Cyflwyniadau i'r Grŵp Cynghori Annibynnol sy'n cynrychioli safbwyntiau, pryderon ac awgrymiadau'r gymuned a rhanddeiliaid.

Cafodd y Grŵp Cynghori Annibynnol ystod o gyflwyniadau tystiolaeth gymunedol gan drigolion, cynrychiolwyr lleol a sefydliadau yn mynegi pryderon am seilwaith grid newydd yng Nghymru. Mae'r cyflwyniadau hyn yn cyflwyno safbwyntiau ffeithiol ac emosiynol, yn enwedig gan gymunedau yng nghanolbarth a de-orllewin Cymru sy'n wynebu cynigion datblygu ar hyn o bryd.

Daeth cyflwyniadau yn bennaf gan gymunedau sydd eisoes yn wynebu datblygiad grid posibl yn lleol. Nododd aelodau'r grŵp fod angen cydnabod pwysigrwydd arlliw lle penodol wrth ddeall effeithiau technegol a chymunedol.

Nid oedd y Grŵp Cynghori Annibynnol yn ystyried unrhyw ddatblygiadau prosiect-benodol yn ystod gwaith y grŵp. Cafodd cyfeiriadau penodol i brosiectau o fewn y cyflwyniadau cymunedol eu hanwybyddu, fodd bynnag, tynnwyd y pwyntiau allweddol a wnaed a'u geirio'n gyffredinol i'w hystyried.

Dadansoddwyd **themâu allweddol** yn systematig ac fe'u defnyddiwyd i lywio gwaith y Grŵp. Sicrhaodd hyn y gallai'r Grŵp ystyried pryderon ac awgrymiadau cymunedol yn eu gwaith.

- Themâu allweddol – pryderon
- Themâu allweddol – argymhellion neu awgrymiadau
- Atodiad o Gyflwyniadau Unigol

Submissions to the IAG representing community and stakeholder perspectives, concerns and suggestions.

The Independent Advisory Group received a range of community evidence submissions from residents, local representatives, and organisations expressing concerns about new grid infrastructure in Wales. These submissions present factual and emotive perspectives, particularly from communities in mid and southwest Wales currently facing development proposals.

Submissions largely came from communities already facing potential grid development locally. Group members noted the need recognise the importance of place-specific nuance in understanding both technical and community impacts.

The IAG was not considering any project-specific developments in the course of the work of the group. Project specific references within the community submissions were disregarded, however key points being made were extracted and worded generally for consideration.

Key themes were systematically analysed and were used to inform the Group's work. This ensured that community concerns and suggestions, could be considered by the Group in their work.

- Key themes – concerns
- Key themes – recommendations or suggestions
- Annex of Individual Submissions

Themâu allweddol – pryderon

Tabl Crynhoi: Pryderon

Pryder	Pryderon craidd
Yr Effaith ar Dirwedd a'r Effaith Weledol	• Mae peilonau uwchben yn creithio tirweddau eiconig yn barhaol. • Difrod i dirweddau hanesyddol, safleoedd treftadaeth ddiwylliannol, ac AHNE. • Mae hunaniaeth olygfaol Cymru mewn perygl. • Tanseilio twristiaeth sy'n seiliedig ar dirwedd. • Mae cymunedau y tu allan i barciau cenedlaethol/AHNE yn teimlo y cefnwyd arnynt. • Mae gan Gymru lawer o ardaloedd hardd, sy'n bwysig yn ddiwylliannol nad ydynt wedi'u dynodi'n ffurfiol. **Nodiadau:** Dyma oedd y pryder a ailadroddwyd amlaf, sy'n ymddangos ar draws bron pob cyflwyniad.
Y Niwed i Dwristiaeth a'r Niwed Economaidd Lleol	• Colli niferoedd ymwelwyr; llai o dwristiaid yn dychwelyd. • Yr effaith weledol yn peri rhwystr i westeion llety gwyliau. • Mae economïau gwledig sy'n dibynnu ar dwristiaeth dan fygythiad. • Posibilrwydd o gau busnesau twristiaeth. **Nodiadau:** Cyfeiriwyd at hyn yn gryf gan bob grŵp sy'n dibynnu ar eu lleoliad ar gyfer sefydlogrwydd economaidd.
Iechyd Meddwl, Straen a Llesiant Cymunedol	• Gorbryder, diffyg cwsg, trallod a achosir gan fygythiad peilonau. • Adroddiadau am feddyliau yn ymwneud â hunanladdiad. • Trigolion oedrannus wedi'u dychryn gan ymweliadau digymell. • Tanseilio nodau llesiant o dan Ddeddf Llesiant Cenedlaethau'r Dyfodol.
Dibrisiad Eiddo	• Gallai cartrefi golli hyd at 30% o'u gwerth. • Prynwyr yn tynnu allan o werthiannau tai. • Nid yw iawndal yn adlewyrchu colled wirioneddol. • Peryglu hyfywedd morgeisi a benthyca ar gyfer ffermydd yn y dyfodol.
Effeithiau Amaethyddol a Cholli Tir Cynhyrchiol	• Colli tir pori a silwair. • Mae parthau gwahardd adeiladu yn lleihau tir y gellir ei ddefnyddio. • Gostyngiad hirdymor o ran meintiau buchesi (rheolau Parth Perygl Nitradau). • Tarfu ar batrymau ffermio, arallgyfeirio ac ehangu ffermydd.

Pryder	Pryderon craidd
	• Risg i gymunedau Cymraeg sy'n gysylltiedig â bywoliaethau yn y byd ffermio.
Yr Effaith Ecolegol a'r Effaith ar Fioamrywiaeth	• Dinistrio cynefinoedd; risgiau i rywogaethau gwarchodedig. • Arolygon bywyd gwyllt tymhorol amhriodol neu o ansawdd gwael. • Gwrthdrawiadau adar a thrydanu (wedi'i gofnodi'n helaeth yn rhyngwladol). • Effaith ar fawndiroedd, dolydd, perthi/gwrychoedd hynafol. • Mwy o risg llifogydd yn sgil tarfu ar yr ucheldir.
Risg llifogydd yn sgil tarfu ar yr ucheldir	• Mae cael gwared ar fawn yn cynyddu dŵr ffo. • Mae cymunedau'r dyffryn eisoes yn tueddu i ddioddef llifogydd (e.e. Meifod). • Effeithiau i lawr yr afon (dalgylch Hafren).
Pryderon o ran Gwrthsefyll Stormydd a Dibynadwyedd	• Bydd difrod storm i linellau uwchben yn cynyddu gyda newid hinsawdd. • Mae gosod llinellau pŵer o dan y ddaear yn gwella gwydnwch ac yn lleihau toriadau pŵer. • Tynnodd stormydd Rhagfyr 2024 sylw at fregusrwydd dosbarthu.
Diffyg ymddiriedaeth mewn datblygwyr	• Gwybodaeth gamarweiniol am gostau. • Pwysau am fynediad i dir; bygythiadau o gamau cyfreithiol. • Methu â chyflwyno opsiynau ar gyfer gosod llinellau pŵer o dan y ddaear ymlaen llaw.
Diffygion, bylchau neu ragfarnau mewn tystiolaeth cymharu costau (yn enwedig gosod llinellau pŵer o dan y ddaear)	• Adroddiad IET 2012 yn seiliedig ar 400 kV nid 132 kV. • Hen ragdybiaethau am balu ffosydd, gan anwybyddu aredig ceblau. • Datblygwyr yn dyfynnu lluosrifau chwyddedig ar gyfer gosod llinellau pŵer o dan y ddaear (6–10x) nad ydynt yn seiliedig ar dystiolaeth. • Diffyg asesiad costau oes gyfan (cynnal a chadw, colledion, gwrthsefyll stormydd, iawndal wedi'i osgoi, ymholiadau wedi'u hosgoi).
Methu â gweithredu Deddf Llesiant Cenedlaethau'r Dyfodol	• Mae peilonau yn tanseilio nodau ar iechyd, tirwedd, cymunedau cyfartal, diwylliant a bioamrywiaeth. • Mae penderfyniadau yn ymddangos yn groes i egwyddorion atal a chynnwys y Ddeddf. • Risg i gymunedau Cymraeg sy'n gysylltiedig â bywoliaethau yn y byd ffermio.
Pryderon o ran Ymgysylltu â'r Gymuned	• Ymgyngoriadau ddim cydymffurfio ag Egwyddorion Gunning. • Diffyg tryloywder ynghylch opsiynau llwybrau. • Methu â chynnwys cymunedau'n gynnar. • Teimlad o gael ei "wneud i" nid "gweithio gyda".

Pryder	Pryderon craidd
Pryderon am gynllunio grid tameidiog / anstrategol	• Cynlluniau tameidiog, a arweinir gan ddatblygwyr. • Dim cynllun grid cenedlaethol, cyfannol ar gyfer Cymru. • Mae llinellau preifat lluosog ar hap mewn perygl o greu “gwe pry cop” o beilonau. • Cymru yn dod yn goridor ar gyfer allforio trydan i Loegr.
Iawndal annheg neu annigonol	• Nid yw iawndal yn adlewyrchu colledion gwirioneddol (eiddo, twristiaeth, iechyd meddwl). • Cronfeydd budd cymunedol yn cael eu hystyried yn annigonol, anorfodadwy, neu symbolaidd. • Gwell defnydd o'r cronfeydd hynny fyddai cefnogi gosod llinellau pŵer o dan y ddaear.
Mynediad i dir	• Galwadau ac ymweliadau dirybudd ag eiddo unigol. • Risgiau bioddiogelwch o fynediad heb oruchwyliaeth. • Perchnogion tir yn barod i wrthwynebu gyda'i gilydd.
Dyluniad grid sy'n anwybyddu anghenion dosbarthu lleol	• Nid yw llinellau 132 kV yn datrys problemau cyflenwi lleol. • Gorbwyslais ar drosglwyddo ar gyfer allforio ynni adnewyddadwy. • Diffyg buddsoddiad mewn gridiau lleol foltedd isel, sef y cyfyngiad gwirioneddol.
Ffafrio gosod llinellau pŵer o dan y ddaear (Aredig Ceblau / HDD)	• Mae aredig ceblau yn hyfyw, ac fe'i defnyddir yn helaeth yn Ewrop. • Cyflymach, rhatach, tarfu llai na phalu ffosydd traddodiadol. • Datblygwyr ddim yn ei asesu'n deg nac yn dryloyw. • Mae gan Gymru arbenigedd lleol sy'n cael ei anwybyddu.
Effeithiau Diwylliannol a Threftadaeth	• Ymyrraeth weledol ar erddi treftadaeth ac asedau rhestredig. • Effaith ar eglwysi hynafol, cestyll, llwybrau, a dyffrynnoedd hanesyddol. • Colli hunaniaeth ddiwylliannol cymunedau gwledig Cymru.
Diffyg Budd Economaidd Lleol / Pryderon ynghylch Cyfiawnder Ynni	• Trydan yn cael ei allforio allan o Gymru heb unrhyw fudd i bobl leol. • Cymunedau lleol yn ysgwyddo'r holl gostau amgylcheddol a chymdeithasol. • Ynni gwynt ar y tir ar raddfa fawr yn ddiangen o ystyried y potensial ar y môr.

Key themes – concerns

Concern	Core concerns
Landscape & Visual Impact	• Overhead pylons permanently scar iconic landscapes. • Damage to historic landscapes, cultural heritage sites, and Areas Of Natural Beauty. • Wales' scenic identity at risk. • Landscape-based tourism undermined. • Communities outside national parks/AONBs feel abandoned. • Wales has many beautiful, culturally important areas not formally designated. **Notes:** This was the single most frequently repeated concern, appearing across nearly all submissions.
Tourism & Local Economic Harm	• Loss of visitor numbers; reduced repeat tourism. • Visual impact deters holiday accommodation guests. • Tourism-dependent rural economies threatened. • Potential closure of tourism businesses. **Notes:** This was referenced strongly by all groups who rely on their location for economic stability.
Mental Health, Stress & Community Wellbeing	• Anxiety, sleeplessness, distress caused by threat of pylons. • Reports of suicidal thoughts. • Elderly residents frightened by unsolicited visits. • Undermining of wellbeing goals under the Wellbeing of Future Generations Act.
Property Devaluation	• Homes may lose up to 30% of value. • Buyers pulling out of house sales. • Compensation does not reflect true loss. • Mortgage viability and future borrowing for farms jeopardised.
Agricultural Impacts & Loss of Productive Land	• Loss of grazing and silage land. • Construction exclusion zones reduce usable land. • Long-term reduction in herd sizes (NVZ rules). • Disruption to farming patterns, diversification and farm expansion. • Risk to Welsh language communities associated with farming livelihoods.
Ecological & Biodiversity Impact	• Destruction of habitats; risks to protected species. • Poor-quality or inappropriate seasonal wildlife surveys. • Bird collisions and electrocution (well documented internationally). • Impact on peatlands, meadows, ancient hedgerows. • Increased flood risk from upland disturbance.
Flood Risk from Upland Disturbance	• Removal of peat increases run-off. • Valley communities already flood-prone (e.g. Meifod). • Downstream impacts (Severn catchment).

Concern	Core concerns
Storm Resilience & Reliability Concerns	• Storm damage to overhead lines will increase with climate change. • Undergrounding improves resilience and reduces outages. • December 2024 storms highlighted distribution fragility.
Mistrust of Developers	• Misleading information on costs. • Pressure for land access; threats of legal action. • Failure to present undergrounding options up front.
Flaws, Gaps or Biases in Cost Comparison Evidence (esp. undergrounding)	• 2012 IET report based on 400 kV not 132 kV. • Outdated trenching assumptions, ignoring cable ploughing. • Developers quoting inflated undergrounding multiples (6–10x) not based on evidence. • Lack of whole-life cost assessment (maintenance, losses, storm resilience, compensation avoided, inquiries avoided).
Failure to Apply Wellbeing of Future Generations Act	• Pylons undermine goals on health, landscape, equal communities, culture, and biodiversity. • Decisions appear contrary to the Act's prevention and involvement principles. • Risk to Welsh language communities associated with farming livelihoods.
Community Engagement Concerns	• Consultations not meeting Gunning Principles. • Lack of transparency about route options. • Failure to involve communities early. • Feeling of being "done to" not "worked with."
Concerns About Piecemeal / Non-Strategic Grid Planning	• Piecemeal, developer-led schemes. • No national, holistic grid plan for Wales. • Multiple speculative private lines risk creating a "spider's web" of pylons. • Wales becoming a corridor for exporting electricity to England.
Unfair or Insufficient Compensation	• Compensation does not reflect real losses (property, tourism, mental health). • Community benefit funds viewed as inadequate, unenforceable, or tokenistic. • Better use of those funds would be to support undergrounding.
Land Access	• Cold calling and unannounced visits to individual properties. • Biosecurity risks from unsupervised entry. • Landowners ready to resist en masse.
Grid Design That Ignores Local Distribution Needs	• 132 kV lines do not solve local supply issues. • Overemphasis on transmission for exporting renewables.

Concern	Core concerns
	• Lack of investment in low-voltage local grids, which are the actual constraint.
Preference for Undergrounding (Cable Ploughing / HDD)	• Cable ploughing viable, widely used in Europe. • Faster, cheaper, less disruptive than traditional trenching. • Developers not assessing it fairly or transparently. • Wales has local expertise that is being ignored.
Cultural & Heritage Impacts	• Visual intrusion on heritage gardens and listed assets. • Impact on ancient churches, castles, trails, and historic valleys. • Loss of cultural identity of rural Welsh communities.
Lack of Local Economic Benefit / Energy Justice Concerns	• Electricity exported out of Wales with no benefit to local people. • Local communities bear all the environmental and social costs. • Large-scale onshore wind unnecessary given offshore potential.

Themâu allweddol – argymhellion neu awgrymiadau

1. NEWIDIADAU POLISI A CHYNLLUNIO CYFFREDINOL	
1.1 Gwneud gosod llinellau pŵer o dan y ddaear yn orfodol neu'r sefyllfa ddiofyn	• Gwneud gosod ceblau 132kV ac islaw o dan y ddaear yn bolisi absoliwt, nid yr opsiwn a ffefrir yn unig. • Defnyddio aredig ceblau fel y dull diofyn oni bai bod angen HDD. • Ymgorffori hyn ym Mholisi Cynllunio Cymru (PPW 5.7.9). • Creu cymhellion ar gyfer cyflenwi grid tanddaearol cyflymach (“dull abwyd”).
1.2 Datblygu cynllun grid cenedlaethol, cyfannol	• Symud i ffwrdd o gynigion tameidiog, wedi'u sbarduno gan ddatblygwyr. • Gosod llwybrau cenedlaethol ar gyfer ceblau tanddaearol. • Sicrhau bod dyluniad grid yn lleihau seilwaith ac effeithiau. • Cyd-fynd â chynlluniau ynni rhanbarthol a lleol.
1.3 Adolygu Polisi Cynllunio Cymru (PPW 5.7.9)	• Ehangu'r diffiniad o “llinellau pŵer newydd.” • Egluro beth mae yn “economaidd hyfyw” yn ei olygu; gosod trothwyon.

		• Cyflwyno rheolau ar gyfer asesiadau hyfywedd ariannol gan gynnwys meincnodau IRR/elw. • Gwneud adolygiad annibynnol o ddatganiadau hyfywedd yn ofynnol • Caniatáu gosod llinellau pŵer tanddaearol fesul cam (e.e., 75% fel trothwy hyfywedd).
1.4	**Addasu hawliau datblygu a ganiateir**	• Trin llwybrau tanddaearol hirach fel Prosiectau Seilwaith Arwyddocaol (SIPs). • I'r gwrthwyneb, *peidio* â chymell llinellau uwchben trwy ddynodiadau SIP • Cyflwyno hawliau datblygu a ganiateir ar gyfer cynlluniau ynni adnewyddadwy 100% o dan y ddaear.
1.5	**Herio rhagdybiaeth Llywodraeth y DU o blaid peilonau (NPS EN 5)**	• Gwthio Llywodraeth y DU i adolygu neu atal EN-5. • Dadlau dros osod llinellau pŵer o dan y ddaear fel yr opsiwn penodol a ffefrir i Gymru
	2. TECHNOLEG A DULLIAU CYFLAWNI	
2.1	**Defnyddio dull aredig ceblau yn eang ledled Cymru**	• Cyflymach, rhatach ac yn tarfu llai na phalu ffosydd. • Llawer o grwpiau cymunedol ac undebau ffermio yn ei gefnogi. • Mae gan Gymru arbenigedd mewnol (ATP Cable Plough ym Mhencader). • Dylid ei werthuso'n iawn wrth gymharu costau.
2.2	**Defnyddio HDD (Drilio Cyfeiriadol Llorweddol) mewn ardaloedd sensitif**	• Ar gyfer afonydd, ffyrdd, mawndiroedd, gorlifdiroedd, SoDdGA ac ardaloedd treftadaeth.
2.3	**Ei gwneud yn ofynnol i ddatblygwyr archwilio llwybrau technolegol amgen ymarferol yn llawn**	• Asesu llwybrau tanddaearol byrrach, sythach. • Cymharu opsiynau llwybrau realistig (nid llwybrau llinell sylfaen OHL yn unig).
2.4	**Defnyddio technolegau ceblau modern a heb ffosydd**	• Defnyddio ceblau hirach (ee, hydro-gwthio). • Lleihau baeau uniadau. • Defnyddio inswleiddio XLPE, oeri PCM, archwiliad robotig.
	3. DULLIAU ARIANNOL AC ECONOMAIDD	
3.1	**Gwneud arbenigedd ariannol annibynnol, sector-benodol yn ofynnol**	• Rhaid i LIC a'r Arolygiaeth Gynllunio gael mynediad at arbenigwyr cyllid prosiectau annibynnol. • Rhaid deall rhagdybiaethau cost, modelu, risg, IRR, costau oes gyfan.

3.2	**Sefydlu meini prawf hyfywedd ariannol clir**	• Diffinio “anfforddiadwy” neu “economaidd anhyfyw.” • Defnyddio methodoleg safonol debyg i Harman / RICS ond wedi'i haddasu. • Tybio bod gosod llinellau pŵer o dan y ddaear yn hyfyw oni bai bod hynny'n cael ei brofi fel arall
3.3	**Ei gwneud yn ofynnol i ddatblygwyr dalu am werthusiad annibynnol**	• Datblygwyr i ariannu aseswyr annibynnol a benodwyd gan LIC ar gyfer gwiriadau hyfywedd. • Mae hyn yn atal chwarae gemau a manipiwleiddio rhagdybiaethau
3.4	**Datblygu Cronfa Effaith Weledol ac Arloesi**	• Pontio unrhyw wahaniaeth cost sy'n weddill rhwng llinellau pŵer uwchben a llinellau pŵer o dan y ddaear. • Annog mabwysiadu technolegau tanddaearol a newydd yn gynnar
3.5	**Cymariaethau costau cylchred oes llawn**	• Cynnwys costau cudd neu allanol: o dibrisiad eiddo o yr effeithiau ar dwristiaeth o yr effeithiau ar iechyd meddwl o colledion amaethyddol o iawndal o tebygolrwydd ymchwiliad cyhoeddus o effeithiau carbon o gwrthsefyll stormydd o yr effeithiau ar fioamrywiaeth
3.6	**Ei gwneud yn ofynnol cyflwyno rhagdybiaethau yn dryloyw**	• Cyhoeddi costau unedau, costau ceblau, dadansoddiad palu ffosydd/aredig. • Darparu costau llwybr-benodol, nid lluosrifau generig.
	4. YMGYSYLLTU Â'R GYMUNED A DIWYGIADAU I'R BROSES	
4.1	**Ymgysylltu â'r gymuned mewn modd ystyrlon, tryloyw**	**5.** Dim ymgyngoriadau “ticio blychau”. **6.** Cadw at Egwyddorion Gunning. **7.** Rhannu data clir yn gynnar. **8.** Ymateb i gwestiynau **9.** Sicrhau ymddygiad agored, deallus a chefnogol ynglŷn â mynediad i'r tir.
4.2	**Ei gwneud yn ofynnol i ddatblygwyr ymgynghori ar opsiynau tanddaearol o'r cychwyn**	• Rhaid i ddatblygwyr ddangos opsiynau tanddaearol yn ystod gwaith cwmpasu cynnar. • Rhaid asesu dewisiadau amgen cyn ceisiadau mynediad i'r tir.
4.3	**Gwell protocolau mynediad i dir**	• Protocolau bioddiogelwch clir. • Gwarantau atebolrwydd, iawndal, yswiriant. • Gwahardd ymddygiadau gorfodaethol neu fygythiadau.

4.4	**Rheoleiddio a gorfodi cronfeydd budd cymunedol**	• Rhaid iddo fod yn gyfreithiol rwymol. • Rhaid iddo fod yn gymesur â'r effaith a'r elw. • Ni chaiff ddisodli'r angen i osgoi llinellau uwchben pan fo hynny'n bosibl
	5. YSTYRIAETHAU ECONOMAIDD-GYMDEITHASOL A LLESIANT	
5.1	**Rhoi pwys ar Ddeddf Llesiant Cenedlaethau'r Dyfodol**	• Gwerthuso effeithiau ar: o iechyd meddwl ac iechyd corfforol o cydraddoldeb o cymunedau cydlynus o treftadaeth ddiwylliannol o y Gymraeg o bioamrywiaeth o twristiaeth o gwydnwch hirdymor
5.2	**Gwneud asesiadau effaith economaidd-gymdeithasol annibynnol yn ofynnol**	• Cynnwys hyfywedd busnesau, gweithrediadau fferm, twristiaeth, marchnadoedd eiddo. • Cynnwys anghydraddoldebau ac effeithiau amddifadedd gwledig.
5.3	**Lleoliad y buddion**	• Ni ddylid defnyddio tirweddau Cymru i symud pŵer i Loegr yn unig. • Dylai seilwaith ddarparu buddion i Gymru (e.e. cyflenwad lleol, effeithiau ar filiau).
	6. DULLIAU AMGYLCHEDDOL A STIWARDIAETH TIR	
6.1	**Gosod llwybrau yn ofalus er mwyn osgoi ardaloedd sensitif**	• Cynefinoedd sensitif • Mawndiroedd • Glaswelltiroedd hynafol • Dolydd blodau gwyllt • SoDdGA • Coetir • Tirweddau hanesyddol/diwylliannol
6.2	**Defnyddio arferion gorau o ran arolygon ecolegol**	• Peidio ag arolygu yn y gaeaf pan fydd rhywogaethau yn absennol. • Gwneud arolygon tymor llawn, aml-dymor yn ofynnol. • Asesiad ecolegol annibynnol.
6.3	**Ymgorffori dadansoddiad carbon oes gyfan**	E.e. cost carbon dur, concrit, traciau mynediad, cwympo coed.
	7. PENDERFYNIADAU O RAN STRATEGAETH SEILWAITH	

7.1	**Blaenoriaethu ynni gwynt ar y môr i leihau'r angen am beilonau**	• Gall Cymru ddiwallu ei hanghenion drwy ynni gwynt ar y môr. • Osgoi troi canolbarth Cymru yn goridor trosglwyddo • Ystyried HVDC tanfor yn hytrach na pheilonau ar y tir ar gyfer llwybrau hir
7.2	**Osgoi bod Cymru yn dod yn "briffordd ynni" i Loegr**	• Ni ddylid defnyddio tirweddau Cymru ar gyfer allforio yn unig. • Asesu a ddylai gwaith uwchraddio dosbarthiad lleol ddod yn gyntaf.
7.3	**Sicrhau cysondeb rhwng prosiectau 132kV a 400kV arfaethedig**	• Osgoi adeiladu gwe o linellau 132kV canolradd diangen. • Egluro bwriad a llwybr trosglwyddo ar raddfa genedlaethol yn y dyfodol.
	8. DULLIAU CYFREITHIOL A RHEOLEIDDIOL	
8.1	**Ei gwneud yn ofynnol cael tystiolaeth datblygwr cyn unrhyw fynediad i dir**	• Peidio â chaniatáu arolygon ymwthiol heb gyfiawnhad clir. • Ei gwneud yn ofynnol archwilio opsiynau tanddaearol yn gyntaf. • Rheoleiddio a chyfyngu ar ddatblygiad aml-brosiect tybiannol gan gwmnïau preifat
8.2	**Gwneud gwarantau datgomisiynu ac adfer gorfodadwy yn ofynnol**	• Rhaid i ddatblygwyr ddarparu: o cronfeydd datgomisiynu a gefnogwyd yn gyfreithiol o bondiau neu warantwyr gwaith adfer o mesurau amddiffyn rhag methiant corfforaethol
8.3	**Sicrhau bod llinellau newydd yn cydymffurfio â mesurau diogelu treftadaeth a thirwedd**	Yn enwedig ym Meifod, Dyffryn Tywi, ardaloedd Parc Cenedlaethol arfaethedig.
	9. ARGYMHELLION O RAN PROSES A LLYWODRAETHU	
9.1	**Cyhoeddi sylfaen dystiolaeth a methodoleg y Grŵp Cynghori Annibynnol (IAG) yn dryloyw**	• Cynnwys asesiadau technolegau amgen. • Cynnwys cymariaethau cost ac effaith. • Darparu rhesymeg ar gyfer dulliau a ddewiswyd.
9.2	**Ymgysylltu ag arbenigwyr a sefydliadau yng Nghymru**	• Harneisio ymchwil HV Prifysgol Caerdydd. • Defnyddio gallu diwydiannol Cymru (Prysmian, ATP). • Cymru fel man profi ar gyfer arloesi ym maes gosod llinellau pŵer o dan y ddaear.

