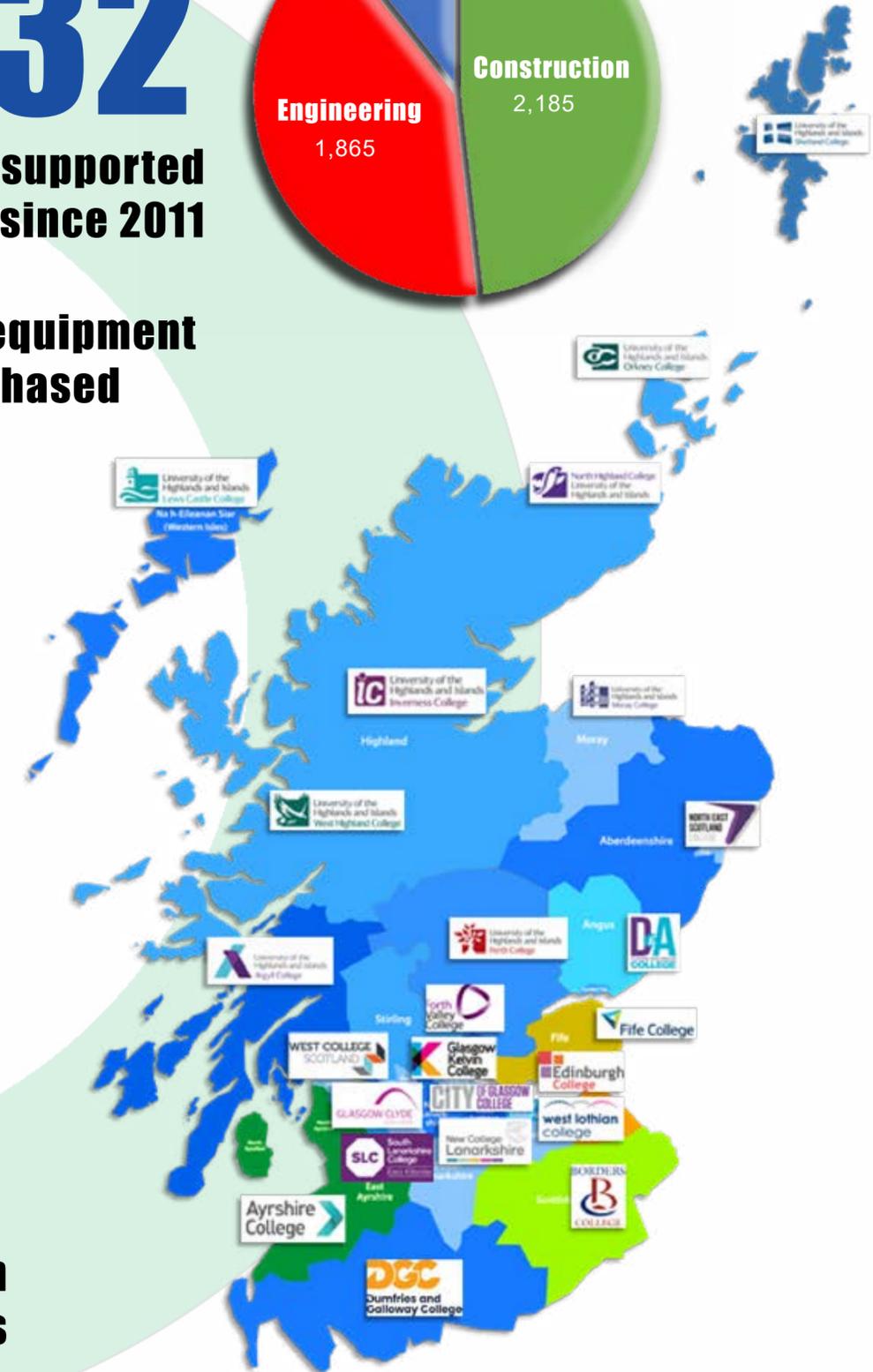
THE SCOTTISH
GREEN ENERGY AWARDS

Winner of **4** Contribution to Skills Awards.