Key themes – recommendations or suggestions

1. OVERARCHING PLANNING & POLICY CHANGES		
1.1	**Make undergrounding mandatory or the default**	• Make undergrounding of 132kV and below an absolute policy, not just a preference. • Use cable ploughing as the default method unless HDD is required. • Embed this into Planning Policy Wales (PPW 5.7.9). • Create incentives for faster undergrounded grid delivery (“carrot” approach).
1.2	**Develop a national, holistic grid plan**	• Move away from piecemeal, developer-driven proposals. • Set national routes for underground cables. • Ensure grid design minimises infrastructure and impacts. • Align with regional and local energy plans.
1.3	**Revise Planning Policy Wales (PPW 5.7.9)**	• Expand definition of “new power lines.” • Clarify what “economically viable” means; set thresholds. • Introduce rules for financial viability assessments including IRR/profit benchmarks. • Require independent review of viability statements • Allow phased undergrounding (e.g., 75% as viability threshold).
1.4	**Adjust permitted development rights**	• Treat longer underground routes as Significant Infrastructure Projects (SIPs). • Conversely, do *not* incentivise overhead lines through SIP designations • Introduce permitted development rights for 100% undergrounded renewable schemes.
1.5	**Challenge UK Government’s presumption in favour of pylons (NPS EN 5)**	• Push UK Government to review or suspend EN-5. • Argue for a Wales-specific undergrounding preference
2. TECHNOLOGY & DELIVERY APPROACHES		
2.1	**Use cable ploughing widely across Wales**	• Faster, cheaper, less disruptive than trenching. • Supported by many community groups and farming unions. • Wales has in-house expertise (ATP Cable Plough in Pencader).

		• Should be evaluated properly in cost comparisons.
2.2	**Use HDD (Horizontal Directional Drilling) in sensitive areas**	• For rivers, roads, peatlands, flood plains, SSSIs, heritage areas.
2.3	**Require developers to fully explore alternative technologically-feasible routes**	• Assess shorter, straighter underground routes. • Compare realistic route options (not just OHL baseline routes).
2.4	**Use modern cable and trenchless technologies**	• Use longer cable lengths (e.g., hydro-pushing). • Reduce joint bays. • Use XLPE insulation, PCM cooling, robotic inspection.
3. FINANCIAL & ECONOMIC APPROACHES		
3.1	**Require independent, sector-specific financial expertise**	• WG and Planning Inspectorate must access independent project finance experts. • Must understand cost assumptions, modelling, risk, IRR, whole-life costings
3.2	**Establish clear financial viability criteria**	• Define “unaffordable” or “economically unviable.” • Use standardised methodology similar to Harman / RICS but adapted. • Presume undergrounding is viable unless proven otherwise
3.3	**Require developers to pay for independent evaluation**	• Developers to fund independent WG-appointed assessors for viability checks. • This prevents gaming and manipulation of assumptions
3.4	**Develop a Visual Impact & Innovation Fund**	• Bridge any remaining cost differential between overhead and underground. • Encourage early adoption of undergrounding and new technologies
3.5	**Full life-cycle cost comparisons**	• Include hidden or externalised costs: o property devaluation o tourism impacts o mental health impacts o agricultural losses o compensation o public inquiry likelihood o carbon impacts o storm resilience o biodiversity impacts
3.6	**Require transparent presentation of assumptions**	• Publish unit costs, cable costs, trenching/ploughing breakdown.

		• Provide route-specific costings, not generic multiples.
4. COMMUNITY ENGAGEMENT & PROCESS REFORMS		
4.1	**Meaningful, transparent community engagement**	**5.** No “tick box” consultations. **6.** Adhere to Gunning Principles. **7.** Share clear data early. **8.** Respond to questions **9.** Ensure open, understanding and supportive behaviour re: land access.
4.2	**Require developers to consult on underground options from the outset**	• Developers must show underground options in early scoping. • Must assess alternatives prior to land access requests.
4.3	**Better land access protocols**	• Clear biosecurity protocols. • Guarantees of liability, compensation, insurance. • Ban coercive behaviours or threats.
4.4	**Regulate & enforce community benefit funds**	• Must be legally binding. • Must be proportional to impact & profit. • Must not replace the need to avoid overhead lines where possible
10. SOCIO-ECONOMIC AND WELLBEING CONSIDERATIONS		

5.1	**Give weight to Wellbeing of Future Generations Act**	• Evaluate impacts on:
		  ○ mental and physical health
		  ○ equality
		  ○ cohesive communities
		  ○ cultural heritage
		  ○ Welsh language
		  ○ biodiversity
		  ○ tourism
		  ○ long-term resilience

5.2	**Require independent socio-economic impact assessments**	• Include business viability, farm operations, tourism, property markets. • Include inequalities and rural deprivation effects.
5.3	**Location of benefits**	• Welsh landscapes should not be used solely to move power to England. • Infrastructure should provide benefits to Wales (e.g., local supply, billing impacts).
11. ENVIRONEMNTAL & LAND STEWARDSHIP APPROACHES		

6.1	**Careful routing to avoid sensitive areas**	• Sensitive habitats • Peatlands • Ancient grasslands • Wildflower meadows • SSSIs • Woodland • Historic/cultural landscapes
6.2	**Apply ecological survey best practice**	• Do not survey in winter when species are absent. • Require full-season, multi-season surveys. • Independent ecological assessment.
6.3	**Incorporate whole-life carbon analysis**	E.g. carbon cost of steel, concrete, access tracks, tree removal.
	12. INFRASTRUCTURE STRATEGY DECISIONS	
7.1	**Prioritise offshore wind to reduce need for pylons**	• Wales can meet its needs via offshore. • Avoid turning mid-Wales into a transmission corridor • Consider subsea HVDC instead of onshore pylons for long routes
7.2	**Avoid Wales becoming an "energy highway" for England**	• Welsh landscapes should not be used purely for export. • Assess whether local distribution upgrades should come first.
7.3	**Ensure consistency between proposed 132kV and 400kV projects**	• Avoid building a web of unneeded intermediate 132kV lines. • Clarify intent and route of future national-scale transmission.
	13. LEGAL & REGULATORY APPROACHES	
8.1	**Require developer evidence before any land access**	• Do not allow invasive surveys without clear justification. • Require preliminary exploration of underground options first. • Regulate and limit speculative multi-project development by private companies

8.2	**Require enforceable decommissioning & restoration guarantees**	• Developers must provide:
		  ○ legally backed decommissioning funds
		  ○ restoration bonds or guarantors
		  ○ corporate failure protections

8.3	**Ensure new lines comply with heritage & landscape protections**	Especially in Meifod, Tywi Valley, proposed National Park areas.

14. PROCESS & GOVERNANCE RECOMMENDATIONS		
9.1	**Publish IAG evidence base & methodology transparently**	• Include alternative technology assessments. • Include cost and impact comparisons. • Provide reasoning for selected approaches.
9.2	**Engage Welsh experts and institutions**	• Harness Cardiff University HV research. • Use Welsh industrial capability (Prysmian, ATP). • Wales as a test-bed for undergrounding innovation.

Atodiad o Gyflwyniadau Unigol / Annex of Individual Submissions

Noder nad oedd y Grŵp Cynghori Annibynnol yn ystyried prosiectau unigol yn ystod ei waith ac mae cynnwys y cyflwyniad wedi'i olygu yn unol â hynny. Mae'r atodiad isod yn olwg gywir o'r cynnwys a ystyriwyd gan y Grŵp Cynghori Annibynnol yn ei waith.

Note that the IAG was not considering individual projects in the course of its work and submission content is redacted accordingly. The annex below is an accurate view of the content considered by the IAG in its work.

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Nodyn gan aelodau o'r gymuned ar agweddau ariannu hyfywedd gosod ceblau o dan y ddaear yng Nghymru / Note from community members on financing aspects of undergrounding cable viability in Wales.

Executive Summary :

For the reasons set out below, we are seriously concerned that both the Planning Inspectorate in Wales , and the Minister who will ultimately be responsible for deciding the relevant DNS Applications, are not going to be sufficiently well informed or adequately resourced (most especially in terms of sector specific financial expertise and experience) , to effectively implement the Welsh Government's (WG's) strong policy preference for the under-grounding of new transmission lines of 132 KV and below – a policy with which we agree.

This situation can be avoided.

1. Context

1.1 The acknowledged need:

There is no getting away from the fact that the electricity transmission network in Wales is going to have to be re-enforced and extended considerably if the WG's and the UK Government's strategic energy plans for the reliable , secure and affordable delivery of clean energy are to be met in the timeframes which each Government has set. This view is supported by various studies commissioned by both Governments, and by authoritative independent studies.

1.2 The political consensus :

Within the Senedd there is , at the very least , complete cross Party consensus for the proposition that wherever it can be undertaken without doing unacceptable and / or disproportionate environmental damage , transmission cables of 132KV and below should be placed underground ***provided that to do so is financially viable.*** (Please see the verbatim record of the debate which took place in the Senedd on 12 June 2024 on a Motion tabled by Adam Price AM, and also please see Paragraph 5.7.9 of the February 2024 edition of Planning Policy Wales) .

In the debate on 12 June 2024, there also appears to have been consensus for greater clarity and objectivity to be brought into Paragraph 5.7.9 of Planning Policy Wales. Specifically, in the context of debating the concept of 'financial viability', the responsible Minister acknowledged that '' ..*we do need to tighten up what we mean by ''unaffordable'' in a very big way .''*

Without the additional clarity and objectivity which can be provided by the introduction of definitive and objectively assessed criteria , uncertainty and inconsistency will likely characterise the DNS Application process in so far as it relates to projects involving the transmission of electricity lines of 132 KV and below . This would not serve DNS Applicants, the WG , nor the people of Wales well.

1.3 Benefit to Wales :

It is also the case that all AMs , irrespective of their Party affiliation or Independent stance, openly share their desire to ensure that the people of Wales should benefit directly from the very significant increase in renewable energy generation, transmission, and distribution, which is set to take place in Wales.

The general reasoning underpinning this shared desire is that Wales will (as now) produce much more energy than is required for its own needs, and the fact that the essential components for the increase of onshore wind in particular (namely appropriate locations and climatic conditions for the generation of the electricity) will be provided and take place in Wales.

There is also a very serious concern that the anticipated increase in renewable energy generation and associated developments in Wales will, inevitably, have some significant and specific adverse impacts on the landscape, on agriculture and tourism, and on associated visual amenity and social well-being . The general sense is that, as a matter of simple equity, such impacts should also , in some shape or form , be compensated for.

2. Private Capital

2.1 It is acknowledged as a fact that given the extent of the need, and the state of public finances, that most of the finance required to re-enforce and extend the electricity transmission network in Wales will have to come from the private sector. It is also relevant, in context, to note that the two principal owners of the existing distribution and related transmission networks in Wales (namely the National Grid , and Scottish Power Energy Networks.) are already in 'private' ownership.

2.2 Commercial good sense and sound practice, supported by the law, means that lenders and investors of the required private capital will only make their money available if they are , respectively, reasonably of the view that their loans will be repaid in a timely manner, and that their investments will deliver a reasonable return commensurate with the perceived risks . Also , it is relevant to one that while there is no legal obligation on the management of companies to maximise shareholder returns, many businesses aim (and their management are incentivised) to do so.

3. Project Finance

3.1 The way in which major projects are financed and structured is generally very complex and highly specialised . We set out in the **ANNEX** in headline terms only , some of the principal areas of experience and expertise, and some of the related skills, that are involved. Unless the Planning Inspectorate and the responsible Minister have timely access to independent , sector-specific , project finance and related experience and expertise which is appropriate to the DNS Application before them , the facts of the matter will likely be :-

- That they might well find themselves in Rumsfeld territory i.e. not knowing what they do not know .
- That neither will be in a position to rigorously and intelligently assess whether, in any particular case , a requirement to under-ground proposed new transmission lines will render the proposed project financially 'unviable' .
- And that both the Planning Inspectorate and the responsible Minister will be obliged to rely more than is prudent on the information provided by the Applicant, who will undoubtedly have had access to, and will have deployed, such experience and expertise when preparing its DNS Application.

3.2 The consequences could not be more serious. Most obviously :-

- The WG's strong policy preference for the under-grounding of new 132KV power lines, for which there is general support , would be seriously compromised and would likely be undermined in practice .

- The decisions of the Planning Inspectorate and the responsible Minister would certainly be open to challenge in the courts by way of Judicial Review , either for being 'irrational' or for otherwise being 'unreasonable' , or for defying the 'legitimate expectations' which arise from the formal adoption and publication by the WG of the policy currently set out in Paragraph 5.7.9 of Planning Policy Wales .
- The prospect of such avoidable challenges would certainly make Wales less attractive to lenders and investors . This, in turn, will either make their money 'more expensive' to the promoters and developers of clean energy projects in Wales , or the lenders and investors will choose to take their money elsewhere (the reality being that by and large, the likely lenders and investors operate in a global market and therefore have worldwide options) . Either of these consequences would have serious consequences for the economy of Wales . In particular the opportunity to create large numbers of highly qualified and well paid jobs in the new 'green energy' sector, would be lost.

4. In addition , and along the same lines....

4.1 Project finance as described above primarily concerns ***how*** the costs of a project are to be financed and structured - a highly specialised area.

4.2 However, the information baseline for any financing solution and its associated structures will be a calculation of the construction, operational and maintenance costs of the proposed project. Some of these costs will be certain, others will be estimated with a fair degree of accuracy, and others will be more speculative.

4.3 As with 3 above, it will be important for the Planning Inspectorate and the responsible Minister to be in a position to interrogate these baseline costs intelligently and, wherever possible, objectively.

4.4 For this purpose, it is clear that the Planning Inspectorate and the responsible Minister will need to be well-informed of the relevant technologies and materials that can be brought to bear on any particular project. We note, in this connection, that the Welsh Government has recently been alerted to and has taken steps to familiarise itself with the capabilities and costs of cable ploughing. In the context of under-grounding , this is an important step in the right direction.

4.5 It is also important for the Planning Inspectorate and the responsible Minister to be well-informed as to what may be possible and accessible in terms of relevant under-grounding experience and best practice. Most notably , in our view it would be tantamount to a dereliction of duty if the WG does not engage with and learn from the experience of its near neighbour , Denmark.

4.6 Since 2009, all the Governments of Denmark have, without exception , pursued a policy which requires all new 132KV electricity transmission lines to be placed underground , and which also requires all 'legacy' 132 KV overhead lines (i.e. those placed overhead before 2009) to be placed underground by 2030.

4.7 Furthermore, we are reliably informed by a senior executive at Energinet (the State owned enterprise responsible for the entire electricity transmission network in Denmark) , that on average under-grounding of 132KV lines is approximately ***twice*** the cost of placing lines overhead .

4.8 This average multiple is significantly less than the average multiples frequently quoted by promoters, developers and the broadcast media in the UK , which often quote a multiple of 7-10 times , or 4-5 times .

(**NB.** . *The difference is most likely due to (a) the 'lazy' attribution to the under-grounding of 132KV cables , of the the undoubted greater expense of placing higher voltage cables (e.g. 400KV) underground , and / or (b) to the much greater expense of using 'trenching' to place very high voltage cables underground (as compared with the under-grounding of 132KV cables, where the much less expensive ' cable ploughing' technology can be deployed*) .

5. The bottom line

5.1 The bottom line is that unless the Planning Inspectorate and the WG are well- informed, and each has available to it independent , timely and sector-specific project finance and costings experience and expertise, they cannot hope to reach well-reasoned decisions as to :-

- Whether or not the under-grounding of any transmission lines which are the subject of a DNS Application are going to be financially 'viable '.
- Whether or not, if under-grounding is shown to be more costly than placing the lines overhead in respect of any particular DNS Application, the differential costs are , nonetheless, going to be bridgeable .
- Whether , in the event that the financial margins within a particular DNS Application do allow for the bridging of such differential costs there remain , in addition, sufficient sums in the financial margins to accommodate a further 'benefit' for the people of Wales .
- Whether, taking Wales as a whole, there is scope for a financially viable solution to under-ground all transmission lines of 132KV and below , irrespective of how the clean and renewable energy has been generated (i.e. whether a comprehensive solution akin to that applied in Denmark , is possible) .

5.2 If well-reasoned and well-informed decisions cannot be reached on the under-grounding of transmission lines of 132KV and below , then :-

- The WG's preferred policy of 'under-grounding' will be in tatters , and its reputation will be badly damaged , most especially in the business world.
- A ''once in a generation'' economic opportunity to develop a large number of highly paid and skilled jobs in Wales around a burgeoning ' green economy ' will likely be lost be lost .
- And the people of Wales will have been very badly let down, and they will know it.

ANNEX

PROJECT FINANCE EXPERIENCE AND RELATED SKILL SETS NEEDED FOR THE WG's PREFERRED POLICY PREFERENCE FOR UNDER-GROUNDING TO BE EFFICACIOUS

In no particular order, we believe the Planning Inspectorate and the responsible Minister will need timely access to :-

- Specialist independent consultants who have the experience, expertise and capacity to undertake sector specific modelling, including financial risk profiling and related calculations.

  Some of the risks which would inform the model would include identifying and assessing the financial implications of the following risks :-
  - Specific risks relating to construction costs and overruns.
  - Regulatory risks (most especially risks which may arise through potential changes to the current regulatory regime and standards).
  - Inflationary risks (which will certainly span a number of different project costs , especially where the project duration (i.e. the combined construction and operational periods) will likely span several decades .
  - Political risk (which may well be attributable to global as well as national factors) .
  - Operational risks, both ordinary and exceptional (for example, available storage capacity , if the business transmitting the electricity is also part of a larger business generating the electricity) .
  - Interest rate risks, which will vary according the nature and extent of the debt finance, how it is structured, and the mitigating measures that are taken.
  - Currency exchange rate risks, the nature and extent of which may vary considerably depending on where the loan and investment finance is coming from, and the mitigating measures that are taken.
  - Pricing risks for transmission businesses which are also in the business of selling electricity . Although the selling of electricity in the UK is highly regulated, It is

nonetheless a market which offers options (for example 'Contracts for Difference') . The different options attract different risks.

- Specialist financial consultants who can independently establish :-

    - The likely Internal Rate of Return (IRR) of any particular project. This metric is especially important for prospective lenders and investors (and this metric is itself calculated using a complex set of other metrics) .
    - The likely range and composition of distributable profit . This information is going to be critical when seeking to determine whether a particular project can sensibly 'bridge' any differential cost that may be found to exist between the placing of 132 KV cables under-ground as opposed to overhead . The information will also be relevant to determine the nature and scope of any additional 'benefit' for the people of Wales , that might be possible .

- Specialist independent experts :-

    - With the ability to make accurate comparisons between 'overhead' and 'underground' financial models both on a project by project basis, *and* on a macro scale. The latter would not only be a useful tool for the WG to inform , finesse , and possibly substantially change the relevant policies set out in Planning Policy Wales . The latter might also become very relevant where one developer (or a small number of developers) account for the majority of projects in any particular renewable energy sector in Wales (because in such circumstances economies of scale and other discrete factors would likely come into play , and these could make a material financial difference to the financing and profitability of an apparently standalone project) .
    - Who understand and can clearly differentiate 'raw' construction costs from costs likely to be incurred over the operational lifetime of a project, measured against the likely revenues over a project's term. The importance of this differentiation is made very starkly in the Parsons Brinkerhoff Report of 2012 (as refreshed in 2019) . When the lifetime costs were taken into account , the differential between the cost of placing cables underground as opposed to overhead, reduced dramatically .
      NB. *The significant reductions noted in the Report were based on much higher voltages (e.g. 400KV) than 132KV, where the reductions would be considerably greater due to a number of factors, including the fact that cable ploughing is suitable to underground 132KV cables , but is not suitable to underground cables carrying higher voltage*
    - Who understand the nature and extent of 'hedging' facilities that may be available to , and may be deployed by, a DNS Applicant to mitigate certain of the financial risks .

- Who understand and have expertise regarding internal structures and relationships that may be created to optimise the overall benefits of a Group company structure , including any offshore arrangements. This could be especially important if the same Group were to carry out a multiplicity of similar projects within Wales, and / or where an individual project forms part of a greater but singular business operation (e.g. where a Group, operating through its network of companies, not only transmits but also generates , distributes and sells the electricity it generates) .
- Who understand the 'ins' and 'outs' of re-financing . The re-financing of a long term project will often take place when , for example, some of the significant risks of the project have passed or have been re-evaluated and are deemed to be less. Either of these circumstances is likely to lead to a re-financing 'gain' for the project company . In appropriate circumstances, it would be entirely reasonable for the WG to ensure it receive a proportion of that gain, which it could use to benefit the people of Wales . This kind of arrangement is not unprecedented : for example , HM Treasury directed that such arrangements be considered and executed in certain PFI (Private Finance Initiative) projects.

  NB. *Many of the aspects of project finance and financial modelling can be described as 'financial engineering' i.e exploring and modelling a range of financing structures and possibilities with a view to identifying and realising the optimum solution for any particular project . In the context of this Note, the challenge rests in solutions being identified and realised which are not only optimum for the DNS Applicant , its financiers, and its shareholders, but are also optimum for the WG in its capacity as the decisive representative of the best interests of the people of Wales.*
  It is only if the Planning Inspectorate and the WG have timely access to the experience and expertise mentioned in this Annex, that they will be able to understand and , if necessary , be able look beyond any 'financial engineering' that may have taken place . Armed with that capability , the Planning Inspectorate and the WG will be in a position to determine whether a DNS Applicant is truly presenting the 'optimum' solution.

A Cole, P Walden

Nodyn gan aelodau o'r gymuned ar bolisi Cynllunio o ran gosod ceblau trydan 70kv/132kv o dan y ddaear yng Nghymru. / Note from community members on Planning policy re undergrounding of 70kv/132kv electricity transmission cables in Wales.

Background

Welsh Government holds devolved powers to decide planning applications for electricity transmissions cables up to and including 132kv.

Wind farms use 132kv cables and Solar farms use 70kv cables to transmit their generated electricity to the main grid.

Current Welsh planning policy is a preference for transmission cables to be buried underground unless it is not economically viable to do so. The planning policy is found at Paragraph 5.7.9 of the February 2024 edition of Planning Policy Wales:
"The Welsh Government's preferred position on new power lines is that, where possible, they should be laid underground."
"However, it is recognised that a balanced view must be taken against costs which could render otherwise acceptable projects unviable."

There is no guidance as to what would or would not render a project [*economically*] unviable. Based on the most recent Plaid Cymru motion in the Senedd there is (a) broad cross-party support for the undergrounding of electricity cables and (b) a recognition that the current guidance is inadequate especially in relation to economic viability.

This note is directed at different possible approaches to flesh out and make the current planning policy clearer and robust in delivering the preference of undergrounding.

ASSESSMENT APPROACH
Assessment of economic viability for transmission cables does not currently feature in any of the planning regimes across the UK nations. Accordingly, it is necessary to look elsewhere in the planning system for examples of approaches.

The assessment principles in relation to housing developments in local plans has been around for a reasonable length of time although it is fair to say that housing developers have become quite adept at "gaming" the system to either minimise their obligations or eliminating them altogether. Nevertheless, it is useful to spend some time looking at these assessments at any rate as a starting point.

The Harman report[1] does provide a definition of economic viability as follows:
"An individual development can be said to be viable if, after taking account of all costs, including central and local government policy and regulatory costs and the costs and availability of development finance, the scheme provides a competitive return to the developer to ensure that development takes place and generates a land value sufficient to persuade a landowner to sell the land for the development proposed. If these conditions are not met, a scheme will not be delivered."

The guiding principle of Harman is that development scheme viability (and that always means profitable for the developer) is ***the*** key factor. This seems to be a theme across the board. For

[1] Viability Testing Local Plans – Advice for Planning Practitioners (Harman Report 2012)

example, see Belfast City Council's approach from 2023[2] where this is recognised but interestingly BCC has a planning assumption that a scheme is deemed viable unless the developer proves otherwise. BCC uses a detailed assessment methodology on a macro scale to ascertain the overall "typology" for a local plan area.

The problem with the housing analogy and Harman in particular is that it is not exacting and there is a sense that developers know the game and can, as mentioned above, "game the system" and of course the financial clout and expertise available to developers in the UK dwarfs that of the planning authorities just as it does for wind and solar farm developers.[3]

In terms of the development of Wales's planning policy it is likely that there will be voices in the Senedd suggesting that existing policy be augmented by financial viability assessments. If this were to be the desired way forward, notwithstanding the obvious pitfalls, then it is suggested that the following ought to be considered:

a. An overall planning policy position which makes undergrounding as not just a preference but as a requirement unless it can be demonstrated through a detailed financial assessment report provided by the project sponsor that evidences that undergrounding is not economically viable and where the project sponsors financial assessment report is independently reviewed by Welsh Planning at the cost of the project sponsor.
b. There should be detailed rules promulgated for financial assessment reports (developed by e.g. consultants on behalf of WG) to cut through the guff and financial engineering that might be employed by a project sponsor so that a truly objective assessment of financial viability over the life of the project is undertaken.
c. In particular there should be a clear position on what IRR/profit level is deemed to be within industry parameters, perhaps with a periodic review. This is a vital aspect as currently only assertions rather than hard facts are being provided by project sponsors.
d. The introduction of a presumption perhaps as per Belfast City Council, that undergrounding is deemed financially viable until proved otherwise.
e. Where a project fails an assessment of economic viability then the project sponsor must before its ongoing application proceeds put forward detailed alternative proposals which could make the project economically viable, for example, undergrounding a substantial part (at least 75% for example) of the route, changing the route or make other proposals.

STICK & CARROT APPROACH

The Carrot

This approach rewards project sponsors with expedited planning permission for both the wind farm itself and the transmission cables provided they bury cables underground for all or, say,90%+ of the proposed route.

[2] Belfast City Council Supplementary Planning Guidance 2023

[3] See also RICS "Assessing Viability in planning under the National Planning Policy Framework for England 2019"

A refinement could even be creating permitted development rights where the cables are 100% buried underground so that development can commence immediately. A more aggressive variation would be to create permitted development rights for the wind farm too where it is in one of the areas zoned as suitable for wind farms.[4]
It may be necessary to build into any such permitted development rights provisos that they do not apply to cable runs through e.g. sites of special scientific interest and other similarly environmentally sensitive lands.
In terms of whether or not undergrounding is technically feasible it is suggested that this is the domain of the project sponsor, that is where they proceed with 100% undergrounding or 90% or whatever percentage is agreed by Senedd to be appropriate. This is mentioned as Julie James had raised the thought as to whether undergrounding could be forced on a project where, in the example she gave, the land was subject to flooding.

The Stick
This approach involves a full planning assessment on financial viability where less than, say,90% of a proposed route is to be placed underground. Rules would need to be drawn up along the lines of the assessment approach (above) to ensure a level playing field in testing a project sponsors viability assessment report.
This approach means that even though it is anticipated that the planning processes will up tempo overall nevertheless the need to obtain a financial viability assessment with the associated cost and increased uncertainty incentivises a project sponsor to look harder at undergrounding.

A Cole, P Walden

Grŵp Gweithredu Cymunedol Peilonau Llanymddyfri – Llythyr Hydref 2024. / Llandovery Pylon Community Action Group – Letter Oct 2024

Thank you for getting in touch with us in response to our email sent to you 30th May.
We now see that the Terms of Reference has now been placed on your website this week.

We understand that the review process is well underway and due to report in December. Could we ask how things are progressing with the group?

We understand that the group will be relying on the updated IET report to provide a cost comparison for underground/overground costing. Could we ask if you intend to provide a further comparison for placing the cables below ground using the Cable Plough method?

When calculating the cost of an overhead pylon line, we expect a monetary value to be placed

[4] NB: How this would work for Solar would need to be considered

on the devaluation of farmland, properties, tourism businesses, the impact on the landscape of Wales, and on the future generations. There are other costs to be considered too, and we look forward to discussing these with you.

As stated previously, we welcome the opportunity to be a part of the review process and you mentioned in our meeting in May that this was to be the case, but to date we have not been asked to contribute. We are keen to meet with you to work towards the Welsh Government aim that all electricity infrastructure should be undergrounded. This would ensure a resilient energy network and preserve the landscape for future generations.

To provide you with an idea of the anxiety that pylons cause within a community, we share two emails that have been sent to us today. As you're aware, there is much more to consider here than just cost implications.

We are forwarding an email that a very pro-active neighbour of ours has sent today to Wales Online. It encapsulates precisely the fear and anxiety here in Carmarthenshire and Powys.

Our local MP Ann Davies and our MS Adam Price are both fighting our cause, but we all feel completely disempowered in the hands of Ed Milliband, Keir Starmer and their associates. Most folk recognise the merits of green energy but are not prepared to see hundreds of square miles of stunning Welsh countryside ruined forever for the sake of it. Research has shown that undergrounding as an alternative that would not cost much more than the outdated technology of pylons, but no-one seems to be listening. Of course, either system is going to cause total disruption in areas of Wales to which thousands of visitors flock to appreciate the tranquillity and beauty of both counties but at least in five years' time, using the latter course of action, the attendant scars on the neighbouring pastures and fields would be healing over. Since when were pylons eco-friendly by the way? In Denmark, we are told that pylons are now being taken down and replaced with underground cables.

We, ourselves, set up a retreat twenty years ago and we are attaching an image of our "meditation" seat on the hill behind our property where retreatants and holiday visitors sit for some quiet time and to watch the sunset go down. This and many other fabulous rural views are presently being threatened. Another of our neighbours will even have a pylon placed not far from his new conservatory. So many more sad stories about which you could hear if you visited our locality.

Norfolk is not the only county intimidated and endangered by the Government's net zero targets.

Over the last few months, landowners have had their worlds turned upside down as they have received letters, phone calls and visits from surveyors. The toll this is taking on the mental health of people is considerable: a knock at the front door or sound at the gate elicits fear, elderly residents don't know how to respond, neighbours are suffering from anxiety and rumours swirl of threats of legal action. People feel threatened.

Community opposition won't go away until people feel heard and, above all, less threatened.

As a side note, we note that the decision regarding the Twyn Howell wind farm has been delayed by a further 2 months due to the presence of peat. Remembering back to Julie James' response to the Plaid motion prior to the election where she said that she wouldn't want to see cables placed underground through peat, with that in mind we believe that there would be outrage if a windfarm would be allowed to be constructed in such an environment.

Grŵp Gweithredu Cymunedol Peilonau Llanymddyfri - Datganiad tystiolaeth i'w gyflwyno i'r Grŵp Cynghori Annibynnol ar Grid Trydan y Dyfodol yng Nghymru. Rhagfyr 2024 / Llandovery Pylon Community Action Group - A statement of evidence for submission to the Independent Advisory Group on Future Electricity Grid in Wales. Dec 2024

We welcome the establishment by the Welsh Government of the Independent Advisory Group ("IAG") on Future Electricity Grid. We are responding to the request for public evidence in order to help build a consensus around the consideration of the public and community perspective, the socio-economic duty, the environment and the wellbeing of future generations.

We are a community action group in the Llandovery and surrounding areas in Carmarthenshire. We represent landowners, businesses, and residents. We are one of a number of action groups which were formed in response to proposals to build a network of pylons through mid-Wales. These action groups share common aims, common mission statements, information and resources and liaise closely.

We contend that if any new electricity transmission line is required then it must be placed underground. Electricity pylons are not acceptable and are strongly opposed. Undergrounding by cable ploughing using HVDC transmission for 400kV lines and conventional AC transmission for 132kV lines has widespread public support. Any new proposal should comply with national/regional/local planned grid and must be compatible with the 7 national wellbeing goals established by the 2015 Future Generations (Wales) Act. Careful routing of an underground solution can reduce costs and impacts and community support is the way to speed up delivery and further reduce costs.

As noted, our group is one of many that have been set up with similar aims representing communities throughout the region. As such we also wish to fully endorse the submission of evidence to the IAG made by the Llanarthne Area Group in their letter of 12th November 2024. We are in full agreement with all the points that have been presented in that submission and regard it as unproductive nor necessary for us to repeat all of those well-made points in our submission.

However, we wish to submit additional evidence in our response as a supplement to that provided by the Llanarthne Group under the following headings.

The true costs of undergrounding versus overhead pylons

Concerns with Relying on Updated IET Report

We understand that the Independent Advisory Group on Future Electricity Grid for Wales (IAG) will rely on an updated cost comparison report originally produced by Parsons Brinckerhoff and Cable Consulting International Ltd on behalf of the Institution of Engineering and Technology (IET) in 2012 (the "IET 2012 Report"). Clearly, it's a positive that the IET 2012 Report is updated however we have significant concerns if the IAG is to rely on this study for its cost comparison for future grid upgrades in Wales, especially if the updated report relies on similar analysis to that done originally. We set out our concerns regarding the 2012 IET report below:

1. The IET 2012 Report is based on 400KV transmission infrastructure which is not currently within the devolved responsibilities of Welsh Government.

1 Applying the same cost differential between pylons and undergrounding options calculated for a 400KV transmission network would not be appropriate for lower voltage projects. One clear example for this would be that the pylon spacing on a 450m which is significantly greater to the typical 250m spacing for 132KV pylon infrastructure.

2 The IET 2012 Report for comparative purposes used the lifetime cost per kilometre for the different methods. The study states that not all technologies connecting two locations would use the same route or be of the same length. It is therefore recommended that actual practicable routes need to be considered when comparing total lifetime costs of each technology for investment decisions.

3 Concerns regarding the technique assumed for placing cables underground. Reference is made in the IET 2012 Report to traditional double sided close timber shoring for supporting the sides of the trenches. This is an outdated, labour-intensive method that is rarely used these days. It should be ensured that current industry practice is used to inform any cost comparisons.

4 No cost is associated with any potential public inquiry because it's noted that a public inquiry would not always take place and that the duration of any potential inquiry could vary quite significantly. We would argue that the chances of a public inquiry taking place with projects proposing overhead lines would be far greater than any underground projects - especially in Wales where Welsh Government policy states that "electricity lines should be undergrounded where possible"

On reviewing the IET 2012 Report, we also have concerns that not all costs and items associated with the construction of pylons have been considered. We set out below items that we believe should also be a consideration:

1. Vegetation and tree removal and ongoing vegetation maintenance. It should be noted that tree cover in Wales (19.4% of the landcover in Wales) is higher than that in England (12.8%) therefore Wales specific assumptions should be made.

2. Loss of subsidy payment for land out of agricultural production. The construction of overhead lines could see agricultural land being out of agricultural use for up to two years.

3. In Wales, having agricultural land out of production will impact NVZ/The Water Resources - Control of Agricultural Pollution (2021) regulations. This will impact the land available to spread manure and could reduce the number of livestock permitted on a given farm.

4. The need to compensate agricultural holdings for taking land out of production. There would be a loss of fodder/grazing/crops for up to 2 years associated with high voltage overhead line installation.

5. Erect stock proof fencing along length of proposed pylon/undergrounding route. Removal of fencing on completion of the construction works.

6. Where high voltage overhead lines cross existing overhead cable infrastructure, the existing cables would need to be undergrounded.

7. Significant programme gains possible for undergrounded solutions compared to pylon solutions with planning being significantly more straight forward and less chance of a public inquiry taking place.

8. There would be significant claims for injurious affection for individual properties impacted by any high voltage overhead pylon lines. No such claims would be made if the cables are placed underground.

Cost Comparisons

The aim of this section is to present recent substantive evidence to show that the ratio of 6-10 times often claimed by developers as the comparative cost for placing 132kV cables underground is indeed not representative. Advances in technology and indirect costs are likely to further reduce the ratio.

The Western Power Distribution study for Brechfa Forest1 from 2014 already showed that the cost of undergrounding 132KV infrastructure was approximately four times more expensive than relying on overhead lines.

The underground costing assessment presented here is based on the most thorough recent costing available for undergrounding of 132kV double circuit infrastructure.

As noted above developers often quote that placing 132KV electricity cables underground is typically 6-10 times more expensive than relying on overhead lines. Developers also quote that installing 132KV high voltage overhead lines typically cost approximately £1m per km.

A study undertaken by Cable Consulting International in 2020 on behalf of Scottish Power Energy Networks looking at a 132kV grid reinforcement project between Kendoon – Tongland2 is the most detailed recent study available. This study showed that undergrounding costs would be circa £3.4m/km. The materials cost, cables, ducts, joint bays and other items amount to £0.63m/km (22%). The construction by traditional open trenching method is the dominant cost at £1.4m/km (48%).

Technical advances in the form of cable ploughing offer the opportunity to greatly reduce the time and effort required for cable installation and also for project management.

In ideal conditions it is claimed that a cable plough can install 1km of cable duct in 1 day with 1 team. This includes backfill and effectively reinstatement. For a double line this would equate to 2 team days/km which would compare with approximately 44 team days by the traditional open trench method based on the Kendoon – Tongland study.

Techniques for cable installation in the duct have also advanced. Original techniques were limited by cable friction to typically 1km. The Kendoon – Tongland study assumed approximately 800m cable lengths with 48 joint bays over the 37.6km. Modern technology using hydro pushing enables cable lengths of up to 2km to be commonly installed. This would reduce the number of joint bays and joints by at least a factor of 2.

From what we understand, the new updated IET report will not consider Cable Ploughing as a method for installing high voltage cables as part of its updated study. Additionally, there are no studies that have been undertaken that compare the costs associated with placing cables underground using the Cable Plough method and overhead pylon lines. With that in mind, the Llandovery Pylon Community Action Group have undertaken a costing exercise comparing the cost of installing a 132KV line using both a pylon overhead line and an underground line installed using a cable ploughed solution.

From our analysis, it is evident that the cost of placing cables for a 132KV line underground using the cable plough would be approximately twice the cost. However, if the costs associated with the items listed in the eight bullet points above are taken into consideration, the cost differential reduces to 1.3 times, with the cost associated with the pylon installation increasing from £1m per km to over £1.5m per km. It should be noted that the cable costs assumed (based on figures received in November 2024) seem to be high compared to cable costs assumed in other studies and this cost comparison will be updated as we receive further information.

If we were to use the installation costs associated with the Cable Plough method along with the other associated technological advances and apply them to the Kendoon – Tongland study, the

undergrounding costs would reduce to approximately £1m/km which is comparative to pylon installation costs for a 132kV infrastructure assumed by developers.

Additional advantages of underground cables would include:

- Cost of Losses Underground cables need to have a bigger cross section than overhead lines due to the better cooling of overhead lines. This means that UGC cable has a higher initial cable cost but it has a lower resistance and hence lower power dissipation over the lifetime of the line.

- Resilience Storm Darragh that impacted western parts of the UK on the 7th December 2024 resulted in an estimated 177,000 homes being without power for some cases up to a week. Placing infrastructure below ground ensures that the grid would be more resilient to future storms that will become more frequent as a result of climate change.

- Additional Factors in favour of placing electricity infrastructure below ground:
    - Simplified planning/consenting process
    - Reduced impact on agriculture
    - Environmental and Ecological impact
        - The impression is that to underground cables would require a huge wide swathe through the countryside to be excavated and pictures of the 400kV cut across the Goring Gap show this. The most significant advantage of the Cable Plough is its low-impact on the environment. Whilst traditional methods of pipe and cable installation require a sizable trench to be dug and then refilled, the Cable Plough's efficient way of cutting a narrow slit into the soil causes only minimum disturbance to the land. Using the Cable Plough allows for features such as trees to be avoided.
    - Local economy/affected communities
        - No impact on property valuation.
        - No impact on tourism sector which in most cases is vital to rural communities in Wales.
        - We have held numerous community meetings with landowners, business and residents in our area. It is clear from those meetings that undergrounding by Cable Ploughing is overwhelmingly supported by the local community. This is also reflected in consultations undertaken by other affected community groups along the line of a Towy/ Usk pylons route. Undergrounding by Cable Ploughing would be regarded as hugely positive by these communities and hence result in a less complicated and time consuming planning process with minimal objections and also help speed up and avoid confrontation in any build out.

Carbon Implications

As the main need for upgrades to the electricity grid in Wales is to meet Net Zero targets, it would seem sensible that the IAG considers the whole life carbon implications of the different installation techniques. The construction of each pylon would involve:

1. Removal of trees along the proposed pylon route i.e. a 100m wide corridor.

2. Fencing materials and equipment to erect fencing along proposed corridor.

3. Machinery to strip top soil and the placement of imported quarried stone along an access track together with a further 1 acre of imported quarried stone around the base of each pylon to allow pylon construction.

4. Machinery to excavate pylon foundations.

5. Emissions associated with concrete production for pylon foundation. For the pylon type proposed for our project up to 52,680 kg of concrete would be required per pylon.

6. Haulage of concrete for pylon foundation.

7. Emissions associated with steel production that make up pylon. For the pylon type proposed for our project up to 14,739 kg of steel would be required per pylon.

8. Assume that steel will be imported to the UK. These emissions should be consideration and should not be discounted because the emissions are generated offshore.

9. Haul steel/pylon to site

10. Machinery/cranes mobilised to site to construct/install pylon

11. Plant/equipment to string cables.

Clearly there are significant carbon impacts associated with the construction of each pylon.

In comparison, the cable plough solution (https://www.atpcableplough.com/cable-plough/#benefits) would:

1. Involve no import of any material other than ducts, cables and joint bays.

2. Low fuel consumption - plough laying uses approximately 180 litres of fuel per kilometre of installation (which can be done in a day).

3. No need for the felling of trees.

4. Pre cast joint bays - emissions associated with concrete construction and installation on site.

For all the above reasons we consider it critical that the IAG also undertake a detailed review of undergrounding by Cable Ploughing and use the outcome to compare against the costs and issues with other means and in particular the use of pylons.

b) Compatibility with the 7 national wellbeing goals for sustainable development

The 2015 Wellbeing of Future Generations (Wales) Act established 7 national wellbeing goals for sustainable development (SDG's). The 2019 Review of Progress provided evidence of how these SDGs had been applied to that date. In that report it was stated that 'we are doing things differently in Wales'. It also quoted the UN comment on the SDGs: 'what Wales does today, the world will do tomorrow'. The Act enshrined in law the responsibilities of public bodies to promote sustainable development by actions that improve the economic, social, environmental and cultural wellbeing of Wales. The principle of sustainable development 'means that public bodies must act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs'. In particular the Act draws attention to the need 'to safeguard the long-term needs, especially where the things done to meet short term needs may have a detrimental long-term effect.'

It seems to us plainly obvious that erecting pylons in Wales is not compatible with the 2015 Act and were this option for the transmission of electricity to be chosen by the Welsh Government it would be acting contrary to stated policy and the law. Since there is an excellent alternative option (cable ploughing) which is cost effective, would not compromise any of the SDGs contained in the legislation and has universal support amongst the communities we and the other action groups represent, it is imperative that this option is chosen. The long-term needs of future generations must be prioritised and erecting pylons would totally undermine this aim.

We would also like to reference the Welsh Index of Multiple Deprivation (WIMD) 2019. It is clear from the statistics and evidence contained in this report that Carmarthenshire is a local authority with deprivation. Rural areas of Wales feature as some of the most deprived areas for 'access to services' and it also features as a deprived locality according to other domain indices. In particular, farming communities in Carmarthenshire and Powys face very challenging economic circumstances and these very same social groups, will be the ones most affected by the proposed pylon route. The Welsh Government has made it a priority to address deprivation in Wales with reference to the 2015 Wellbeing of Future Generations (Wales) Act and it is clear that the use of pylons would in fact make deprivation worse in the locations affected and therefore would run counter to core Welsh Government policy.

Specifically, we find that the use of pylons would be contrary to each of the 7 SDGs in the following ways: -

1. A Prosperous Wales

Tourism is a cornerstone of Wales' economy. In 2022 tourism industries accounted for 11.8% of employment with tourists contributing around £5 billion a year to the Welsh economy. It is widely accepted that pylons would blight areas of outstanding beauty and that tourism would be damaged. The livelihoods of those who rely on tourism for their well-being would be

damaged and, in some cases, completely wiped out. Wealth and employment would both be reduced by such a policy. Thus, pylons would be contrary to the SDG of a prosperous Wales.

2. A Resilient Wales

This goal focuses on the maintenance and enhancement of the natural environment and how this supports social, economic and ecological resilience. It is clear that pylons do nothing to enhance the natural environment. Indeed, there is plenty of evidence of the damage that overhead electricity cables do to the natural environment. The evidence for this is well covered in the Llanarthne Group submission to the IAG.

3. A Healthier Wales

This goal is about creating 'a society in which people's physical and mental wellbeing is maximised and in which choices and behaviours that benefit future health are understood'. There is ample evidence that the prospect of new pylons in Wales is already causing major mental health issues for those directly affected. The total opposition to pylons from all landowners along the proposed route in the Tywi valley provides evidence of the strength of feeling. It would be foolhardy to underestimate the long-term damage to people's physical and mental well-being should this option be chosen. This SDG is about maximising physical and mental wellbeing and it is very hard to see how the erection of pylons could possibly help to achieve this objective. There is a good alternative option (cable ploughing) which, at a stroke, would remove the blight and mental anguish that is profoundly affecting whole communities in rural Wales. What better way to provide evidence of making choices which promote sustainable development.

4. A More Equal Wales

This goal seeks to promote 'a society that enables people to fulfil their potential no matter what their circumstances'. The use of overhead pylons and the economic, cultural and environmental damage that this will do to rural communities is self-evidently treating these rural communities differently from other societies in Wales. Pylons would be creating a less equal Wales by penalising certain groups within society in this way.

5. A Wales of Cohesive Communities

The threat of pylons has been the cause of anger and resentment within communities whose livelihoods are threatened and health put at risk. The viability of sectors within communities is threatened and with it the safety and security that they deserve. Long-term cohesiveness will not be served by the building of chains of pylons which will scar and ravage the outstanding Welsh scenery, environment and cultural heritage that so many people love and cherish. The lasting legacy of this policy would be anger and resentment, especially since the financial beneficiaries would not be Welsh.

6. A Wales of Vibrant Culture and Thriving Welsh Language

One aspect of this goal is to promote and protect culture and heritage. There is plentiful evidence of the damage that pylons would do to significant cultural assets directly along the proposed routes. Vibrant culture links directly with tourism which will be significantly damaged by pylons. It is also fundamental that if you want to promote a thriving Welsh language you do not deliberately undermine the viability and continuing existence of a key group within Welsh society who are a bastion of native Welsh speakers, namely farmers from rural Wales. This proposal to erect pylons is an insult to those proud Welsh families who have spoken Welsh as their first language for generations. It is self-evident that pylons are not compatible with this SDG. Undergrounding by cable ploughing would avoid any risk of this goal being undermined.

7. A Globally Responsible Wales

This is a grand goal which seeks to give Wales a leading position on the world stage as an exemplar for sustainable development. Pursuing net zero targets proactively because of the climate emergency is a worthy objective, and Wales is already well advanced in this regard. However, how these targets are achieved is equally important and it is not globally responsible to industrialise outstanding scenery, to undermine cultural heritage and to damage mental and economic well-being in pursuit of these aims, if this can be avoided. We have submitted compelling evidence that undergrounding via cable ploughing is the responsible solution. If Wales is to act in a globally responsible way, then it must embrace the latest technology as used elsewhere in the world and reject out of date 20th century pylons which have a significant carbon footprint all of their own. It would certainly not be globally responsible to lag behind other countries who already underground their electricity cables and already use cable ploughing technology that is available from a world leading Carmarthenshire company.

Grŵp Peilonau Cymuned Ardal Llanarthne / Llanarthne Area Community Pylon Group

A statement of evidence for submission to the Independent Advisory Group on Future Electricity Grid in Wales.