More than

16,000

School pupils engaged in STEM activities



19 Teaching and Learning Materials produced in partnership with colleges

WHAT YOU TOLD US

After ten years of responding and adapting to the changing skills landscape in Scotland, and the onset of rapidly evolving and emerging new technology, and the increasing imperative to decarbonise the economy, ESP wanted to understand the views of stakeholders on how it has met the challenges to date and how it should respond to skills challenges over the next few years.

As a key input into ESP's strategic planning for its future direction and development, an independent piece of research was undertaken with over 200 stakeholders to understand their views and opinions.

These are some of the comments and feedback provided from stakeholders:

“ESP is a well established, recognised, lead partner in bringing the colleges together, delivering the curriculum...focussing on new and emerging technologies...leading to training being provided at high end, where it's needed, be it wind turbine maintenance, emerging technologies, advanced manufacturing, and so on. ESP is a really valuable resource.”

“ESP is well sighted on the policy landscape and future skills needs.”

“We see ESP as a critical player in developing the Scottish economy, they have been excellent in terms of what they've done because there's nobody else out there who could have done what they've done at pace.”

“They create and drive skills and qualifications opportunities within the construction industry on behalf of the Scottish Government and Scotland as a whole.”

“Their credibility within industry, their ability to speak on behalf of a range of sectors and subsectors, the fact that they've got the ear of Government sees them as an important component within the education and skills system at a strategic and operational level, I think is hugely valuable.”

“ESP has really been a driving force for bringing the colleges into the twenty-first century and helping to make them recognised by industry as places to go to for training.”

“ESP offers the regional college network a unique doorway for partners, they are very practical engaging, an enabling partner in a way the college development network can't do. Engagement is a really strong point for ESP.”

“ESP looks at opportunities way beyond the level that individual colleges are able to.”

“My engagement with ESP has been very, very positive and really glad to see that they are looking ahead over the next decade time horizon – its about the future skills offer and the focus around reskilling and upskilling.”

“Without ESP, and the position that they're in, the construction industry would not have moved on in the way it has done.”

“they've been incredibly impactful”

“It's been really positive, the key in terms of the way they work is the direct connection to employers and their ear-to-the-ground in terms of what's actually needed. They have really good, strong relationships with employers and have a good understanding of what employers are actually looking for – it's absolutely critical in the sectors in which they operate. It's a focus that can sometimes be forgotten by the public sector.”

“They really are one voice for Scotland's colleges.”

ESP TEAM



JIM BROWN
Director



RODDY SCOTT
Sector Manager –
Engineering



JOHN RENWICK
Sector Manager –
Construction



WENDY FINDLAY
Programme Manager –
STEM



RACHEL TULLOCH
Programme Manager –
Engineering



JULIET MALLACE
Programme Manager –
Construction



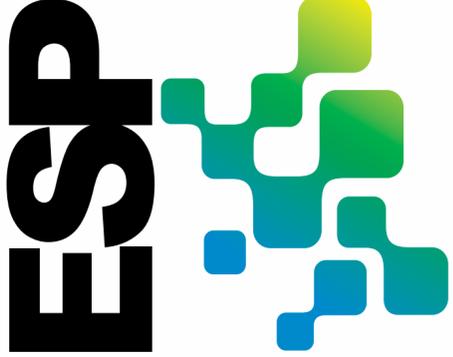
SARAH MELVILLE
Project Administrator



ALEX SINCLAIR
Project Administrator



CHERRY LAMEG
Project Administrator



ANNUAL
REPORT

ESP
Argyll Court
Castle Business Park
Stirling
FK9 4TY

www.esp-scotland.ac.uk
info@esp-scotland.ac.uk



www.linkedin.com/in/espScotland
[@ESPScotland](https://twitter.com/ESPScotland)



SCOTLAND'S COLLEGES – DELIVERING SKILLS FOR THE ENERGY, ENGINEERING AND CONSTRUCTION SECTORS