1. Introduction:

We are encouraged to note that Welsh Government has committed to working with representatives of all sectors and regions of Wales to develop a set of principles for grid development.

We note from the statement and terms of reference made available on the Independent Advisory Group website that the Independent Advisory Group on Future Electricity Grid in Wales, established by the Welsh Government, is intending to create a public evidence base and devise a set of principles to support development of the most appropriate solutions in Wales.

It is good that the principles will be founded on the framework of the Wellbeing of Future Generations Act, and whilst considering cost and technical considerations, will reflect visual impacts, environmental impacts and community requirements.

Our community group originated in response to a particular infrastructure proposal, but from an early stage widened its objectives to encourage an evidence-based assessment relevant more generally to the nature and type of electricity infrastructure and method of installation for use with a national application, and to highlight the importance of evaluating any proposal in the context of local, regional and national plans. Our Group position statement confirms a wish to promote understanding and discussion of policy and information relevant to the infrastructure required to convey clean electricity, and to support Welsh Government, with appropriate community engagement, to identify on a local and national level the infrastructure appropriate to convey clean green energy, in pursuit of net zero, to satisfy community and national demand, balancing benefit with minimised impact, and considering sustainability and the wellbeing of existing and future generations. In addition, we support and encourage progression so that any proposal for new electricity lines can be evaluated in the context of a carefully considered and appropriately planned holistic network.

As an established community group with a wide geographical area, a considerable membership, and association with many community members, may we take this opportunity to contribute community perspective to the evidence base which the Independent Advisory Group on Future Electricity Grid is compiling.

We can draw on anecdotal evidence, from our own community experiences and from experiences shared with us from other communities within Wales and within the UK more generally. Within this submission direct experiences may be referenced by way of illustration. However, one important point, by way of context, is that politicians and policy makers need to understand the folly of seeking to dismiss or to label as no more than Nimbyism, commentary or representations emanating from communities especially when those submissions have a generalised or national application. Certainly, community groups have been formed in many areas of the country in response to specific proposals for new overhead electricity infrastructure, sometimes to oppose, and sometimes to consider and evaluate and inform, and there is no doubting that the local and regional impact of proposed new infrastructure can bring into sharp focus any merits and the disadvantages involved, but in our community area, as in others, the approach adopted is to consider what would be acceptable, not just in our back yard, but with wider context, what would be acceptable in everyone's back yard, as no community or district exists in isolation and we each interact in order to have a national perspective of what is good and beneficial and what is not acceptable or desirable. Community groups have the advantage, from extensive engagement with many different individuals and organisations, from involvement in consultation exercises, and from interaction and liaison, of receiving feedback from a wide range of contributors which enables information and perspectives to be collated from many sources. By way of submission to the evidence base which the Independent Advisory Group is compiling, we hope that we can provide a useful contribution based on community experience offering community perspective but with a national benefit.

New and replacement electricity infrastructure for the purpose of conveying electricity is the sole focus and direction of this submission. As to the generation of electricity, it seems that people are generally supportive of clean energy as a move away from carbon producing fossil fuels, but there is evidently a live debate as to whether electricity generation should be limited to satisfying the electricity consumption needs of the nation or should be scaled up to offer, whether for the national benefit or for the benefit of private commercial interests, an economic benefit from the export of excess electricity which is generated, and there is evidently a live debate as to the size, type and siting of electricity generation sources. The remit of this community group is targeted specifically on electricity infrastructure required to convey electricity, and we are also aware that the terms of reference of the Independent Advisory Group are specific to future electricity grid and do not extend to a consideration of sources of electricity generation. Accordingly, our submissions are reflective of and relevant to community perspective on electricity infrastructure for the purpose of conveying electricity.

2. Summary of community messaging:

- Pylons are not wanted and are strongly opposed.
- There is strong support to put new and replacement electricity cables underground by cable ploughing.
- There is strong support to underground using horizontal directional drilling when that option is established as a preferred alternative, including for major road or river crossings or within specific areas of particular ecological sensitivity if detour is not otherwise possible.
- The delivery of new infrastructure does have to equate with or mean pylons and overhead lines.
- Careful routeing is essential which can shorten distances and reduce impacts and costs.
- There is a recognised need for new electricity infrastructure to carry clean energy.
- New power lines should be part of a careful national holistic and spacial plan which can deliver the grid which is really needed and avoids unnecessary impacts and costs.
- Strategic and holistic planning should discourage a ‘Wild West’ style gold rush driven or dominated by the profit ambitions of a small number of private speculators and their investors.
- The best community benefit is to avoid visual impacts and to minimise other adverse impacts from new power lines
- Benefits secondary to undergrounding new power lines should fairly compensate both communities and individual property owners for any loss, disruption or devaluation experienced, but compensatory payments can be significantly minimised if careful routeing and more sensitive undergrounding is undertaken.
- ’Community funds’ which are to be provided by the developers, owners and operators of electricity infrastructure should be regulated, compulsory, and enforceable.
- ‘Community benefits’ can include local ownership schemes but ‘local ownership’ cannot be satisfied by reason only of a developer or operator which is a limited company holding a registered address or premises in proximity or somewhere in the domain.
- Developers and operators of new electricity infrastructure for conveying electricity should at the outset of construction establish a fund or in the alternative confirm suitable guarantor provisions, any such fund or arrangement to be compulsory, enforceable,

regulated, and controlled by government, so that in the event of corporate failure or dissolution the work and costs of addressing any omission to keep electricity infrastructure in repair and relevant to decommissioning, and restoration, and will be satisfied without cost for affected property owners or for taxpayers.

- Grid development should involve meaningful community engagement, undertaken with honesty and transparency, which is respectful of communities and homeowners, rather than token community consultation.
- Community consensus can accelerate delivery of new grid towards achievement of net zero.
- Opposition to poor schemes, which are unnecessarily impactful, can result in legal challenges, public enquiries, and resistance to land entry, all of which can cause public dissatisfaction, public demonstration, wasted costs, significant delay, and missed opportunities.
- Communities and property owners are prepared to stand up and stand together to oppose bad developments, to challenge unnecessary disfiguration of the natural and historic beauty of our country, to protect the tourism and agricultural sectors, to prevent devaluation of properties, and to defend and champion the wellbeing of current and future generations.
- PPW 5.7.9 to be suitably revised reflecting community messaging:
  (i) To place new electricity power lines underground.
  (ii) To underground using cable ploughing unless a sufficiently favourable case is established for an alternative method such as horizontal directional drilling (HDD),
  (iii) Proposals for new underground lines to be consistent with the most recent and relevant Welsh Government endorsed national, regional and local holistic grid plans.
  (iv) Individual schemes to demonstrate careful project routeing towards minimising adverse impacts.
- Expand the current definition of new power lines to be regarded as Significant Infrastructure Projects to include the undergrounding of cables and reflecting voltage and length.
- Revise permitted development rights so that Planning Policy Wales can be applied more widely to proposals in Wales for new infrastructure to convey electricity exceeding a designated length.
- With the advantage of a sufficient evidence base, the UK Government should consider whether to endorse a preference or default position for undergrounding using cable ploughing/HDD, taking into account opportunities to minimise adverse impacts, to promote positive benefits, to speed up delivery, to recognise community requirements and to embrace both direct and associated whole life costings including construction, operation and decommissioning.
- In the interim the UK Government should remove the strong general presumption in favour of the use of overhead lines contained within the national policy statement NPS EN-5, as the policy statement was conceded by the last Energy Minister on 24/5/24 to have been designated by the last UK Government without a sufficient evidence base, and otherwise a strong general presumption for pylons which has not been rationalised using accurate and up to date evidence applies in England and also in Wales for new power lines exceeding 132KV.

3. Alternative technologies available as to the type and method of installation of new infrastructure to convey electricity:

Community awareness of the alternatives available include:

a) Overhead lines supported by pylons –

Our community has noted information within the consultation materials and scoping materials now in the public domain relevant to a proposal for 132KV overhead lines and pylons intended to link a proposed converter station near Aberderw to a proposed new substation near Llandyfaelog. Within the scoping report, there is mention, of just what would be involved in the construction process. It is important to understand the reality of what is involved so that the impacts can be properly evaluated. The impact from the manufacture, transport, construction, maintenance, repair and de-commissioning of pylons is often overlooked. It is important to understand that the account which follows is limited to 132 KV and does not describe the more extensive materials and any additional operations required for the bigger 400KV system which involves pylons with an average height of 42.5 metres.

The scoping report confirms that the towers (pylons) would have an average height of 27 metres. Pylons would be spaced every 200-250 metres. Access for plant and equipment to every tower (pylon) location will be required during construction. Save that a pylon is placed immediately adjacent to a highway, and therefore immediately accessible from the highway, there will be a need for the construction of a road or track leading to the site of each individual pylon within the proposed route. The Scoping report confirms, that where it is not possible to use the existing highway, a haul road will be constructed to facilitate line access, as it is important to remember the need to reach the overhead lines as well as the pylons. For lighter traffic or low ground pressure vehicles, steel matting or timber roadways can be constructed. However, there will inevitably be heavy or substantial equipment. Pylons are erected by use of a mobile crane. The construction of access tracks will involve the removal and storage of topsoil and the placement of suitable haul road materials. Stone can include imported stone from a wider area. The foundations for each pylon will require concrete beneath each leg position. The depth of foundation is recorded as typically 3m to 5 m in depth. L7 tower (pylon) locations are said to have a typical working area of approx. 25 metres x 25 metres for standard towers and 50 metres x 50 metres for angle towers. There will also be ‘temporary pulling areas’ at pylon locations every 3-4 km. The temporary pulling areas are approx. 20 metres x 50 metres. To serve each individual pylon site, there will also be a need to establish lay down/storage areas. Towers will be delivered to the relevant construction areas in section by HGVs. ’Conductors and stringing equipment will be delivered to the construction areas by HGVs in large rolls. ’At each of the tower locations a winch and tensioner will be set up at opposite ends. Any trees which impact on safety clearance will be removed or topped. A seventy-metre corridor is recorded as the standard clearance for 132 KV - to be kept as open ground for the lifetime of the project. The scoping report indicates that after completion, all compounds, haul roads and access tracks will be re-instated in accordance with the requirements of any planning permission. Therefore, only an obligation to remove, if removal is a condition of the planning consent, and remembering there will be a need for access ongoing for

repair and maintenance. The Scoping report estimated 5 to 9 tons of steel for each tower and 9-17 tonnes of concrete for each pylon base depending on the type. The report estimated, (without verification) that the project would involve between 3600 to 6800 tonnes of concrete and 2000 to 6000 tonnes of steel. The Scoping report conceded that 'exposed elements which suffer from corrosion, wear, deterioration and fatigue, will require inspection approximately every 12 months and periodic maintenance over the lifespan.' 'Fittings and insulators may require replacement after 20 years.'

b) Overhead lines supported by wooden poles – it seems that higher voltages and/or higher capacities require the use of pylons to provide greater clearance from the ground
c) Undergrounding by way of open trenching -this method involves extensive soil removal and ground impact, whereby to bury cables within the ground, trenches are excavated, which requires an extensive easement corridor and considerable width of operation.
d) Undergrounding by way of cable ploughing –referencing a statement of evidence produced by ATP cable plough in January 2024, the presentation in April 2024 provided by ATP for industry and government representatives showing use of a cable plough to lay the ducting required for both 400KV and 132KV underground cables, and reviewing the video footage and photographs of the equipment and machinery in operation laying ducting, and as an alternative, laying lower voltage cables direct into the ground together with backfill, it seems that cable ploughing can offer significantly reduced ground impacts and speedier delivery as a method of installation but providing for the same depth, spacing, and specifications as if cables had been installed by open trenching. The community is aware that this method is not without land impact, and minimisation of impact links with the number of slits to be opened reflecting design considerations for the voltage, current and capacity required, whilst there could be a need for joint bays to be excavated on average every 1-1.5km, access must be achieved to each joint bay in so far as not immediately accessible from a highway, pulling areas need to be established to pull cables through ducting laid by the cable plough bays, and storage laydown areas are required, but the community also recognises that as the frequency of joint bays is far less than the frequency of pylon sites, potentially on a ratio of less than half, it should be possible to significantly reduce the number of access tracks required, whilst it should be possible to substantially reduce the width of any easement strip required, the amount of vegetation to be cleared would be greatly reduced, there should be no soil contamination or mixing of soils or soil compaction from cable ploughing, hedges can be lifted out and replaced intact, and as the cable plough machine can open a slit over a distance up to 1.5 km per day, and as ground restoration is simple and fast, these factors will reduce land disruption and limit the period of restriction of the use of the affected land and the use of adjacent land. The available evidence, as to the potential for reduced impacts offered by cable ploughing new electricity cables underground as a better alternative, to avoid visual impact and other adverse impacts in consequence of overhead lines and pylons, and the potential to accelerate delivery using this option, together with the use of cable ploughing for extended distances at high voltage in European countries, has attracted the support and acceptance of landowners and other community members.
e) Undergrounding by way of horizontal direct drilling (HDD)- seems to be a credible and proven alternative for placing new electricity cables underground without the need for surface disruption other than at the points of entry and exit and seems ideally suited in order to avoid disruption by way of major road and river crossings and for avoiding surface

disruption of any sort in areas of particular sensitivity such as designated SSSIs. HDD appears to be an expedient option which could be used in conjunction or combination with cable ploughing.

4. Awareness of how the method and type of grid can impact environment, ecology and bio-diversity:

Whichever method of installation is used, and whichever type of electricity infrastructure is preferred, there will be some potential for adverse impact on the environment, ecology and biodiversity. The important question is how adverse impacts can best be avoided or if avoidance is not possible, how best can adverse impacts be mitigated.

On 12 June, in a Senedd Plenary session, the Cabinet Secretary with the portfolio for planning at that time, in the context of confirming that there was no opposition in principle to a motion put forward to make undergrounding an absolute policy, and in the context of confirming that there was no objection to the underlying philosophy, expressed a hesitation to committing to the use of cable ploughing wherever physically possible, because it is physically possible to underground by cable ploughing in places where that may not be desirable because of a particular concern as to ecology and biodiversity. The Cabinet Secretary raised concerns around the millions spent in restoring peatland in various parts of Wales, and the importance of endangered fungi, wildflower meadows and ancient grasslands.

We recognise the need to achieve a careful balance, by providing the new infrastructure required for the earliest delivery of net zero but in a way which utilises the technology now available so we can minimise adverse impact.

It is recognised that we should be committed to environmental stewardship and community well- being. Communities would wish to explore the opportunity to align planning policy with environmental and sustainability goals.

Our community is particularly aware of these considerations, as the Tywi Valley is an important breeding and feeding ground for some endangered and many protected birds, mammals, invertebrates, aquatic life and fungi. The River Tywi is a site of special scientific Interest (SSSI) and surrounding land is in a special conservation are. Also, irrespective of whether beautiful landscape or setting falls within the designation of a national park or AONB, various land areas including parklands, meadows and ancient hedge networks can form unique connected habitats which sustain biodiversity.

The considerations raised by the Cabinet Secretary are capable of a satisfactory resolution. Careful routeing, is an important and primary means of minimising impact, including impact on ecology, biodiversity and landscape. If in the unlikely event it is not practicable or feasible to control or regulate by way of careful routeing, in order to ensure that an area which should be protected is suitably avoided, then it appears that using the least impactful methods of undergrounding should be preferred as a better alternative than constructing a line of pylons through an area which requires protection. The adverse impact which would be caused by

erecting pylons within peatland or within other sensitive landscapes or within areas of ecological importance containing any endangered or protected species, now that there is an awareness of the disruption caused in the transport and construction and commissioning processes for pylons and overhead lines, does not bear thinking about. In contrast, in addition to careful routeing with the objective of avoiding sensitive sites, and in addition to appropriate survey as a prerequisite to consequential protective measures before any work should begin, communities would advocate that as the type of infrastructure to be deployed and the method of installation to be used should minimise impact so far as possible, the best way to achieve this, together with careful routeing, is by undergrounding using horizontal direct drilling if the case can be made for a preference for drilling over cable ploughing in specific circumstances. Communities now have sufficient awareness of undergrounding by cable ploughing and HDD to know that these methods and these technologies offer the potential of significantly reduced impacts. It is important to recognise, that cable ploughing can be used in combination with horizontal drilling. Therefore, in the unlikely event that particularly sensitive areas of ground cannot be bypassed and avoided by careful routeing, and even if the minimised impact from cable ploughing is still best avoided, there is always the alternative, in terms of undergrounding, to place new cables by way of horizontal drilling at a safe depth in order to protect important ecology, soil structures, and biodiversity on or towards the surface.

5. Awareness of how grid affects people:

Communities understand the positive benefits of grid development. Communities understand that effective grid is needed by way of distribution of good clean energy to our homes, our businesses, our schools, our hospitals, and our public services, and that an effective transmission network is required to make available sufficient power for distribution. People understand the positive benefits of infrastructure which can provide a sufficient supply to satisfy reasonable individual, local, regional, and national electricity consumption demand, and satisfy the requirement for approved generation sources to connect and contribute to the clean electricity reasonably required to be available within the grid.

It is recognised that if grid development must be dependent on contribution from the private sector and private investors, the resulting profits and returns must be reasonable to incentivise private companies and private investors to contribute and invest, and in formulating planning policy it is important to permit a suitable option which can invite private contribution or private investment.

Communities can support that employment benefits and other economic benefits for affected communities can encourage support from affected communities, but communities are not so inward looking as to reject schemes which are for the national benefit, for the benefit of each and every community rather than one specific community, or which would enhance the national economy for the benefit of public services for the benefit of all. However, the opportunity to galvanise support is lost or diminished if communities can see that the profits from a scheme will be flowing elsewhere, without a sufficient or proportionate contribution into the local or national economy. The exclusion of shared ownership, the omission to ensure that government and/or communities will receive a proportionate share of profits, the absence

of a suitable or any return for the economy, community funds which have no correlation or ratio in line with anticipated profits and returns or which are not enforceable or guaranteed or which are not sufficient when measured against impacts, are all negative contributors. Very limited or no opportunities for local employment, or no assurance that locally or nationally based suppliers and contractors and employees will be engaged, discourages support, as does an awareness that the tax revenue from profits and returns could be payable other than to the national government or that any direct benefit to the economy may be limited to a small amount of business rates for premises facilitating the infrastructure. The absence of direct and tangible reductions in the electricity bills of those affected, and any perceived imbalance between possible benefits and likely disadvantages encourages community and individual opposition and discourages support and consensus.

There is recognition and understanding of the need to upgrade grid substantially to meet the drive towards a net zero position, and to seek to achieve this by exercising control as to consumer billing and the use of taxpayers' money.

There is support for correct development of new electricity infrastructure, and for moving forward at a pace which is desirable, but with sensitivity. There is no lack of awareness within communities affected by infrastructure proposals of the need to make grid improvements, and no opposition to carefully planned and beneficial progress which appropriately mitigates or avoids adverse impacts.

People are supportive of necessary and sensible infrastructure change. The issue is how it is best done, to minimise or avoid unnecessary impacts on the environment, biodiversity, and ecology, and to minimise adverse impacts on people.

It is important to address the potential for adverse effects on people and business from new electricity infrastructure and to examine how best those adverse effects can be mitigated, so that we can have the penny and the bun, enjoying and maximising the positive advantages offered by grid development whilst minimising the adverse impacts.

As to physical health, the precautionary principle is advanced and many emphasise that it should prevail, so that pylons, and overhead wires should not be placed anywhere near homes,workplaces, schools or nurseries. Perhaps, as out of sight can equate with out of mind, there would be an assurance from the placement of new lines underground.

We have anecdotal evidence, to support that proposals for overhead lines with pylons can cause very considerable agitation, anxiety, distress and alarm, and can seriously impact on wellbeing. People are upset and unsettled as to the prospect of pylons with overhead lines near their homes or within their communities. The scale and degree of reaction is extensive and very real. In addition to large numbers attending public meetings, and attending public consultation events, and taking the time to message in the clearest terms by way of response to consultation programmes, and corresponding and contacting elected representatives in Parliament and in the Senedd, it is evident, just engaging with community members on an individual basis, as to the extent and the strength of feeling in opposition to pylons and overhead lines. Proposals for overhead lines have had a very real and detrimental effect on the

mental health and wellbeing of some of those directly affected by the current proposals, extending on occasion to suicidal thoughts. How communities, in areas encountering proposals for infrastructure, feel about the infrastructure proposed, has a direct influence on community and individual wellbeing.

Visual impact from overhead lines and pylons is an obvious concern. For communities and individuals, it is indisputable, adverse, and an unacceptable feature. That visual impact from overhead lines and pylons can have a significant and adverse effect is apparent on an objective and detached footing, as demonstrated by the Ofgem funding and the participation of the transmission companies in the VIP and Vista projects which are addressing mistakes of the past by removing pylons and overhead lines to be placed underground instead. Communities will confirm that it is not just the National Parks and designated AONBs which are beautiful or significant and that all landscapes and all communities merit protection and respect.

People react with some intensity to the potential for negative and prejudicial visual impacts, not just reacting to pylons and overhead lines which would be viewed from their homes but to pylons which would impact adversely on relaxation or recreation or workplace, or which would be visible during travel. The consequence of damage to visual impact and the impact on heritage and historical landscape is not one which community members wish to accept or entertain. An overhead line supported by steel pylons is regarded as damaging to the atmosphere, character and wellbeing of the whole area affected by proposals. There is a preference to ensure that the distinctive identity and environment of treasured landscapes and the positive experience from areas free from visible infrastructure remain intact and are protected for generations to come.

Proposals for overhead lines with pylons are expected to be detrimental to those tourist receptors in close proximity or immediately affected and are expected to be harmful to an economy for which, like the Tywi Valley, tourism and visitor revenue are important features of the economy. Many hospitality businesses, in addition to those providing accommodation, depend on an unique environment to encourage tourists and day visitors to return again and again. The negative impact of having a pylon in the field next door or having a picturesque view spoiled by a string of pylons and overhead lines is apparent. Ensuring a high volume of visitors to an area can sustain the numerous tourist attractions within that area. By way of example, in our community area, Aberglasney Gardens, National Botanical Gardens of Wales, Dinefwr Park, Merlin's Hill Centre, Gelli Aur Park and Arboretum are all dependent on the numbers of people who visit and revisit, and importantly the income they generate. Plans to put pylons in an area which is being developed for tourism appear to be at odds with national and county economic strategy. Pylons would have a detrimental impact on camping and caravan sites, and visitor accommodation such as holiday cottages and bed and breakfast establishments. On a common-sense basis, repeat visits are expected to be adversely affected, as irrespective of the quality of accommodation, one or more pylons in proximity with overhead lines will encourage selection of a more favourable alternative. The fact that pylons are disliked by residents means they are almost certainly disliked by anyone visiting an area.

Agricultural loss is also a very important consideration. The effect of pylons and overhead lines in an area known for its fine quality soil, which is valuable for grazing and silage and cultivation, could be very prejudicial. Pylons and overhead cables would mean considerable disruption and land loss for farmers. Loss of land use during the period required for the construction of overhead lines and during restoration, both within the easement strip, and within land rendered inaccessible on either side during construction and restoration, could be considerable, and in Wales could likely dictate a reduction in herd sizes, (especially because of the NVZ rules which provide a correlation between land availability and herd sizes), which in turn would decrease income, putting at risk repayment and sustainability of borrowing. Safety guidance can impact on land use within exclusion zones relevant to 132kv and higher voltage lines, for the duration of the whole lifespan of a scheme. The concrete bases for 132KV pylons, which will be at ground surface level, will be five metres square, contributing to an adverse impact on useable land and agricultural yields. The farming community, and all affected landowners, are anxious as to whether future decommissioning and necessary repairs will be undertaken satisfactorily or at all, as limited companies in existence during development, construction or operation may not have the resources to meet their obligations or may have been dissolved by the time of decommissioning, and with the protections of corporate identity and the absence of a suitable decommissioning and restoration fund, there is the question whether landowners will be left to meet the cost of putting right corporate omissions. Diversity within the farming community will be hampered, as increasingly the farming community is having to look at providing holiday accommodation or visitor facilities to supplement or attain a reasonable level of income to be able to continue with the important work of food production. Relevant to the sustainability of farms, there could also be an adverse impact on the Welsh language if traditional farm holders must relocate for work.

Property values and the saleability of properties are adversely affected by pylons. Payments proposed to property owners for hosting pylons and overhead lines can be a fraction of the loss of value of their property. A payment of circa 3.5k for permeant pasture or 5k for arable land for hosting a pylon is to be measured against reduced mortgage availability, significantly increased sale times (as such a high percentage would not entertain living near a pylon or overhead lines), the risk of further prejudice to sale values and saleability should more tangible evidence emerge suggesting health risks in consequence of proximity, and substantial devaluation of properties. Developers are not obliged to offer any payment at all to the owners of properties and farms and tourist/ visitor related businesses which will not host pylons, but which are situate nearby and are therefore directly affected. Owners of land carrying pylons will receive some compensation for loss of use and loss of revenue sustained but there are inevitably disputes and challenges around limits imposed on any compensation awarded, and the statutory compensation scheme is not expected to compensate for the real loss sustained. We have anecdotal evidence that property owners have lost arranged sales, and have been unable to find suitable buyers, as proposals to erect pylons on or near the property for sale must be disclosed. The community is aware of a 2023 report published by Steve Gibbons and Cheng Keat Tang of the London School of Economics and a study in 2003 by Sally Sims and Peter

Dent of the Department of Real Estate and Construction, Oxford Brookes University, supporting a marked effect on saleability and property prices in consequence of overhead lines/pylons, whilst estate agents within community areas have commented that diminution of value attributable to overhead lines with pylons could be in the region of up to 30%. There is a feeling of marked injustice, and community members, having pylons imposed on them, situate on their property, or near their homes, or within their neighbourhood, resulting in substantial financial loss, consider this to be unacceptable given that credible alternatives exist which can satisfy government objectives and the requirement for new infrastructure.

The sense of loss, in terms of losing the sanctity and protection and enjoyment of home, ripped away by the imposition of compulsory schemes for land entry and land use with the purpose of furthering overhead proposals, and the financial loss experienced because of diminution of property values and business values consequential to pylon proposals, is glibly glossed over in some quarters, by those suggesting a panacea in the shape of unworkable or unenforceable or derisory community funds or individual compensation payments which are a shade of the real loss sustained and which, to add insult to injury, could be met from taxpayers funds.

The best community benefit, which all community members could accept and buy into, would be to ensure that new power lines are consistent with a national plan endorsed by government, routed carefully to reduce adverse impact, and as appropriate put underground using cable ploughing/HDD. As credible alternatives exist, the need for new infrastructure does not seem to have to equate with the delivery of pylons and overhead lines, and in addition, placing new power lines underground in a properly planned and properly considered way could negate the need for compensation funds and individual compensation payments altogether, or if some payment should still be made for easements/wayleaves or disruption or loss of revenue and loss of use, the outlay could be a fraction of the payments to be made in consequence of overhead lines, providing substantial savings for taxpayers and consumers. So many landowners have relayed a willingness to forego wayleave or easement payments, or even compensatory payments, should undergrounding by cable ploughing become the preferred option and there is scope for government to re-assess the value of payments to be made should government also ensure by way of appropriate policy direction that new lines would be installed underground with sensitivity and minimal impact.

Proposed community funds which we have seen promised from the private sector, are held out by limited companies which offer no legal framework or legal obligation which could be enforced in the event of default and even if enforcement was possible, there remains the practical issue of enforcing against a private limited company which by the time of enforcement may have been dissolved, and which is not backed by a reputable, reliable and resilient guarantor.

Equally, assurances of compensation for loss, liability and damage arising from land entry, construction, operation, or in default of full and effective decommissioning or restoration,

which are not backed by an appropriate and well-resourced guarantor, leave individuals affected in an extremely vulnerable position.

The 2023 Winser report, looking at ways to speed up the delivery of transmission infrastructure, in conjunction with a companion report from ESC on which it was based, omitted to explore or consider each of the alternative technologies, to include cable ploughing, which could serve as a credible or potential alternative to OHL and omitted to provide any comparative as to costs and impacts between undergrounding by cable ploughing/HDD and overhead lines with pylons, but instead reiterated a suggested costs differential between undergrounding by open trenching which seemingly did not reflect accurate and up to date evidence and which ignored the warnings in the 2012 IET/Parsons Brinckerhoff report against relying on comparative ratios. The report omitted to evaluate how alternative technologies to OHL could speed up delivery, and relevant to community benefits and compensation for affected individuals, the report missed the obvious, that undergrounding using cable plough/HDD could carry community consensus, and rather than partial compensatory payments, a better way of encouraging the accelerated delivery of transmission infrastructure would be to provide solutions which would carry public consensus and support. The last Government, reflecting recommendations in the Winser report, was formulating the policy of allowing property owners directly affected by new overhead lines a sum of 1k a year, capped at a maximum of 10k spread over a period of 10 years, towards compensating for the prejudicial affect of overhead lines with pylons. It beggars belief that anyone could expect the owner of a property blighted by pylons to withdraw opposition to a scheme for overhead lines and to support and encourage an impactful and prejudicial proposal because of the offer of just 10k spread over 10 years whereas, based on current property values, (and remembering that devaluation expressed as a percentage could amount to a far greater loss if applied to future market values), the real loss in monetary terms measured by way of property devaluation would be far higher. Further, the scheme had some obvious flaws in terms of impracticality or arbitrary decision making, such as determining the cut off point for eligibility based on distance or proximity in order to be able to qualify for any compensatory payment. Further, should the payments to affected owners be financed from the Treasury, the payments, inadequate as they may be, would still total up to a considerable amount. The LSE report calculated that if the compensatory payments should equate with actual property loss, the compensatory payments for the properties within the scope of its study (650km of new lines and 790 new pylons) would result in a loss to the taxpayer of around 19 billion. No wonder, when challenged by way of a Freedom of Information request from our Community Group to reveal the anticipated loss to the taxpayer of implementing a so called 'cash for pylons' scheme, the UK Government declined to provide this information.

The impact of new electricity infrastructure on people would not be complete without consideration of where the burden of meeting new infrastructure costs, and meeting the losses of affected individuals and communities, is to fall, and by whom the costs and compensation are to be paid. Should it be the taxpayer, or the consumer, or the developer/operator, or a mix of one or more of all three. As to loss sustained, should it be compensated fully or should it be

only partially compensated, in which case it is just bad luck for the individuals prejudiced who are left substantially out of pocket but are patted on the back with comforting words that their loss was somehow in the national interest and that they can wear a badge of honour in perpetuity.

As expounded above, the question of compensating loss can be simply resolved by undergrounding in a least impactful way, which in itself could reduce the value of compensatory payments to a nominal or manageable figure.

We are all consumers, but we are not all taxpayers. Yet the addition of TNUoS and DUoS charges to consumer bills will also affect the most vulnerable whose earnings are low or who are on benefits and so do not reach the thresholds at which tax is taken. Importantly, why should private developers and operators make millions for their shareholders and investors but not carry a proportion if not all of the construction and operational and lifetime costs, which could be potentially financed in any event at a sufficiently attractive return.

If indeed at any given time there is any real or significant differential between the costs of undergrounding using cable ploughing/HDD and the financial costs of overhead lines with pylons, it is important that the different routeing options available for the more direct option of undergrounding are factored in by way of adjustment to the costings, and that undergrounding is not dismissed out of hand by reason of any differential, without factoring in impacts, community perspective, and costs other than pure financial costs, such as the costs or losses relating to environment, ecology, biodiversity, visual amenity, heritage, economic, social, and wellbeing , but it is also important to factor in whether and how any differential can be painlessly absorbed by way of spreading Ofgem regulated costs and any costs differential between one or more of the potential avenues for meeting those costs. If the monies which developers propose to commit to community funds and if the monies saved on the land compensation bill for overhead lines and if the billions of taxpayers funds required for a full cash for pylons scheme were instead used towards meeting any differential(if one exists) between OHL and the reduced cost of undergrounding using cable ploughing/HDD rather than open trenching, it could be the case that installation costs could more easily be absorbed by developers and if any differential, if one exists, cannot be so absorbed, the balance of any remaining differential spread between taxpayers and/or consumers in the form of Ofgem regulated contributions could be negligible.

The approach and response of property owners affected by proposals is very relevant.

Property owners affected by proposals for new overhead lines have confirmed, that if the scheme is shown to accord with a nationally co-ordinated plan, and if the routeing proposed is sensitive and appropriate, there could be support and consensus for undergrounding using cable ploughing /horizontal direct drilling.

In contrast, property owners have made clear, a steadfast challenge to the use of overhead lines and pylons.

The co-operation and support of property owners affected by proposals can expedite entry onto land, for the purpose of survey to advance proposals and to help the preparation of the environmental impact assessments required in support of a consent application, and subsequently for the purpose of construction and operation.

Our community experience of landowners reaction and positioning, in response to attempts by a private company to secure entry onto land, relevant to decision making about whether to co-operate with requests for land entry or to decline or resist entry, is that landowners evaluate the risks from the land entry and land use which is being proposed, and consider the proposals for development advanced by the developer, and consider any supporting evidence and explanation for the proposals or any omission to provide relevant information, and consider whether the developer has examined and evaluated potential alternatives.

Property owners, including those in the farming community, are very cautious as to permitting entry onto their land. Effective and appropriate biosecurity is a big issue, as farmers wish to eliminate or protect against preventable contamination in order to safeguard their animals. Many are still living with the memory of the foot and mouth pandemic and TB and Avarian diseases are real issues. Any entry onto land which is unsupervised raises the possibility of injury to the entrant or damage caused by the entrant or the inadvertent release of animals by the entrant. Property owners naturally would prefer that arrangements are in place to minimise loss and to guarantee compensation and indemnity for any loss, liability and damage linked with land entry.

Property owners are also aware, that as the custodians of land, often handed down through the generations, there is a responsibility to protect and safeguard for the benefit of future generations.

Farmers dependent on borrowing in order to operate, and to purchase the machinery and equipment used in modern farming, are aware that the level of borrowing can be dependent on the security offered to protect the lenders interest, and therefore any significant diminution in the value of a farm holding or property in consequence of new overhead lines with pylons can affect the borrowing level which can be made available or sustained.

By withholding consent to land, property owners can play an important role, in challenging developers to be honest and transparent, and to ensure that proposals are fully evaluated and properly formulated and presented with an evidence base which is fair, balanced and objective. A failure to approach landowners with respect and a failure to provide properly considered and fully presented and supported proposals, can result in confrontation rather than consensus, involving protracted legal battles and prolonged resistance, including physical resistance, preventing land entry. Constraint costs can be expensive and should encourage co-operation to avoid constraints on energy generation because of grid unavailability. Disputes cost money, and cause delay for developers, potentially with severe consequences if connection options are lost or prejudiced in consequence or the opportunity to accelerate the conveyance of clean energy is lost.

6. What is the nature and strength of public feeling towards new infrastructure, what is acceptable and what is not acceptable,

Public opinion should be an important consideration when formulating policy. What is acceptable and what is not acceptable, given alternative options and a real choice, could be regarded not only as an important factor but as the ultimate and determining factor.

There is strong opposition to the use of overhead lines and pylons. That opposition stems from varying perspectives. For some there is simply a strong aversion to pylons without tracing or rationalising the source. Many however, have considered and adopted logical reasons for rejecting pylons and overhead lines in favour of alternative options which are regarded as significantly less impactful. Those with an awareness kindled by direct experience and those with a professional or more longstanding experience have explored whether the new electricity infrastructure we need can be delivered to satisfy the demands and expectations of society but in a way which will enhance and not prejudice. We are passing on perspectives reflecting evidence considered, and community perspectives to date which are represented within the summary to this submission, including the clear preference that as appropriate new electricity lines should be placed underground using the technology available for cable ploughing and/or drilling and tunnelling to minimise impact, a clear No to pylons, the need for new schemes to contribute to and to fit within a national holistic plan, endorsed by government, to satisfy the reasonable requirements of national, regional and local demand, and whereby careful and sensitive routeing is needed for individual projects to minimise impacts including in areas of particular sensitivity such as ancient meadows and peatlands.

Communities are very mindful of the Wellbeing of Future Generations (Wales)Act and the seven national wellbeing goals for sustainable development. Communities would encourage an examination of proposals for future electricity grid measured against the framework provided by the Act to encourage and support the wellbeing of current and future generations. The 2015 Act promotes cohesive communities, which are attractive, viable, safe and well connected, and encourages vibrant culture and heritage and participation in outdoor recreation. Resilience and prosperity are expressed in the context of a biodiverse natural environment, healthy functioning eco- systems, social, economic and ecological resilience, with efficient and proportionate use of resources and providing for a productive low carbon society. The Act actively promotes that people's mental health, as well as physical health, should be maximised, and that we should all understand the choices available to us now which can benefit future health and wellbeing. The encouragement provided by the Act for public bodies to work better with people and communities strengthens and re-enforces the perspective that community and public requirements as to the electricity infrastructure provided now and for the future should be respected and afforded sufficient weight. The sustainable development principle, the requirement for public bodies to ensure that the needs of the present are met without compromising the ability of future generations to meet their needs and without compromising the wellbeing of future generation, is regarded by communities as essential, so that policy and decision making on new and replacement

electricity infrastructure should be tailored and directed accordingly in the process of improving the economic, social, environmental and cultural wellbeing of individuals and communities across the nation. The community view is that proposals for pylons could greatly impact on farmers, reducing land available or initiating changes of use of land, hindering the ability of small traditional Welsh farms to diversify, prejudicing viability and continuance, threatening sustainability and threatening culture, beauty, landscape, natural features, heritage, a wealth of historical features, biodiversity, and ecology; and threatening an economy for which agriculture, tourism, visitor revenue and a healthy property market play an important part, and undermining the important wellbeing considerations which should be paramount.

7. How can WG support with changes/planning policy.

a) WG could make the undergrounding of new devolved power lines an absolute, not subject to any form of caveat which could allow the policy to be circumvented or excluded, and more than just an expression of preference. An absolute policy, which can give certainty, to the markets, to suppliers, to manufactures, to contractors, to developers and to energy companies, which can speed up the consenting process, and which can facilitate consensus and co-operation between developers and the property owners and communities affected by proposals for new electricity infrastructure. In addition, revising PPW, to encourage carefully planned routes for individual projects towards reducing impacts, to ensure that undergrounding is undertaken with sensitivity, and to require that all new power lines accord with a national and holistic plan which has been endorsed by the Welsh Government. It is in the power of the Labour Welsh Government to initiate immediately a revision of PPW 5.7.9 which would make clear to prospective developers that overhead lines of a voltage for which the Welsh Government are responsible are not an option in Wales. Not to be circumvented. An absolute no to pylons. It was evident from the support for the Senedd motion on 12 June that undergrounding as an absolute is already the position of three of the four parties in Wales represented in the Senedd, whereby should the Welsh Government, with the benefit of review and further consideration, commit to undergrounding as an absolute, and update PPW to reflect this, the Welsh Government would lead with cross party support within the Senedd.

Accordingly, to take immediate steps to revise PPW 5.7.9, to be suitably revised reflecting community messaging:

(i)To place new electricity power lines underground.
(ii)To underground using cable ploughing unless a sufficiently favourable case is established for an alternative method such as horizontal directional drilling (HDD),
(iii)Proposals for new underground lines to be consistent with the most recent and relevant Welsh Government endorsed national, regional and local holistic grid plans.
(iv)Individual schemes to demonstrate careful project routeing towards minimising adverse impacts.

b) To use the regulations being formulated for the implementation of the Infrastructure Wales Act to provide for effective community engagement with honesty, openness and transparency in line with the representations towards effective community engagement set out in our

submission as part of the WG consultation exercise relevant to the Act. Grid development should involve meaningful community engagement, undertaken with honesty and transparency, which is respectful of communities and homeowners, rather than token community consultation.

c)To bring undergrounding proposals of a designated length or voltage within the consent process to be regulated under the provisions of the Infrastructure (Wales) Act 2024. Also, to revise permitted development rights so that Planning Policy Wales can be applied more widely to proposals in Wales for new infrastructure to convey electricity exceeding a designated length.

The secondary legislation which is to be introduced relevant to the implementation of the Infrastructure (Wales) Act provides an opportunity to redefine or to extend the categorisation of electricity infrastructure projects to be determined by the Welsh Government as Significant Infrastructure Projects, to include the undergrounding of cables and generally reflecting voltage and length.

The undergrounding of new electricity lines is a permitted development - the Town and County Planning (General Permitted Development) Order 1995, known as the GPDO, Section 3 and Schedule 2(Part 17/Class G) applies, for which relevant definitions are confirmed in Section 64(1) of the Electricity Act 1989.

The Cabinet Secretary with the portfolio for planning at the relevant time, preferred during the passage of the Infrastructure Wales Act through the Senedd, not to include within the Primary legislation a classification of the undergrounding of power lines over a designated length as Significant Infrastructure Projects requiring consent, considering that this omission would incentivise developers towards undergrounding new power lines, as undergrounding is permitted development which does not require a consent process, avoiding the layer of costs and the delay otherwise involved in pursuing formal consent for overhead proposals. Proposals can be advanced by developers, who will borrow in order to cover their costs of developing a project, with the intention of selling the benefit of any development consent obtained, at that time repaying their capital costs and accumulated interest out of the sale profits and retaining the balance of the sale proceeds as profit. Overhead lines require a development consent. The hard work and the cost employed in obtaining a development consent is rewarded, should a development consent be issued, as a development consent is a saleable asset which can be realised for profit. In contrast, as the undergrounding of cables is permitted development, and is not classified as a Significant Infrastructure Project (SIP), and the effect of Sec 22 of the Infrastructure Wales Act is such that WG is not obliged to designate any undergrounding project as a SIP, and has an absolute discretion not to classify and therefore not to call in a particular or specific undergrounding scheme as a Significant Infrastructure Project requiring determination, , undergrounding does not assure the production of a saleable asset which is in the form of a development consent. Therefore, the message to a developer, or the perception of a developer, can be to try and push through proposals for overhead lines regardless of the adverse impacts associated with the scheme, simply because the effort and cost involved in obtaining a

development consent can result in a pay day on realisation of the saleable asset which is the end reward if development consent is obtained.

Communities also regard it as unsatisfactory, and a little perverse, that should WG not exercise a discretion to call in the scheme as a SIP pursuant to its powers under Sec 22 of the Infrastructure Wales Act(bearing in mind that as the discretion is absolute there is complete freedom not to call in an application), and as the undergrounding of new electricity cables is classed as permitted development which does not require an express consent, a developer, which can acquire acquisition and entry rights onto land by way of compulsory measures, can subject to securing land rights, carry on and install substantial infrastructure underground, which can run for an extensive distance of many kilometres, without the need for any determination in respect of the scheme and without the need to satisfy Welsh Government or any planning authority of the desirability or merits of the scheme and without the requirement to satisfy Welsh Government or any planning authority that the scheme is in accordance with national, regional or local plans or without objective consideration of whether the developer is assuming a route which is carefully or appropriately planned.

These concerns can be easily addressed. The secondary legislation which is in the process of being formulated to supplement the Infrastructure Wales Act, could define that the undergrounding of any new electricity conductors over a specified distance or at a particular voltage is to be classified as a Significant Infrastructure Project (SIP), which accordingly will require consent from the Welsh Ministers. The Welsh Government is also able to suitably revise the classification in Wales of what new electricity infrastructure is to be regarded as permitted development, which would therefore allow for unsatisfactory proposals to be refused and which would allow for the imposition of suitable conditions as to the type and nature of the undergrounding to be used in any area of particular sensitivity to achieve the purpose of protecting any affected peatlands or other areas in which there is a real need to protect ecology and biodiversity, reflecting the importance of factors such as endangered fungi, wild meadow and ancient grasslands. Regulation in this way would also make it possible to factor in as appropriate the need for an Environmental Impact Assessment and could re-enforce the existing practice co-existent with cable ploughing of requiring an ecological study of the approved or preferred route as a necessary step. The regulations supplementary to the Infrastructure Wales Act could require an assessment of an Environmental Impact Assessment by NRW or PEDW and make the commencement of works conditional on satisfaction of any recommendations made by and to be monitored by the reviewing body.

d) To ensure that ‘Community benefits’ which are to be provided by the developers, owners and operators of electricity infrastructure should be regulated, compulsory, and enforceable.

e) To legislate to ensure the establishment of a fund under independent or government control or to legislate for the establishment of suitable guarantor provision so that in the event of corporate dissolution or failure the costs of addressing decommissioning, restoration, and any

omission to keep electricity infrastructure in repair, will be satisfied and the necessary works undertaken satisfactorily without cost for affected property owners or for taxpayers.

f) As new power lines should be part of a careful national holistic and spacial plan which can deliver the grid which is really needed and avoid unnecessary impacts and costs, discouraging or preventing a Wild West style gold rush driven or dominated by the profit ambitions of a small number of private speculators and their investors, it is imperative that WG builds on the content of the FEW report made available earlier this year and works with NESO , Ofgem and leading industry figures towards the creation of a national plan or set of plans relevant to Wales which WG will feel comfortable in endorsing.

g) It is noted that despite the implementation of the Infrastructure Wales Act, devolved powers, as at present, will not permit Welsh Government to determine consent applications for new power lines proposed for Wales at a voltage exceeding 132kv, which are reserved to the Secretary of State for Energy Security and Net Zero at Westminster. It is known, that the last UK Government designated NPS EN-5 in January 2024, which includes a strong general presumption in favour of the use of overhead lines, without consideration of a sufficient evidence base, a matter conceded by the Energy Minister in post on 24/5/24.It is noted that despite the implementation of the Infrastructure Wales Act, the policies in NPS EN-5 would apply in Wales, to the exclusion of PPW, for new lines exceeding 132kv or not otherwise devolved to the WG. It would seem beneficial that the Welsh Government liaise with UK Government, so that pending any enlargement of devolved powers, the UK Government is encouraged and supported towards a review of the policy within NPS EN-5 for the general use of overhead lines, the review to be conducted with the advantage of a sufficient evidence base, the review to include consideration of whether to endorse a preference or default position for undergrounding using cable ploughing/HDD, taking into account the lead offered by the Welsh Government, and taking into account opportunities to minimise adverse impacts, to promote positive benefits, to speed up delivery, to recognise community requirements and to embrace both direct and associated whole life costings including construction, operation and decommissioning.

Further, that pending a full review to be conducted by the UK Government with the advantage of a full evidence base, the strong presumption for the general use of pylons contained within the national policy statement NPS EN-5, especially as the policy statement was conceded by the last Energy Minister on 24/5/24 to have been designated by the last UK Government without a sufficient evidence base, should be suspended, as otherwise, in the meantime, a strong general presumption for pylons which has not been rationalised using accurate and up to date evidence continues to apply in England and also in Wales for new power lines exceeding 132KV.

8. Our community Group can confirm a sense of expectation as to the report to be produced by the Independent Advisory Group, based on:

(i)the statement and terms of reference made available on the IAG website,

(ii) the form of remit (copy attached) which our community group has advocated and circulated as a baseline for compiling and formulating a sufficient evidence base,

(iii) correspondence received from the Director of Infrastructure at NGET and from DESNEZ, in each instance confirming that the report of the IAG is awaited with interest,

(iv) the statements made for the Welsh Government by respective Cabinet Secretaries in the Senedd.

Communities noted the strong commitment made in April this year by the Cabinet Secretary responsible for energy at that time, emphasising that: 'Communities will be heard, and decisions will be made balancing the climate emergency and the needs of communities for the long term, ensuring that projects for today are built for future generations as well.'

The Welsh Government's position expounded by the Cabinet Secretary for Energy and Planning in the course of statements and confirmations made in the Senedd in November 2023, has been noted: - 'that leaving the deployment of new infrastructure to market forces will not maximise the benefits to the people of Wales, that instead a proactive, co-ordinated approach is needed, working in social partnership between Government, business and communities, and that to enable decision making to take account of Welsh interests, we must set out clearly our expectations for the transmission network, based on a strong evidence base that reflects the future needs of Wales's economy, environment and communities.'

The Cabinet Secretary provided the assurance that 'We are working with representatives of all sectors and regions of Wales to develop a set of principles. Proposals for new electricity lines must meet these principles if they are to be supported by the Welsh Government. The principles will be developed within the framework of the Well-being of Future Generations (Wales) Act 2015. They will address community requirements, environmental impact, visual impact and cost, and will be integrated into Planning Policy Wales as they are developed.'

Welsh Government's position was made clear in the Senedd in April this year by the Cabinet Secretary for Energy at that time: 'We've previously committed to setting out clearly the Welsh Government's expectation for the transmission network, which will be based on a strong evidence base that reflects the future needs of Wales's economy, our environment and communities and we start from the presumption that grid should be underground wherever possible to reduce visual impact. We've committed to working with representatives of all sectors and regions of Wales to develop a set of principles for grid development and these will be founded on the framework of the well-being of future generations Act. They'll address community requirements, environmental impact, visual impairment and cost, and will be integrated into 'Planning Policy Wales' as they're developed. This will ensure that proposals for new electricity lines would need to meet these principles if they are to be supported by the Welsh Government.'

The Cabinet Secretary for Planning confirmed in the course of discussion in the Senedd on 12 June, in response to a motion to make undergrounding an absolute policy, that there was no opposition in principle to the motion put forward, nor to the underlying philosophy.

It was positive that the Climate Secretary with the portfolio for Energy was able to confirm in the Senedd on 17 April this year that: 'I'm pleased to confirm today that Welsh Government-funded work to create local area energy plans is now reaching the final phases of development. The 22 plans, drafted by local authorities in Wales, are currently being finalised, and these will shortly be taken forward into four regional energy plans and then into a national energy plan for Wales by the end of this year. This work is providing the evidence to develop an optimised system that will use the minimum level of infrastructure to operate efficiently and meet our electricity needs. While energy networks in Wales are part of the UK-wide system and the UK Government decides how it's planned and funded, the Welsh Government is using the levers available to us through planning and our ability to work directly with Ofgem and the network operators to ensure that our requirements are reflected in the UK-wide plans.'

It was encouraging that the Cabinet Secretary for Planning on June 12 made known in the Senedd debate on that date that Welsh Government is very keen to work out the prime routes for undergrounding of major transmission lines and agree them, and to identify an ongoing dialogue between the Cabinet Secretary responsible for Energy and representatives of National Grid.

It was good that the current Climate Secretary for Energy, Economy and Planning, was able to confirm in the Senedd on 17 October that: 'With the new National Energy System Operator beginning work on a strategic spatial energy plan, it is essential that local views are built into that planning work. I am pleased that the Welsh Government will be on the committee that will oversee the work to develop that plan. Together with our involvement in the development of a regional energy strategic plan announced by the Office of Gas and Electricity Markets in recent weeks, Wales can be at the forefront of a more planned approach to a prosperous low-carbon future.'

The proposed evidence base to be compiled by the Independent Advisory Group will be important, as accurate data and observations relevant to comparative costings, impacts and feasibility at 275KV and 400KV, in addition to 132KV, should not only assist the Welsh Government in the formulation of policy but would enable the Welsh Government to influence and persuade the UK Government to act with consistency so that all new power lines in Wales including the higher voltage transmission lines can be undergrounded. The evidence base described could be extremely useful for the purpose of informing the policy and decision making of the UK Government to take account of the best interests of communities across Wales and the wider UK. There could be no better way of demonstrating the commitment of the Welsh Government to undergrounding than by having a national planning policy for Wales which commits to undergrounding as an absolute.

No doubt the work and recommendations of the IAG will be received and evaluated by communities and many others against background outlined.

9. Conclusion:

We sincerely hope that the evidence relevant to community perspective which this statement provides will contribute to the evidence data base which the Independent Advisory Group is compiling and will aid and assist the Independent Advisory Group in the task of considering well directed principles and formulating suitable recommendations to the Welsh Government. We hope that the evaluation and report of the Independent Advisory Group, can reflect the representations of community representatives, including community groups, land owner representatives, land owner and rural associations, the farming unions, elected representatives, County Councils, and Community Councils, and that the importance of securing public consensus and the messaging received from communities who would wish to promote the objectives of accelerating to net zero with community acceptance and community support, may help shape the work and recommendations of the Independent Advisory Group.

Cyfraniad gan Ymgyrch Diogelu Cymru Wledig (CPRW) / Contribution from the Campaign for the Protection of Rural Wales (CPRW)

Summary

The issue is pylons. It may seem to some as irrational, but the public just don't like them, particularly in rural areas, for many, often individual, personal, place specific reasons, but the outcome is the same. People just don't like pylons and are generally happy to pay more not to see them

If only for the impact on landscape alone CPRW favours alternatives to overhead lines for 132 kV and above. Depending on circumstance there are a number of alternative options from running cables subsea to burial, with variants of both

The method of choosing the "best" option needs to consider aspects normally considered qualitative on an equal footing to those normally assessed quantitatively, and for "best value to the public" the Treasury Green Book should be used

The Welsh Government is indeed bold in their aims for the advisory group, as transmission is not devolved and U.K. government will not wish to set a precedent by treating Wales differently to other parts of the U.K.

1 - What is the issue with overhead electricity lines?

In our experience, the main issue the public have with overhead electricity lines is pylons. The public just don't like them. The bigger they are, the more they dislike them.

The subject has been extensively studied in the academic literature, there are even books in the topic, and a study into the Hinckley C connection by Matthew Cotton and Patrick Devine-Wright in the Journal of Environmental Planning and Management (Vol. 56, No. 8, October 2013, 1225–1245) reached the following interesting conclusions

- The findings show how potential health effects from electric and magnetic fields (EMF) and visual impacts are perceived to industrialise rural places, disrupt place attachments and provoke local opposition.

- The findings challenge the 'not-in-my- back-yard' assumption that citizens are selfish place-protectionists that lack the technical sophistication necessary to take a strategic viewpoint on transmission system development.

- They also reveal how decision making under the … Planning Inspectorate … presents a challenge to procedural justice, as front-loaded developer-led consultation practices curtail citizen input to key decisions on alternative technologies (for example, underground or undersea lines). This is likely to exacerbate public mistrust of transmission system operators and provoke further organised protest.

So in brief, people don't like them due to heath worries and visual amenity loss, it's wrong to brand them NIMBYs and things won't change unless the planning process does. Other reasons often cited include impact on property value, agricultural operations, the tourism economy and on wildlife

Since this research was conducted virtually nothing has changed. If anything, things have got worse.

Before National Policy Statement EN-5 was revised in 2023 the government consulted on certain changes, and proposed changes. One aspect was the presumption in favour of pylons as the default technology. This was retained in the revision. In addition, offshore wind, and any associated infrastructure (ie the lines of pylons from landfall to demand), was deemed a Critical National Priority, with the highest level of support in the planning system. The stage seems set for more public opposition as the plans for progressing to net zero, in the long term, and clean power, in the short term, get revealed

Pylons are used by both the transmission grids and distribution grids:

- Over 132 kV, so in practice 400 kV with some 275 kV is transmission, the development of overhead lines is consented via the Planning Act 2008, with applications examined by the Planning Inspectorate and decided by the Secretary of State

- 132 kV is the highest distribution voltage and consented the same as transmission, except for the cases of lines serving Welsh generators that are totally in Wales, in which case they are examined and decided by Welsh Ministers

- Under 132 kV, so in practice 66 kV, 33 kV and 11 kV, lines are typically on wooden poles or double poles. These are far less controversial with the public

It is the 132 kV and 400 kV lines that cause the majority of issues, and most of these are consented by the Secretary of State. “Wires on poles” are far less contentious, and any opposition is likely to be very local

Alternatives to pylons

Ideally pylons can be “designed out” of the system. In the “Beyond 2030 - Celtic Sea” report from NESO, a recommended design was arrived at that required no new pylons. Existing lines are to be re-conductored to increase the capacity, and landing points chosen to access existing capacity. The design was not the lowest cost of those examined but was the best for a balance of criteria including impact on communities and environment. This is the first time a balanced set of criteria has been used for selecting a recommended option

Lines can be routed subsea, particularly if they originate offshore from offshore wind farms, bootstraps or coastal power stations. These are typically HVDC systems, but not exclusively. New capacity is being added between Suffolk and Kent for Sizewell C as a subsea link. There are several lines coming from Scotland to north Wales and England to bring wind power south, all as subsea links. These are often described as being to reduce impact on communities but in reality it is more likely due to the difficulty of getting past so many designated landscapes in northern England. Often these lines travel considerable distance underground after reaching shore, for example the Western Link is underground the entire length of the Wirral

Lines can be buried underground, and this is the default in designated landscapes. Even as far back as the 1960’s the grid near Porthmadog was routed underground even though the line was not in a designated landscape, but because of the impact on a designated landscape (Eryri). More of this line is being placed underground now. For long distances HVDC is the better option as it needs fewer cables and hence less ground disturbance, but does need converter stations at each end

Technology of burying cables is advancing. Conventional trenching is always possible but cable ploughing is gaining favour, certainly up to 132 kV and 400 kV is reported as possible

The common argument against burying cables is cost, but it’s not such a simple trade off. HVDC looses far less as resistive losses than AC, and burial costs are very route specific. The often quoted multiples are generally nonsense, plucked from a benchmark report over a decade ago. At a National Grid plc AGM a number of years ago, the Western Link (subsea and buried) was reported as being cheaper than onshore pylons.

For each five year funding cycle NGET are obliged by Ofgem to conduct “willingness to pay” surveys. The public consistently say they are happy to pay more to avoid pylons

Project Evaluation

Perhaps more useful than simply picking winning technologies would be a methodology to choose between technologies. This is essentially what NESO have done for the Celtic Sea design where a balance was sought between the following criteria:

- Deliverability and operability
- Economic
- Environment
- Community

The selection criteria previously had focused almost exclusively on hard quantitative financials, against which qualitative measures (such as impact in landscape) counted little

The Green Book, the common name for guidance issued by HM Treasury on how to

appraise policies, programmes and projects, specifically addresses this by providing tools and approaches (such as willingness to pay surveys) to put financial value on those aspects normally considered qualitatively, such as impact in visual amenity

According to the Treasury, the Green Book should be used when setting policy, evaluating projects or when advising ministers. It has not been used for any current policy evaluation, so could (should!) be used for project evaluation. This is the view of the Right Honourable Lord Charles Banner KC advising a pylon campaign group in East Anglia

2 - Comments on the statement issued by the Welsh Government

The Welsh Government published a statement in the purpose of the Independent Advisory Group on October 1st. These are the views of CPRW on that statement

“Wales was the first Parliament to declare a climate emergency and has also declared a nature emergency. Moving away from fossil fuels as fast as possible and driving the sustainable, nature positive management of natural resources are the twin challenges of our time.”

CPRW fully supports the sentiment and agrees with the need to reach net zero by 2050. The “as fast as possible” point does introduce the danger of making poor decisions that may increase speed but increase cost and decrease quality, or effectiveness, of actions

“Wales has committed to be globally responsible by hosting enough renewables to at least meet its own electricity needs by 2035.”

It is entirely feasible for Wales to generate the equivalent of 100% of its electricity demand by 2035 using only offshore wind power. This would have a dramatic impact on the requirements of the transmission and distribution grids

It is our opinion that the reason this is not happening is because the Welsh Government has failed to secure sufficient development leases from the Crown Estate, either under the previous U.K. government or the current one

This may be due to the constant confusion between a need for more offshore capacity and the desire for the Crown Estate to be devolved. It would be entirely possible for Wales to have far more offshore wind power irrespective of the status of the Crown Estate. While CPRW does support devolution of the Crown Estate in Wales, this should not be seen, or used, as a means of delaying the building of more offshore wind capacity, particularly in the Irish Sea which is shallow and able to be developed using conventional fixed base turbines (like the North Sea). We have all the technology we need to make huge strides forward but this is not happening

"Welsh Government has for a decade highlighted the need for more electricity infrastructure in Wales to support this ambition. This is based on the needs of people in Wales, who have contacted their elected representatives on topics including the unreliability of the power supply in rural areas and in larger towns and cities, as well as consistent feedback from the energy sector about unavailability or long lead times of new grid connections, that leave their projects looking unattainable. The need for businesses to expand and have larger demand connections as they move away from fossil fuels to electricity is well evidenced."

This is mixing a number of issues which appear to stem from confusion by Welsh ministers as to the structure and operation of "the grid". There is no single grid, and no Welsh grid. There are small parts of the GB transmission grid in north and south Wales, and substantial parts of two separate distribution grids, one largely in the north, the other in the south

The people who have "contacted their elected representatives" will have had issue with either of the distribution grids. If we consider a rural county like Powys, the estimates of 2050 electricity demand produced by NESO in the Future Energy Scenarios series of reports data book show that two 132 kV distribution circuits are sufficient to provide for 2050 peak demand. The county already has those circuits. Any issues faced by consumers is therefore "downstream" of the 132 kV distribution system at lower voltages such as 66 kV, 33 kV, 11 kV, or may even be due to 240 V consumer units in properties. Such systems are typically carried on wooden poles, or buried, and are generally acceptable to the public. Upgrading these systems is entirely the remit of the Distribution Network Operators (DNO), Scottish Power Energy Networks (SPEN) in the north and National Grid Electricity Distribution (NGED) in the south. This upgrade work will form part of the five year business plans agreed with Ofgem

It should be noted that the failure of the DNOs to anticipate desired change is significantly hampering the development of small scale, community based, renewables. Ynys Môn, for example, has every single distribution circuit, and every single distribution substation, rated amber or red, meaning an engineering study is required to determine if a micro solar scheme sufficient for one house could be connected. The pattern is repeated across the entire SPEN network in north Wales, and very probably the NGED distribution network in south Wales. The networks will have to be upgraded eventually in order to adopt low carbon heating and

transport, but the delay in upgrading them is blocking small scale, highly distributed, publicly acceptable, generation schemes, which in turn is driving large scale, transmission connected, generation schemes

The “feedback from the energy sector about unavailability or long lead times of new grid connections” is largely related to the sections of the 400 kV transmission grid, or in some cases the 132 kV sections of the distribution grids. This issue is entirely disconnected from the distribution grid issues affecting consumers, either domestic, commercial or industrial. Few industrial consumers will connect at 132 kV. For example, the aluminium smelter on Ynys Môn had a direct 132 kV connection from Wylfa power station, but certainly rural Wales will have no need for connections of this voltage

The connection issues the energy sector desire are transmission connections, driven by the desire of the Welsh Government to generate energy in places where there is no transmission network, and where none is required by consumers. The transmission system is not devolved and the Welsh Government has, at best, some influence over it, but cannot make demands.

“Currently proposals for new grid are driven by single companies or individuals. When the grid is as heavily constrained as it is in Wales, new proposals frequently trigger the need for substantial upgrades that are potentially unaffordable for any individual or organisation, leaving projects at a standstill. This approach is piecemeal and is unlikely to come up with the most effective solution to future grid needs, which should be designed to use the least possible amount of infrastructure. We need a planned approach that can minimise any perceived negative environmental, social and economic impacts of new infrastructure as far as possible, whilst allowing people and nature in Wales to prosper for the long term.”

We agree with the sentiment here, but think the phrase “when the grid is heavily constrained” is quite misleading.

The transmission grid in south Wales has a capacity of ca 12 GW and currently only has a 2 GW gas station hanging off the end of it in Pembroke. There should be plenty of spare capacity. The transmission grid in north Wales is undergoing a series of improvements, as and when projects (mainly offshore wind) require them. There is no transmission grid in mid Wales so it cannot be constrained

The distribution grid has, as the name implies, always been designed to distribute, not collect, and any constraint impacting consumers is generally at voltages lower than onshore wind farms desire

The issue in Wales is not really one of constraint, but the simple fact that there is no transmission system in much of the Welsh interior, so if offshore wind is not to be used, then a transmission system is required to extract energy from the interior

Using rough rounded numbers, it’s a simple matter to show that when using onshore wind, more “collection” capacity is needed than distribution capacity, even if on average all the

energy generated in an area is used in that area. This is because of the relatively low capacity factors of onshore wind. If large quantities of energy are to be produced by onshore wind, it is the collection that drives the investment rather than the needs of consumers. If consumers in the interior were only supplied by offshore wind then the local distribution system needs half the capacity it would do than if they were to generate the energy locally

We believe that the Welsh Government has a fundamental decision to make. If there is a genuine desire to protect the Welsh countryside, landscapes, tourism, agriculture, lifestyle, biodiversity and nature, then the solution is to use offshore wind to power the entire nation, and facilitate community scale generation schemes wherever these are desired. To use onshore wind as a "national power station" drives infrastructure and cost well beyond that necessary for rural residents. Wales can easily achieve net zero using only offshore wind, but it is impossible using only onshore wind

"In 2023 Welsh Government published a study that provided the evidence base for future need for electricity, and therefore for new networks. The ***Future Energy Grids for Wales*** *reports were clear on the need to invest in both transmission and distribution networks."*

The most memorable takeaway from this report was that it seized on the recommendation from the NESO to link the transmission grid in north Wales to that in the south. This was recommended as a means of increasing capacity across a number of transmission boundaries and to facilitate getting energy brought subsea from Scotland to north Wales into the spare capacity of the south Wales transmission lines. NESO did not specify any type of technology (onshore/offshore, overhead/underground) or any route. The Future Energy Grids for Wales report interpreted this as a transmission line onshore from north to south that could open up the Welsh interior for onshore wind development

"Our work on local, regional and national energy planning is designed to provide much more clarity on exactly where and when these new networks will be needed."

We have no comments in this point

"The need for new investment and a plan is now recognised at UK level, with the Energy System Operator charged with developing a Spatial Strategic Energy Plan and a resulting strategic network plan."

This has been the case for a number of years and is not recent. NESO will have the first Strategic Spatial Energy Plan available in 2026

"Wales is an important part of the energy system in Great Britain. To date we have been a net exporter of energy, largely because of the fossil fuel generators sited in Wales. Electricity flows between Ireland and England across Wales and we also host a major site for natural gas to enter Great Britain."

Wales has the potential to generate 150% of 2050 Welsh demand from only offshore wind, or only about 25% from only onshore wind

"Our principal lever for managing new energy infrastructure is through our devolved powers under Planning Policy."

This is simply not true. Transmission is not devolved and Welsh planning policy does not have to be followed for any new transmission infrastructure. The proposed upgrading of the transmission system to accommodate Wylfa Newydd did not follow Welsh policy, despite campaign groups requesting it. The Welsh Government did nothing to enforce Welsh planning policy

"Welsh Government have committed to working with representatives of all sectors and regions of Wales to develop a set of principles for grid development. These will be founded on the framework of the Well-being of Future Generations Act. They will consider community requirements, environmental impact, visual impact, cost and technical constraints. Our intent is to consider the proposed principles for incorporation into Planning Policy Wales."

These are fine words, but will most likely have negligible impact on any proposed overhead transmission infrastructure. Transmission dvelopers are bound by National Policy Statement EN-1 and EN-5, not Planning Policy Wales. EN-5 has a presumption in favour of pylons in all but the designated landscapes. Both the previous and current U.K. government have refused to remove this presumption, and EN-5 was only revised at the end of 2023. A "special case" will not be made for Wales. There are campaign groups the length of the U.K., from Orkney to Essex campaigning against lines of pylons. Treating Wales differently would set a precedent

"Proposals for new electricity lines would need to meet these principles if they are to be supported by the Welsh Government."

Transmission developers do not need the support of the Welsh Government to progress any of their proposals. The consent is obtained from the Secretary of State. If the Welsh Government wants to prevent overhead transmission infrastructure then it can either designate the landscape or remove the transmission need (ie the onshore wind farms). It is entirely feasible to meet the NESO need for boundary reinforcement by linking north Wales to south Wales subsea

"The independent advisory group on future electricity grid for Wales is formed to take forward the essential work to build an understanding of the possible approaches to delivering electricity grid infrastructure.

The group will help Ministers build an understanding of the impacts and costs of the various options, taking the full extent of those impacts into account and building that deeper understanding of the possible approaches to delivering the necessary infrastructure expansion. The group will create a public evidence base and devise a set of principles to support development of the most appropriate solutions for Wales.

Through this approach, Welsh Government will champion Wales having n infrastructure it needs for the future, delivered in the right place, in a way that manages costs and impacts in Wales, while making sure Wales can continue to flourish in the long term."

More fine words that will generate much paperwork but in all likelihood achieve nothing

Llythyr gan (gyn) Arweinydd Cyngor Sir Gaerfyrddin, D Price / Letter from (former) Leader of Carmarthenshire County Council, D Price

Dear IAG Members,

I would like to take this opportunity to submit evidence to the Independent Advisory Group on Future Electricity Grid in Wales.

I very much welcome that work that the Group is undertaking in developing a set of principles to support the development of the most appropriate solutions for grid expansion in Wales.

As a County, Carmarthenshire is set to be impacted significantly in the coming years, with a number of high-profile electricity transmission projects being proposed.

As Leader of Carmarthenshire County Council, I have received significant representations from residents concerning the large scale developments, 'Towy-Usk' and 'Towy-Teifi' being proposed. Indeed, local elected members from across the county have had to deal with an unprecedented level of concerns being raised.

Given the scale and length of the proposed developments, this has resulted in concerns being raised from a number of different communities and towns, with a number of public meetings being held, and local groups being established.

Communities are overwhelmingly opposed to the erection of overhead pylons. The objections are primarily centred on the impact on our natural and historic landscape, and on the county's economy.

The tourism industry is an important, and growing element within our economy. Indeed, the tourism and outdoor leisure sector contributed over £596m to Carmarthenshire's economy in 2022, and we have ambitions to increase visitor spend further in the county in future years.

We are currently developing an important cycle path linking Llandeilo and Carmarthen, a development which will build on Carmarthenshire's position as a cycling hub. We have other key investments and economic development efforts taking place in our market towns such as Llandeilo and Llandovery and are looking to build on their uniqueness.

The natural environment is a key element in our tourism and outdoor leisure offer, and we have significant concerns that our economic ambitions will be hampered by having overhead cables being carried for long distances across the County.

Elected representatives of the Council have been unambiguous in our belief that the transmission of electricity along the Tywi and Teifi valleys should be done using proven underground technologies, such as cable ploughing or horizontal directional drilling, as we see in other parts of the world.

Indeed, the Council's elected members unanimously passed a motion last year stating, '*That Carmarthenshire County Council supports residents' and local businesses' concerns regarding the proposal to erect pylons to link Nant Mithil Energy Park to the national grid in Carmarthenshire and believes that the developer should work with landowners to place the cables underground*'.

I have consistently argued for the undergrounding of the transmission cables.

There is a strong feeling locally that the whole route should be undergrounded as this would protect our historic landscape for future generations.

I was therefore pleased to hear of the commencement of investigatory work being undertaken by the Independent Advisory Group, looking to provide comparative costs relative to overhead lines and alternatives, including undergrounding by cable ploughing.

You will be aware that we have a company based here in Carmarthenshire, which undertakes this type of undergrounding work across Europe, and a demonstrator day has been held on site earlier this year (April 2024) showing the merits and effectiveness of the technology. This technology, I believe, has significant potential in terms of delivering a renewable electricity supply to South-West Wales.

We know that internationally, cable-ploughing is seen as an acceptable alternative to transmitting electricity along overhead lines. It seems bizarre to residents within the County that we have a locally based company, which travels across the continent carrying out the undergrounding of 132kv cables throughout the year yet isn't being invited to do the same on a development in its own community. The obvious, and regular question being posed locally is "if it's deemed as being financially viable on the continent, why isn't it deemed to be financially viable here?"

The Well-being of Future Generations Act promotes collaboration and involvement as two key elements. However, there is a feeling within affected communities and the local elected representatives that they are not being listened to, and a sense therefore that these two key Future Generation 'ways of working' are not being met.

I believe that with a positive commitment to "work with" as opposed to "doing to" local communities, that there is a genuine opportunity to deliver projects which will be a positive step forward in terms of delivering renewable energy to the grid.

Whilst there is a recognition locally for the need for new and additional electricity infrastructure to carry renewable energy, it is felt that this should be planned on a national level, in a strategic and holistic manner.

There is a strong feeling locally that the community fund is inadequate. The over-riding feeling in the community is that the fund would be better used in trying to avoid the visual impact of the proposed overhead lines. It has been put to me by community representatives that the community benefit funds should be put towards undergrounding the cables, which would better align with the environmental, agricultural and economic ambitions of the county.

As you are no doubt aware, communities within Carmarthenshire are following the developments in this area with great interest. We were heartened to hear the Cabinet Secretary responsible for energy in April 2024, when referring to the future electricity grid, state that 'Communities will be heard, and decisions will be made balancing the climate emergency and the needs of communities for the long term, ensuring that projects for today are built for future generations as well.'

We do hope that the work being carried out by the Independent Advisory Group, will support the Welsh Government to deliver against that ambition.

I would close by noting that there is palpable frustration and disappointment locally at the electricity transmission infrastructure being proposed. I therefore feel that is important that I reflect the views of local people and businesses and am grateful for the opportunity to feed into your work.

Dyffryn Teifi yn Erbyn Peilonau – Datganiad tystiolaeth i'w gyflwyno i'r Grŵp Cynghori Annibynnol ar Grid Trydan y Dyfodol yng Nghymru. / Teifi Valley Against Pylons - A statement of evidence for submission to the Independent Advisory Group on Future Electricity Grid in Wales.

Introduction
The campaign group Teifi Valley Against Pylons was created in January 2024 following the announcement of proposals to build a new grid line using pylons through the Teifi valley from the proposed Lan Fawr Energy Park near Llanddewi-Brefi in Ceredgion to the new substation at Llandyfaelog near Carmarthen.

Whilst we are not against renewable energy it was agreed at our inaugural public meeting in Llanllwni on 31 January 2024 that our mission is to block future pylon developments.
Since then we have grown to over 500 members. Membership consists of farmers, landowners, homeowners and various local businesses including those involved with tourism.
The rest of this document expresses our concerns, anxieties, and continued determination to oppose the use of pylons and to campaign for the use of underground cables.
If underground cabling is used the vast majority of our members along the route would not object to the construction of a new grid line.

Our Concerns

Wellbeing and mental health

1) Many of our members have expressed feelings of anxiety and depression by the thought of the visual impact, impact on their businesses, and health concerns, of having pylons near their homes.

2) The impact on people's wellbeing and mental health is such that we have heard of some mention of suicidal thoughts. This proposed pylon line therefore breaches The Wellbeing of Future Generations (Wales) Act 2016 which effectively states how nothing should be done to lower the well-being of Welsh citizens.

3) Teifi Valley communities feel a profound sense of loss due to compulsory land use for pylons, resulting in diminished property and business values.

Depreciation of property prices

1) We understand from various sources that property prices could fall by as much as one third if one or more pylons are built near to a property.

2) The depreciation of properties is never going to be offset by any community funds as this will only ever provide funds to approved projects and is not being offered to those affected directly by the proposed location of pylons.

3) For a lot of people they bought their dream homes for the rest of their lives and their children's futures. The property in many cases represents their main, if not sole asset, and it is unjust that a developer should be able to inflict depreciation on these properties. It is not just the properties that would have the pylons directly on their land but also those within the vicinity of the pylons.

4) There are currently homes for sale where prospective buyers have withdrawn their offer to purchase before completion once they have discovered the threat of the pylons being built near these homes. The vendors have significantly reduced their asking price and despite receiving even lower offers, the properties remain unsold. This situation only creates more anxiety for those trying to sell and leaves them with a feeling of despair that there is nothing they can do. They are locked into this nightmare and can see no means of escape without very significant financial loss.

5) We have some members who have either a pylon or the overhead lines within 70 metres of their homes and businesses. Many people feel that having overhead grid lines close by will impact their health and there is anecdotal evidence of this from other locations.

Agricultural & land Impact

1) Compensation is only offered to those landowners who have either pylons on their land or cables that over-fly their land. So for all the other people living adjacent to or near to the route will not receive any compensation whatsoever.

2) Disruption: Pylons and overhead lines cause considerable disruption and land loss for farmers, impacting grazing, silage, and cultivation.

3) Herd Sizes: Construction and exclusion zones could reduce land availability, leading to smaller herd sizes and decreased income.
4) Safety and Land Use: Safety guidelines restrict land use within exclusion zones for highvoltage lines, reducing agricultural yields.
5) Decommissioning Concerns: Future repairs and decommissioning may not be adequately handled, leaving landowners with unresolved issues and costs.
6) Diversification: farmers may not be able to diversify or build new structures to maintain or grow their businesses. This equally applies to those involved with campsites where the current proposed route crosses their fields.
7) The presence of overhead lines can affect property values and borrowing capacity for farmers, impacting their operations and financial stability.

Tourism and Local Economy
1) There are tourism-based businesses, holiday lets, campsites and caravan parks that will end up being adjacent to fields with pylons and overhead lines. Members have told us that this would significantly impact their business. One member, who provided a questionnaire for their guests this summer, was stunned by how many people said they would not return if the pylons were built nearby. The owner told us that the business would not be viable with that anticipated reduction in guest numbers and that as a result of not being able to make mortgage payments they would have to sell both the business and their home, if they could find a buyer.
2) Another member provides art workshops for tourists. It is proposed that a pylon is sited directly in front of her workshop, effectively ruining her business.
3) Detrimental to Tourism: Overhead lines with pylons negatively impact the visual appeal of the Teifi Valley, which relies on tourism and visitor revenue as the second largest income stream.
4) Hospitality Businesses: Accommodation providers and other hospitality businesses depend on the unique environment to attract visitors. Pylons spoil picturesque views, affecting repeat visits.
5) Tourist Attractions: Popular attractions like Dark Sky Wales events, local gardens, pony trekking, kayaking, and others depend on visitor income, which could decrease due to pylons.
6) Conflict with Economic Strategy: Pylons in areas developed for tourism conflict with national and county economic strategies.
7) Visitor Accommodation: Camping and caravan sites, holiday cottages, and B&Bs could see a decline in repeat visits due to nearby pylons.

Landscape
1) The use of pylons and overhead lines will impact our beautiful landscape for decades to come and we do not want it to turn into an industrial wasteland.
2) Visual impact from overhead lines and pylons is a major concern and is considered damaging to the atmosphere, character, and well-being of affected areas.

Biodiversity

1) The Teifi Valley is an important ecological area with endangered and protected species, and any infrastructure developments should take this into account. We are dismayed that wildlife surveys are proposed for the winter months, when most species are hibernating or have migrated.

2) It is well known by West Wales Biodiversity Information Centre that many parts of West Wales are greatly under-surveyed, and it is very probable that many species that are currently at risk of extinction may be located in areas for the proposed pylon developments. We feel that the proposed surveys are merely tick box exercises and will be undertaken to ensure that the minimum of biodiversity is discovered.

Health and Safety

1) The precautionary principle suggests avoiding placing pylons and overhead wires near homes, workplaces, schools, or nurseries.

2) Underground placement of new lines can provide assurance and minimize visibility and health concerns.

Lack of transparency

It is understood that the Special Landscape Areas (SLAs) in the Carmarthenshire Local Development Plan now form part of the Pre-assessed areas for Developments of National Significance (DNS). This was decided upon during the Covid lockdown and without full public consultation. The general public did not know in advance of the Senedd's plans for the industrialisation of Wales, to the extent that even for people purchasing properties in the area currently and a year or so ago, nothing came up in the searches of the possibility of pylons near their property. This is totally remiss of the Senedd and displays the lack of transparency and arrogance of forcing these developments onto communities without involving them at an early stage in the planning.

Burying powerlines

1) There are parts of the route that if underground cabling was used could be made more direct and therefor shorter between the energy park and the substation.

2) The costs for the new grid line using pylons, underground cables using cable ploughing or using trenching methods should be compared across the lifetime of the project and not just the initial installation costs. The cost impacts (depreciation, loss in tourism, etc.) to the local communities must be taken into account, particularly as this proposed line is not distributing power locally but is a transmission line between the energy park and the substation for the benefit of the developer's shareholders.

3) We firmly believe that the use of cable ploughing to place the new grid line cables underground will have the least impact on our landscape and people's lives and additionally will be quicker to install.

4) Given the winter storms that we have in our region we also think that there would be less maintenance required over the lifetime of the project if powerlines were buried.
5) Policy Recommendations (PPW 5.7.9 Revisions) - Place new electricity power lines underground.
6) Use cable ploughing unless another method like horizontal directional drilling is more favourable.
7) Ensure proposals for new underground lines are consistent with national, regional, and local grid plans.
8) Demonstrate careful routeing in individual schemes to minimize adverse impacts.

Summary

1) Opposition to Pylons: Pylons are strongly opposed by the community.
2) Support for Underground Cables: Strong support exists for putting new and replacement electricity cables underground, either by cable ploughing or horizontal directional drilling (in ecologically sensitive areas or where detours are not possible).
3) Necessity for Careful Routeing: Careful planning of routes is essential to shorten distances, reduce impacts, and cut costs.
4) Holistic Planning: Strategic planning should avoid uncoordinated development driven by profit motives of private speculators.
5) Minimizing Adverse Impacts: The best community benefit is to avoid visual and other adverse impacts of new power lines. It is important to minimize unnecessary impacts on the environment, biodiversity, ecology, and people.
6) Fair Compensation: Communities and property owners should be fairly compensated for any loss, disruption, or devaluation, with minimized compensatory payments through careful planning.
7) Meaningful Community Engagement:
    a) Implement regulations for the Infrastructure Wales Act to encourage honest, open, and transparent community engagement.
    b) Ensure grid development involves meaningful community consultation, respecting communities and homeowners.
8) Opposition to Poor Schemes: Poorly planned schemes can lead to legal challenges, public dissatisfaction, and delays.
9) Injustice: There is a strong feeling of injustice among community members due to substantial financial losses and the existence of credible alternatives, which are currently being ignored.

Conclusion

We hope that the undergrounding of the entire length of the proposed grid line using cable ploughing is the outcome of your report, but even undergrounding using trenching is better than overhead lines on pylons.

Welsh Government should be aware that if the threat of pylons persists so will our campaign.

Appendix 1 - The Carmarthenshire Local Area Energy Plan 2024
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> Diversifying renewable generation can allow better utilisation of intermittent energy sources and reduce the need for large grid reinforcements. Carmarthenshire County Council has also set out its position on large overhead energy infrastructure in that it should be undergrounded rather than hosted on overground large-scale pylons. Distributed generation which is consumed locally can also provide opportunity for community-led, decentralised projects and can be supported by Power Purchase Agreements or Peer-to-Peer networks which also avoid the need for large grid upgrades.

We wholeheartedly agree with Carmarthenshire County Council's assertion on undergrounding, as above. And also with their statement on local distribution of locally generated energy, which reduces the need for energy transmission.

Appendix 2 - Wellbeing of Future Genera□ons (Wales) Act

Alignment with Wellbeing Goals:

- o Communities emphasize the importance of evaluating future electricity grid proposals against the framework of the Wellbeing of Future Generations (Wales) Act.
- o The Act promotes cohesive, viable, and well-connected communities, vibrant culture and heritage, ecological resilience, and both physical and mental health.

2. The Well-being goals include:

- A more equal Wales
- A Wales of cohesive communities
- A globally responsible Wales

It appears that these goals could result in conflicting interests. A globally responsible Wales could be seen to mean industrialisation of the country to export renewable electricity, at the expense of equal share in the ownership, usage and enjoyment of the countryside by the communities and residents of the country. We feel that these well-being goals are not being successfully applied to local communities with regard to pylon proposals.

3. The 5 Sustainable Development principles are:

- Collaboration
- Integration
- Involvement
- Long-term
- Prevention

There are many examples of lack of collaboration, lack of long-term planning, and nothing done to prevent the adverse impact of this upgrade of electricity transmission on the local residents. All we are asking is that the powerlines are put underground. Surely a small price to pay in order to comply with the Wellbeing of Future Generations Act.

4. The Wellbeing of Future Generations Act I relation to renewable energy:

- A prosperous Wales
- A resilient Wales
- A Wales of cohesive communities
- A globally responsible Wales

It is not helping Wales itself to become prosperous and is adversely impacting local communities.

5. Sustainable Development Principle:

- Public bodies are required to meet present needs without compromising future generations' ability to meet theirs, ensuring sustainable economic, social, environmental, and cultural wellbeing.

These pylons might have a lifespan of 30 years and will leave future generations with a large clean up job, having already scarred the landscape and caused division in local communities.

Datganiad gan 'RE-think': Peidiwch Torri Calon Cymru mewn ymateb i gais am dystiolaeth gan y cyhoedd / Statement from RE-think: Don't Break the Heart of Wales in response to a request for public evidence

RE-think is a community group which was formed in March 2023 in response to plans for multiple industrial-scale wind farms and associated power lines in Mid Wales. We represent residents, businesses and landowners in Mid Wales and beyond.

We are also aligned with other community groups with similar aims.

RE-think has set up an online Alliance of action groups around Wales which hold similar aims and mission statements. These groups also share information and resources.

We are responding to the request for public evidence in order to help build a broad consensus around this extremely important issue.

RE-think welcomes the establishment of an Independent Advisory Group (IAG) on the Future Electricity Grid, but cautions that it must not become an opportunity lost on the grounds of political expediency.

We are also concerned that members of the IAG have all relevant information to hand during their deliberations, especially in relation to cost comparisons for all available methods of cabling.

Methods of cabling

We agree with other groups down the Towy Valley that in the 21st century overhead power lines of 132kv and above are unacceptable and should not be built, instead placing them underground through cable ploughing using HVDC transmission for 400kV lines and conventional AC transmission for 132kV lines. We believe that this method would have wide ranging public support.

Welsh Ministers have repeatedly made it clear that their preference is to "underground where possible," and in our view there is no reason for that the change, despite lobbying to the contrary from developers.

For these reasons we believe that where new 132kv or above power lines are truly essential, then a detailed assessment of cable ploughing as a method of undergrounding is considered and the costs compared with other undergrounding methods and the provision of overhead wires.

Our colleagues in the Llandovery Pylon Community Action Group have provided you with a detailed analysis of the cost comparisons for undergrounding via cable ploughing versus other methods. RE-think, having a much wider remit, is unable to offer anything so comprehensive. Neither would it be expedient or cost-effective of us to do so.

Therefore, please accept that we fully support the "Statement of Evidence" submitted to you by the Llandovery Group. We also fully support the submission by the Llanarthne Group, which we are unable to replicate for the same reasons.

Environment and ecology

As a group, RE-think has serious concerns about the effect of the new proposed infrastructure in Wales (turbines and pylons) on the ecology and environment. The delivery and construction of pylons can cause enormous damage to the

ecology of a rural area, including the destruction of hedgerows and trees along with a variety of wildlife habitats, and the loss of farmland.

The steel for the pylons would now need to be delivered from abroad, where there would be little or no control over the sustainability of the manufacturing process. Once they were built, they would pose a risk to the many and varied species of birds which inhabit rural Wales.

The concrete required for the base of each pylon, while admittedly being far less than for wind turbines, would be considerable, and could cause leaching of toxins into surrounding soils and groundwater.

Wellbeing of Future Generations

In consideration of the 2015 Well Being of Future Generations (Wales) Act and its seven national wellbeing goals for sustainable development, we again concur with the remarks made in the Llandovery Group's submission. We absolutely agree that the use of pylons in Wales is not compatible with the Act in a number of important ways. The availability of cable ploughing as a method reinforces that.

Consideration of the need for new electricity infrastructure.

Finally, apart from the comments above, RE-think also urges the IAG to consider carefully the reasons for providing new electricity infrastructure.

Wales will have more than enough generation from offshore wind alone to reach its own renewable energy targets and contribute to the UK grid. Additional large scale onshore wind farms will be surplus to requirements. According to DUKES, last year onshore wind in the UK operated at a load factor of 24.6% (offshore 39.5%). Due to their intermittent nature, it is already becoming apparent that as more onshore turbines are commissioned, the accompanying payback in reduced carbon emissions is diminishing.

As we understand it, what Mid Wales does require (or will do as demand rises) is updated infrastructure at the lower voltages to get electricity from the grid into people's homes and businesses. The model being adopted by the Celtic Freeport to distribute generation from floating offshore wind in the Celtic Sea (FLOW) appears to us to be one that should be considered on a wider scale.

Finally, there is added concern now about the prospect of a 400kv transmission line coming down through Powys. Rumour and speculation will only cause worry to those communities potentially affected and also, needlessly, to those who are not.

In particular, we need to know whether this 400kv north-south line is intended to only pass from north to south Wales without any connections to it, or has an additional purpose. As we understand it, it is likely that wind developments along the route would be connected to it. If this is so, surely there will then be a need for a converter station at every connection, adding to both the cost and the infrastructure required. If this option is adopted, would that then remove the need for a line? All questions which local residents feel that they should have answered at an early stage.

If it is a reality, then we believe, again, that all methods of delivery must be considered, including cable ploughing. As a rule of thumb, we say that all essential new grid infrastructure of 132kv and above should be placed underground. And we ask respectfully that the need to build large-scale onshore wind developments sited many miles from the grid should be re-evaluated.

Wales seems to be in a "goldrush" period for developing onshore windfarms over and above what it will require to satisfy its own electricity needs. This apparent haste presents a danger that before any 400kv line is built we will be left with a mishmash of random 132kv lines, long enough to reach from far flung proposed wind farms to the grid and with no other purpose than grid connection.

This would be a strategic disaster, especially if the only purpose remaining for the 400kv north-south line was to get electricity from Scotland to England through Wales. If it is deemed essential to industrialise rural Wales with windfarms and power lines, at least please think strategically and put the 400kv line to dual use and underground. The alternative is to risk a situation where 132kv power lines are built but not eventually required, and/or different pylon lines are running in parallel through areas such as the Towy Valley.

Thank you.

RE-think: Don't Break the Heart of Wales

7th January 2025

Llythyr gan Grŵp o Aelodau Seneddol yng Nghymru / Letter from Group of MPs in Wales

Dear Chair

We write collectively in order to provide our insight to the Independent Advisory Group on Future Electricity Grid in Wales.

There is concern amongst the rural communities across Wales as to the impact of Pylons straddling areas of natural beauty. Overground infrastructure will blight areas which are iconic, dotted with Grade 1 listed buildings, castles, and steeped in heritage and history. We do not believe that proper consideration has been given to the long-term implications of pylons on the landscape, the environment and the loss of amenity value. We also need to consider potential detriments to the economy in consequence of overhead lines, including adverse impact on agriculture, tourism and visitor revenue, and of course the health and wellbeing of those impacted by the infrastructure in their communities.

We understand that developers have adopted a default position of overground infrastructure, however, we recall that on the 8th February, the then Minister for Climate Change Julie James MS stated that new electricity cables should be placed underground, where possible, not just in designated landscapes, but where possible. The Cabinet Secretary for Planning as at 12 June confirmed in the course of discussion in the Senedd on that date, in response to a motion to make undergrounding an absolute policy, that there was no opposition in principle to the motion put forward, nor to the underlying philosophy. We are fully in favour of undergrounding new electricity infrastructure required for conveying electricity, and the requirement for undergrounding is an overwhelming message that we are receiving from our constituents.

Our communities are vehemently against pylons, however, they are in general, not against green energy. The communities understand that we need energy in order to sustain our communities, provide growth within rural industries and secure jobs. The communities understand the need for new electricity grid. Although against pylons, they are in favour of the infrastructure being placed underground, preferably by cable plough. This method is clean and quick and can be used generally in Wales. The vast majority of landowners would have allowed access to the land if had committed clearly to consider cable ploughing at the beginning of this process. Community requirements should not only be received but also respected and embraced, and the best way to accelerate net zero is to take communities with us, so avoiding unnecessary confrontation when there is a credible alternative available to provide the new infrastructure we need – an alternative which is less impactful yet which can provide for speedier delivery and which does not necessitate the delay and cost and conflict which new pylons attract.

We welcome comments made by respective Cabinet Secretaries, who remain as important members of the Welsh Labour Government, that in addition to consideration of environmental impact, visual impairment and cost, the principles to be formulated for grid development will address community requirements and will be founded on the framework of the Well-being of Future Generations Act. To quote: 'Communities will be heard, and decisions will be made balancing the climate emergency and the needs of communities for the long term, ensuring that projects for today are built for future generations as well.'

We note the Independent Advisory Group is dealing with the costings of undergrounding cables versus pylons. We understand that the IAG is looking at open cut, cable ploughing and pylon costs. The information gathered by the IAG could help so that we can have better evidence as to the cost variables of each option available to Welsh Government, and there is a need to examine and lay bare if appropriate any assumptions about cost differentials if they are not based on a sufficient or satisfactory evidence base. There is a need to look at the extent to which differential costs, if any exist, can be absorbed by developers or mitigated by reduced electricity costs especially when electricity wholesale costs are no longer affected by or linked to gas prices. It will be important to look at overall lifetime costs, but also real costs which may not be quantifiable in monetary terms yet have a significant value in terms of our environment, ecology and biodiversity, and community and individual wellbeing. We are fully aware that Welsh Government, on PEDW's recommendation, will decide on the 132kV cables proposed for two separate lines which will be constructed through our constituencies of Ceredigion Preseli, Caerfyrddin and Brecon Radnor and Cwm Tawe. We are aware that Welsh Government could also play an important part in helping the UK Government to shape policy.

We would urge the IAG to ensure that we have a holistic view of infrastructure. We are aware of a number of infrastructure projects which are being proposed and we really want to ensure that Wales does not become a spider's web of overground infrastructure. Welsh Policy, PPW along with the UK Government policy and National Grid plans need to be co-ordinated. There is also a need, in respect of overhead or underground, for decision makers to have the ability to examine and ensure the careful routeing of individual projects and secure minimised impacts.

To close, farmers and landowners and communities are ready to work with the Government, but in order to secure success, their thoughts and comments need to be considered fully, and respected. There is a real opportunity, to move forward to secure appropriate and well planned grid, with cross party political support, and with the backing and consensus of affected communities, which can only accelerate a drive to net zero with harmony and minimised impacts. The opposition to pylons and in contrast the consensus for planned and appropriate new grid placed underground with greater sensitivity and less impact has been a dominant message from constituents in each of our constituencies.

From the office of Ann Davies, MP for Caerfyrddin
Co-signed by MPs for Ceredigion Preseli, Brecon Radnor and Cwm Tawe, and Montgomeryshire and Glyndwr

Cyflwyniad Sir Drefaldwyn yn Erbyn Peilonau i'r Grŵp Cynghori Annibynnol / Montgomeryshire Against Pylons Submission to IAG

Montgomeryshire Against Pylons (MAP) represents communities in North Powys who are affected by the matters which arise as a consequence of recent proposals to construct a 132 kV electricity line on steel pylons from windfarms in the hills behind the town of Llanfair Caereinion (and possibly elsewhere in the locality) in North Powys down the Vyrnwy Valley.

MAP is the group to whom local people and landowners have been directed for advice and feedback and who represent their views.

MAP was formed in 2011, and made representations as part of what was known as The Alliance, which represented several community groups, in relation to the Mid Wales

Landscape and Cultural value.

The Vyrnwy Valley is also part of a proposed new National Park in North East Wales and as such has been objectively assessed as having a landscape of significant beauty and value. The landscape is a major reason for why tourists visit the area and it can be appreciated by following a number of trails such as the Melangell Trail and Ann Griffiths Trail which wend their way through the peaceful area including large sections along the Vyrnwy Valley and the route corridor. Also passing along the Vyrnwy Valley, the renowned national Trail known as the Glyndwr Way is popular among tourists. These trails celebrate the remoteness and beauty of the area and bring with them much needed income from tourism which supports local hospitality and small businesses in the area.

The area also contains a number of sites of historic and cultural significance including Grade 1 listed buildings at the Church of St Tysilio and St Mary in Meifod and the castle site of Mathrafal in the Vyrnwy Valley. Close to the castle site is the chosen site of a number of National Eisteddfodau in 2003 and 2015 and also the Urdd in 2024. It is likely that the site will be chosen again for this major cultural event which is of great significance to the Welsh and wider Celtic communities as well as to a national British audience.

The church of St Tysilio and St Mary in the village of Meifod is renowned throughout Wales as a significant site of both cultural and religious interest. It has a remarkable history being the home of the famed Welsh Saint Tysilio who founded his community here and who founded religious settlements throughout Wales, but it is also the burial place of the Princes of Powys whose castle was sited just a few miles away up the valley at Mathrafal, the remains of which can still be seen. The remains of the old monastery associated with the church remain close by at Cwrt y Perswn. Atop the

hill known as Gallt yr Ancr is sited a relatively well preserved iron age fort with dewponds which were constructed by our ancestors to preserve a water supply in times of drought. Again this is a site of historical and cultural importance.

The church of St Tysilio and St Mary is a Grade 1 listed building. This means that the site has exceptional national, architectural and historical importance. Only 2.5% of listed buildings fall into the Grade 1 category. Others include buildings such as Caernarfon Castle and Harlech Castle. The National Policy Planning Framework gives guidance on development which may affect the setting of these sites. Consideration of the contribution of setting to the significance of heritage assets and how it can enable that significance to be appreciated will almost always include the consideration of views. Views however can of course be valued for reasons other than their contribution to heritage significance. They may be related to the appreciation of the wider landscape, and landscape character and visual amenity should always be related to the setting of a historic asset. It is accepted that setting is the surroundings in which an asset is experienced and may therefore be more extensive than its mere curtilage. It is also accepted that the way in which we experience an asset in its setting can also be influenced by other environmental factors such as noise. It is well known that pylon lines do exude a constant low-level noise which is not in keeping with the setting of a historic asset.

Therefore an overhead line with enormous steel structures of the pylons themselves, which runs close by a historic asset such as the church in Meifod as well as other historic sites, is simply not appropriate. Not only would it affect the outlook and the setting, such structures would dwarf the protected sites. The topography of the area by the village of Meifod is such that the siting of any pylons would inevitably be very close to the village and ancient church. This would adversely impact the setting and significance which is not ours to destroy but rather to pass on to the next generation unadulterated. This is a matter of concern to local communities.

During the planning stages for a Mid Wales Connection in 2011 the impact was such that the developer did resolve to underground the lines through the Meifod Valley which was accepted as being of exceptional landscape quality and cultural significance.

Socio-Economic considerations

The detrimental impact on tourism has already been iterated and is of concern to local people who either have or are employed in local businesses. At a time when local businesses are already under pressure from an increase to minimum wage for employees and a rise in national insurance contributions, the additional pressure of lower footfall is of concern and may also affect the viability of such businesses as well as the long term investment potential in such businesses. There are many caravan sites in the area which attract visitors who come for the tranquillity and beauty of the

landscape, finding the area restorative and good for their mental health. Site owners are concerned as to how the caravan owners are being consulted about this project, as well as having concerns about the effect it could have on their businesses.

The national trails and beauty of the area for walkers and nature lovers alike do bring tourists to the area. People when asked find the area relaxing and restorative to be in, an antidote to hectic urban lives and this should not be undervalued in importance for people's well-being. Although a national park is likely to bring more footfall in parts of the route corridor, any detrimental effect on the wider area that a multitude of wind turbines and associated infrastructure may bring can be ill afforded locally.

To add to the effect, the locality will not benefit from additional power locally, despite 132 kV lines (which may possibly be upgraded to 400kV lines) passing directly overhead of people's communities. The power which has been harnessed by wind on Welsh hills, will simply be exported across a beautiful Welsh landscape inhabited by Welsh people, across the border to power English cities. Montgomeryshire already produces more power than it uses itself and with the plans that are afoot this seems likely to increase, yet there is no benefit to the local people from the additional power that the area is generating. This fuels concerns as to the socio-economic benefit of any scheme. In MAP's view community benefit as a recompense is not an adequate or effective recompense and simply overlooks the fact that local people would like to benefit from the power that they are producing locally which would negate the requirement for large infrastructure projects and their inevitable cost to all.

Overhead powerlines and pylons have a detrimental effect on house prices which has been raised by a considerable number of our local communities. This is due in part to the visual impact but also the health concerns that people have widespread concerns over. This effect cannot be underestimated and is of considerable concern to the local communities. The associated negative impact on house prices will also affect the potential for investment in the area and the local economy.

Environmental impact

A major concern for local people is the combined impact of continued development of wind farms in the uplands, often replacing precious peat, a carbon sink, which also acts like a sponge in those areas to absorb excess water, with further development in the valleys further east and the impact that this will have upon flooding. The effect of this quicker outflow of water from the uplands is likely to not only be felt in North Powys, but as the area is part of the drainage system into the River Severn, towns and cities such as Shrewsbury, Bewdley, Worcester and Tewkesbury are also likely to feel the effect.

The Vyrnwy Valley is already susceptible to flooding on a fairly regular basis which can lead to road closures and, without the flood prevention scheme around the village of Meifod for instance, would lead to the village flooding. Currently the flood prevention scheme will just about contain the flood, but this is partly due to the fact that in the uplands, the peat is acting as a sponge and preventing excessive “run off”. The more peat that is removed which is not only a cardinal sin environmentally as the amount of carbon absorbed by the peat is very significant indeed, and the more concrete that is poured into the uplands to support the enormous turbines envisaged, the more likely flooding will have a serious impact on the people in the valleys below the wind farms. Despite questioning on these matters there has been no resolution of this issue suggested and this is of grave concern to local residents.

Local people have also expressed concern as to the effect of overhead lines on local wildlife including birds and bats. Where there are a number of protected species in an area this has to be given due consideration. The recent example of the £100 million bat shed constructed for HS2 shows the importance of protecting such species and the potential cost that this can add to a project.

Cyflwyniad Undeb Amaethwyr Cymru i’r Grŵp Cynghori Annibynnol ar Grid Trydan y Dyfodol / Farmers Union of Wales’ submission to the Independent Advisory Group on Future Electricity Grid

The Farmers’ Union of Wales (FUW) hereby submits evidence to the Independent Advisory Group on Future Electricity Grid in Wales, offering its position on future grid development and concerns raised by our members regarding the associated infrastructure. The FUW is a democratic organisation, with policies being formulated following consultation with its twelve County Executive Committees and eleven Standing Committees, therefore, subjects such as green energy and infrastructure development can be divisive and lead to regional differences amongst FUW members.

The FUW is generally supportive of appropriate renewable energy developments in Wales, particularly those on farms where both farm businesses and local communities benefit directly, and where agricultural production is not overly compromised.

Farming businesses and community enterprises are well placed to develop small scale energy projects, and are capable of contributing significantly to Welsh Government Energy production and Net Zero targets. However, accessing local energy infrastructure and grid connections is often seen as a barrier to many small-scale projects. This includes the cost of connection of viable schemes into the national grid, and the fact that connection fees often appear to, at best, capitalise on, and at worst obstruct such initiatives, despite them being in the nations’ best interests. It is the FUW’s view that if accessibility for these small scale projects is prioritised in future developments, there can be significant positive socio-economic benefits for many communities in rural Wales.

The FUW has been closely monitoring the proposals for the generation and transportation of renewable energy in Wales, including at the separate pylon routes set to run through the valleys of Ceredigion, Camarthenhire, Radnorshire and Builth. In recent months, Union members situated along these routes have raised their concerns in relation to adverse impacts to the landscape, tourism and local communities.

In April 2024, members of Plaid Cymru and the Conservative party brought the concerns of our members to the attention of the Senedd. It was discussed that the structures of pylons would destroy the natural beauty and tranquillity of the areas along the proposed routes, negatively impacting the visual landscape and deterring visitors. It is understood that the quality of the Welsh countryside is a key motivator for visitors, with a significant proportion of UK visitors and overnight visitors citing it as a reason for their visit. The landscape is also a key component of the 'Visit Wales' campaign, attracting around 10 million overnight visitors, 87 million day-visitors, and 1 million international visitors per year, contributing around £6 billion to the economy annually. It is therefore a concern that pylons could have a realised impact on jobs and local businesses as many of these areas depend heavily on tourism.

Following consultation with its membership, the Union, whilst supporting appropriate renewable energy developments in Wales, and in particular such developments on farms where farm businesses and local communities benefit directly, and provided agricultural production is not overly compromised, believes that large scale electricity transmission cables installed in Wales should be placed underground where it is practical and feasible to do so using appropriate technology, and that such a policy should apply to the whole of Wales and not only in Wales' designated areas. Member of the Senedd Julie James, whilst in her position for Climate Change, endorsed the view that undergrounding should take place wherever 'technically feasible' and not just in 'designated landscapes, but where possible'.

It is our view that all future infrastructure developments in Wales should be subject to comprehensive and independent socio-economic impact assessments in order to understand and quantify the impacts these developments pose to the communities and areas of their proposed installation, and so that such decisions around the type of installation can be made and justified.

The FUW Land Use and Parliamentary Committee met last year with the ATP Cable Plough company to discuss underground cabling for electricity transmission. ATP Cable Plough stated that, where ground conditions allow, underground cabling can be installed at a rate of approximately one kilometre per day and at a depth of 1.2 meters using an innovative ploughing method that only affects around 10 meters of land. This compares favourably to the 30-35 meters of land affected by traditional excavation methods. The machinery used is also agile and versatile enough to adapt to steep areas. The benefits of this method include less land use, improved quality of work due to remote-controlled and mechanically laid cable, protection of the landscape and a reduced risk of injury to humans and livestock.

There have been variable reports on the estimated cost of pylons compared with underground power lines, however, we welcome the establishment of the IAG to investigate this matter. It is imperative that costings are obtained for both undergrounding and above grounding so that a clear comparison can be made using transparent and evidence based data. It is clear undergrounding has many benefits and has the ability to ease many of the concerns raised by local communities in current proposal areas.

Additionally, as we transition to net zero it is vital rural communities are not unjustly or adversely impacted by plans, and instead feel engaged and part of the solution. When comparing costs, it is

imperative that the socioeconomic impact on communities are considered in the short and long term and weighted into these costs. We feel there is significant opportunity in Wales for new grid infrastructure that is fit for future challenges, however fair compensation and due regard must be given to those it impacts the most.

Sicrhau bod Llinellau Pŵer Newydd yn cael eu gosod yn llawn o dan y ddaear – Cyflwyniad gan grŵp o Aelodau'r Senedd / Achieving Full Undergrounding for New Power Lines in Wales – Submission from group of Senedd Members

Submission to the Independent Advisory Group (IAG) on Future Electricity Grid for Wales

1. Introduction

Wales stands at a critical juncture in its pursuit of a resilient, reliable, and low-carbon electricity grid. Overhead lines have traditionally been the default option because of industry assessments that emphasise lower initial costs and simpler maintenance. However, growing public opposition—rooted in aesthetic, environmental, and resilience concerns—threatens to delay or even prevent new infrastructure investment.

A significant volume of correspondence from constituents confirms strong opposition to new overhead lines and pylons, alongside support for carefully routed underground cables, utililising cable ploughing and horizontal directional drilling, in accordance with an appropriate holistic plan. There is every potential for substantial unrest, demonstrations, and protest from many rural communities opposed to pylons—especially when a credible alternative appears available.

Simultaneously, technological advances are transforming the relative cost equation for overhead versus underground lines, while future breakthroughs promise further gains in efficiency and reliability. The wider benefits of underground power lines are increasingly recognised, from their minimal visual intrusion and higher reliability to reduced impacts on farming, the environment and tourism—and, critically, greater community acceptance. They also help avert the substantial property devaluation often associated with overhead lines.

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2. Why Undergrounding May Achieve Faster Approvals and Decarbonisation

Because underground cables have far less visual impact, they typically face fewer local objections, resulting in quicker public consultations, faster planning approvals, and smoother rollouts. These streamlined processes accelerate the deployment of new transmission and distribution capacity, allowing renewable projects to come online sooner and thereby advancing Wales' decarbonisation goals. By reducing costly legal disputes and planning

delays, underground solutions can ultimately save time and resources—helping the nation meet its energy targets more swiftly.

A further driver of faster approvals is the growing importance of community acceptance in energy infrastructure. Panteli et al. (2017) note that local buy-in—and an acceptable "landscape footprint"—can be critical for timely network expansion. Wales, with its strong cultural identity and scenic heritage, may benefit in particular from a less visually intrusive grid. Soini et al. (2011) show that local residents often perceive overhead lines as visually unappealing, whereas underground systems help preserve valued landscapes, leading to higher levels of public acceptance.

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3. The Traditional Cost Argument: A Historical Perspective

Historically, cost considerations—focusing on up-front capital costs and comparing overhead lines to traditional open-cut underground methods—have dictated the choice of overhead lines:

- **Lower Initial Cost Estimates**
  Overhead lines are generally deemed cheaper, employing simpler components (bare conductors and pylons) with a faster, more straightforward construction process.
- **Perceived Maintenance Advantage**
  Although overhead lines are exposed to weather-related hazards, locating and repairing faults has been viewed as simpler and cheaper than excavating to fix underground systems.

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4. Lack of Comprehensive Life-Cycle Valuation

Developers have typically emphasised higher initial capital expenses over indirect or deferred costs such as loss of visual amenity, lower property values, or storm-induced outages. These assumptions are evolving, however, as proven underground methods—including Horizontal Directional Drilling (HDD) and cable ploughing—are narrowing any cost gap. In addition, externalities (e.g. increased property values and environmental benefits) and long-term reliability gains can tilt holistic life-cycle cost assessments further in favour of undergrounding.

4.1. Maintenance & Reliability

Larsen (2016) demonstrates that while underground systems may require higher upfront expenditures, long-term reliability and reduced maintenance often offset those initial outlays.

- **Storm Resilience**: Souto & Santoso (2020) argue that distribution networks designed to withstand extreme weather can prove more cost-effective in the long run if underground systems are used—once resilience and storm-related disruption costs are properly

monetised. Sofia & Roald (2021) similarly highlight that burying lines in wildfire-prone or high-wind areas reduces downtime and emergency costs.

- **Greater Reliability**: Although overhead lines can be simpler to repair when faults occur, recent studies show underground systems experience fewer faults overall, resulting in lower lifetime maintenance and fewer outages (Tuinema et al., 2016). Czapp et al. (2020) indicate that insulation failures due to external factors (e.g., solar radiation) are typically more severe in overhead systems, reinforcing the relative robustness of underground cables.
- **Monitoring & Preventive Measures**: Li (2024) shows that modern systems (e.g., millimetre-wave radar, visual surveillance) can mitigate external force damage, further improving reliability for underground infrastructure.

Panteli et al. (2017) point out that as climate change intensifies extreme weather events, the total cost of grid failures must be integrated into life-cycle analyses—often tipping the balance in favour of more resilient, and initially more expensive, configurations. Notably, Bumby et al. (2010) present a comprehensive life-cycle assessment indicating that while open cut underground solutions do involve higher upfront costs, undergrounding can also provide for fewer outages, reduced maintenance, and increased reliability yield lower long-term costs.

4.2. Public Sentiment and Delays

Local resistance to overhead lines can trigger drawn-out inquiries and legal disputes, inflating total project costs and delaying commissioning dates. These disruptions are frequently overlooked in initial overhead-line estimates.

Indeed, farmers and landowners on a substantial scale are now refusing to permit access for pylon schemes—risking forced entry and legal battles, which can further escalate delays and costs. The Llandovery Pylon Community Action Group (LPCAG), for example, offers detailed evidence that cable ploughing and similar innovations can bring 132 kV undergrounding cost assessments to those for overhead lines once farmland compensation, tree removal, public inquiries, and other externalities are taken into account.

Public sentiment is driven by much more than concerns over property devaluation. Navrud et al. (2008) show that people consistently place high economic value on preserving local landscapes from overhead intrusion—reinforced by Ishigooka et al. (2021), who found that intangible factors like scenic beauty can significantly alter cost-benefit analyses for undergrounding. Soini et al. (2011) concluded that when communities perceive transmission lines as detracting from local character, opposition can intensify and potentially stall new projects.

4.3. Externalities

A more holistic cost-benefit analysis highlights how positive and negative externalities can change the perceived cost balance between undergrounding and overhead lines. Willingness-to-pay (WTP) surveys help gauge how communities perceive these trade-offs.

- **Property Values & Scenic Landscapes**: Navrud et al. (2008) and Ishigooka et al. (2021) underscore how overhead lines negatively affect property values and scenic views—externalities rarely included in standard overhead vs. underground cost comparisons.
- **Wildlife Impacts**: Overhead lines can lead to bird collisions and electrocutions—factors that remain largely unpriced in typical cost analyses (Fransson et al., 2019; Raab et al., 2010, 2011; Ngila et al., 2023). Burying lines mitigates these risks and associated conservation costs.

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5. Costs and Innovation: Current Landscape

Technological progress is rapidly reshaping the economics of undergrounding, offering a suite of proven, emerging, and future solutions.

5.1. Proven Innovations

- **Horizontal Directional Drilling (HDD)**
    - *Overview*: Installs cables beneath roads, rivers, or sensitive habitats with minimal surface disruption.
    - *Cost Benefits*: Reduced excavation, faster installation, lower labour overhead.
    - *Welsh Context*: Ideal for scenic or protected landscapes; mitigates visible scarring.
- **Cable Ploughing**
    - *Overview*: Lays cables or ducting rapidly as a plough cuts through soil; the cut is closed immediately.
    - *Cost Benefits*: Faster than traditional trenching, causing less habitat disturbance.
    - *Welsh Context*: Particularly suitable for farmland and rural communities where opposition to pylons is strongest.
- **XLPE (Cross-Linked Polyethylene) & Composite Sheathing**
    - *Overview*: Modern insulation offering high thermal tolerance, durability, and moisture resistance.
    - *Cost Benefits*: Extended cable lifespan and fewer outages compared to older oil-filled systems.
    - *Welsh Context*: Effective across varied terrains, from coastal soils to damp uplands.

- **Phase Change Material (PCM) Cooling**
    - *Overview*: PCM around cables absorbs heat during peak loads and releases it later, stabilising cable temperatures.
    - *Cost Benefits*: Higher ampacity with fewer parallel cables; reduced thermal strain.
    - *Welsh Context*: Ideal for corridors with fluctuating demand, optimising limited routes.
- **Trenchless Repair Techniques**
    - *Overview*: Robotic inspections and minimal-excavation methods for underground cable faults.
    - *Cost Benefits*: Less labour, lower land-restoration expenses, and reduced downtime compared to open-trench repairs.
    - *Welsh Context*: Counters the notion that underground lines are too difficult or costly to maintain. Cho et al. (2014) discuss intelligent cable monitoring systems that expedite fault detection and repair.

5.2. Emerging and Longer-Term Breakthroughs

- **High-Voltage Direct Current (HVDC) & Low-Frequency AC (LFAC)**
    - *HVDC*: Reduces resistive and capacitive losses over long distances—ideal for high-capacity or inter-regional lines.
    - *LFAC*: Operates below 50 Hz, mitigating reactive power in mid-range underground cables.
- **High-Pressure or Gas-Cooled (HPC) Cables**
    - *Overview*: Pressurized or gas-cooled systems handling higher currents in narrower conduits.
    - *Benefit*: Reduced land use, though with higher initial costs.
- **AI-Based Predictive Maintenance & Advanced Robotics**
    - *Overview*: Real-time sensor data plus machine learning for early fault detection; robotics for rapid, minimal-excavation repairs.
    - *Benefit*: Narrows the life-cycle cost gap by minimising unplanned outages.
- **Superconducting Cables**
    - *Overview*: Near-zero electrical resistance; limited by high material and cooling costs.
    - *Benefit*: Could drastically reduce transmission losses if commercial viability scales.

As these methods gain traction, economies of scale and learning-by-doing will lower costs further.

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6. Welsh Expertise and Test-Bed Potential

Wales has both academic and industrial strengths that position it to pioneer undergrounding practices, including

- **Academia**
    - Cardiff University School of Engineering: High Voltage & Energy Systems Research (led or co-led by Prof. Manu Haddad)
- **Industry**
    - Prysmian: Leading global cable manufacturer with factories in Wrexham and Aberdare
    - ATP (Aneurin Thomas Ploughing): European specialist in utility cable ploughing, based in Carmarthenshire

By leveraging in-house Welsh talent and encouraging a test-bed environment, Wales can refine cost-saving technologies and serve as a model for broader UK or international adoption. This aligns with Panteli et al. (2017), who stress the value of local test-beds in boosting power network resilience.

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7. Proposed Policy and Funding Measures

While intangible factors and new technologies increasingly favour underground lines over the long term, bridging any remaining short-term cost gap remains crucial to
a) obtaining an accurate evidence base—clarifying cost differentials, factors that affect costs, and community requirements;
b) achieving the Welsh Government's preference for full undergrounding of new lines.

If the IAG's work confirms a residual cost gap, or if the evidence is inconclusive, we ask that you propose the following measures to Government:

7.1. Establishing a Visual Impact and Innovation Fund

- **Purpose & Duration**
  A five-year (2025–2030) Welsh Government drawdown fund to bridge any residual cost difference between overhead and underground installations.
- **Deployment Focus**
    - *Immediate*: Use proven techniques (HDD, cable ploughing) to achieve 100% undergrounding of new power lines.

    - *Pilot*: Provide grants for near-future/advanced methods in select corridors.

- **Outcome**
  Reduces local opposition, accelerates planning consents, and achieves learning-curve efficiencies, positioning Wales as a test-bed for undergrounding.

As with Ofgem's Visual Impact Provision (VIP) for existing lines in scenic areas, a Wales-specific fund would achieve the the same benefits for *new* lines throughout Wales.

7.2. Commission an Ongoing Life-Cycle Research Programme

- **Up-to-Date Lifecycle Cost Assessment**
  A baseline study on overhead vs. underground lines—using a full life-cycle approach and including externalities —updated periodically to reflect new technologies.
- **Willingness-to-Pay (WTP) Surveys**
  Gauging how communities value reliability and environmental preservation when weighing undergrounding benefits.
- **Capacity Building**
  Enable the Welsh Government to develop in-house knowledge and build an industry cluster of undergrounding expertise.

7.3. Secure a Capital Contribution from Ofgem Enlarging on the Visual Impact Programme

- **Background on the Visual Impact Provision (VIP)**
  Introduced in 2014, the VIP scheme covers only existing lines in National Parks and Areas of Outstanding Natural Beauty and does not currently include new lines.
- **Evidence-Led Proposal**
  Present robust life-cycle data, WTP findings, and Welsh test-bed outcomes to make the case for a VIP-type arrangement for new lines.
- **Long-Term Sustainability**
  Ensure that undergrounding remains financially viable beyond the 2025–2030 test-bed period, achieving cost parity through scale and learning-curve effects.
- **Cost-Sharing**
  Limit the Welsh Government's future exposure by exploring fair contributions among taxpayers, consumers, and developers.

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8. Conclusion

Proven undergrounding techniques—HDD, cable ploughing, XLPE insulation, PCM cooling, trenchless repairs—have already reduced the lifetime cost differential compared to overhead lines. Emerging developments (HVDC, HPC cables, AI-based maintenance) and longer-term

breakthroughs (superconductors, LFAC) further strengthen the case for reliability and affordability.

Strong community opposition to pylons in Wales, as detailed in a separate IAG submission by MPs Ann Davies, Ben Lake, Steve Witherden, and David Chadwick, underscores the need to bridge any remaining cost barrier, expedite approvals, and protect Welsh landscapes. With adequate funding, dedicated research, and supportive regulation, Wales can achieve 100% undergrounding of new lines—enhancing grid reliability, respecting community preferences, safeguarding the commitment to the wellbeing of future generations and harnessing its unique academic–industrial ecosystem to become a global leader and exemplar for advanced underground power infrastructure.

Adam Price MS[5] and MSs for Mid and West Wales, and Ceredigion
January 2025

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Cyflwyniad Grŵp Peilonau Llandeilo i’r Grŵp Cynghori Annibynnol / Llandeilo Pylons Group IAG Group Submission

While the residents of Llandeilo and the surrounding Tywi Valley recognise that there is a climate change crisis which needs to be addressed and that some forms of green energy and renewable options will play a part in that, we do not believe this is justification for covering Wales, and the scenic Tywi Valley in particular, with wind and solar farms and pylons to produce energy that has no benefit for it or its communities. Nature, biodiversity and traditional ways of life are being threatened by this new industrial revolution.

The Tywi Valley is a landscape produced by millennia of human habitation and farming. Not only is it a striking landscape, it is also home to the Botanic Gardens, Aberglasney, Gelli Aur, Paxton’s Tower, Grongar Hill and a host of other historic and archaeological sites. It is visited by thousands of tourists who want to enjoy its beauty and who play a significant part in the economy of the area. We want to be able to voice positive arguments as to why the Tywi Valley should be protected and bring a new impetus to the campaign.

Wales should not be England's Cable Conduit

Firstly, and most importantly, we believe that the IAG Group should only consider pylon lines which are necessary to provide the Welsh public with electricity. Wales' beautiful countryside should not be sacrificed as a cable conduit for English towns and villages on the borders which benefit from better protections due to the location of ANOBs and other protections.

Impact on local business

Installation of pylons through the Tywi Valley poses a significant threat to the survival of Llandeilo's cherished small independent businesses. Renowned for its vibrant high street, which was recently celebrated as one of the 'Top 10 High Streets in the UK for Independent Shops' (American Express Shop Small, 2023), the town relies heavily on tourism and seasonal visitors to sustain its economy. These visitors provide a crucial income for local business owners, who are already grappling with the lasting effects of the pandemic and a sharp decline in visitor numbers post-lockdown. Any further reduction in tourism, such as that likely to result from the visual and environmental impact of the pylons, could have devastating consequences for the town's economy, placing even more strain on businesses already struggling to stay afloat.

The case for undergrounding

December 2024 saw West Wales wracked by violent storms which led to substantial electricity outages as well as damage to renewable energy infrastructure. Storms are predicted to increase in frequency with Global Warming as the atmosphere carries more energy and more moisture. Therefore, the type of destruction seen could well become the norm. The damage was to the distribution grid which in Wales has many problems and has long been the subject of discussions about upgrades

Pylon routes should be undergrounded. Technology for undergrounding cables is advancing and evidence points to consumers being willing to pay to avoid pylons. Discussions are and should be taking place about undergrounding any new distribution grid. Local MPs and MSs are making representations for this to happen.

In this context, and given the benefits to the landscape and continued use of land the Llandeilo Group believes that there is an overwhelming case for undergrounding renewable energy grid infrastructure.

Llandeilo also has a local firm capable of undergrounding electricity infrastructure, which is renowned across Europe for its work on electricity infrastructure. Given the Welsh Government's commitment to providing local employment, this Pencader based engineering firm should be front and centre in their recommendations.

Pencader could become a source of local prestige jobs and help ensure a long-term benefit for West Wales from renewables. We note that existing local windfarms are resourced by engineering teams based outside West Wales. Consequently, many of the vaunted employment opportunities of these schemes have proved non-existent for local people.

Undergrounding any distribution cabling, would, therefore, ensure that not only is it immune to storm damage but that it would provide local jobs. Moreover, undergrounding using cable ploughing could result in the line being installed faster than via the pylon equivalent leading to quicker installation and lower constraint payments from the windfarms it services.

Conclusion

Energy proposals are one of the biggest changes to the landscapes of West Wales since the industrial revolution. Wales should not be a dumping ground for infrastructure which is essentially English in purpose and nature. Our valleys and hills should not be sacrificed unless there is a direct benefit to Welsh consumers.

The IAG Group should carefully consider this unprecedented and irreversible industrialisation. Towns like Llandeilo are heavily dependent on the tourism and farming sectors and in considering the merits of pylon schemes these key industries must be taken into full account.

Llandeilo Pylons Group
December 2024

Gerddi Aberglasne / Aberglasney Gardens

Gardd Dreftadaeth Arbennig/Heritage Garden of Excellence

Aberglasney Gardens is a very special and unique place for a number of reasons including historical, architectural and cultural reasons. It has a history spanning over 5oo years and is well documented from the days of Henry VIII. The house and gardens were on the brink of collapse, abandoned, overgrown and derelict when they were rescued from oblivion when the house and gardens were bought by the Aberglasney Restoration Trust in 1995. The transformation was nothing short of miraculous and it opened to the public in July 1999. Restoration work has been on-going since this date and we have a range of exciting plans afoot to secure the future of this beautiful place for generations to come. Last year we celebrated our 25th anniversary of opening to the public with an exciting programme of year-long events which were enjoyed by hundreds of visitors.

Today, Aberglasney is quite simply one of Wales' finest gardens, rooted deep in the landscape of the lovely, unspoilt Tywi Valley and full of rare and unusual plants. At its heart lies a fully restored Elizabethan Cloister Garden and parapet walk – the only surviving example of its kind in the UK.

Aberglasney is not only enjoyed by local Welsh visitors but by people from all over the UK along with international visitors from all corners of the world. Carmarthenshire is a tourist destination in its own right and people come for the natural beauty and tranquillity of the county along with the glorious Tywi Valley, to breathe the clean country air and to reap the wellness benefits provided by Mother Nature.

Aberglasney is a registered charity and our only source of income is from paying visitors, members, private donations and legacies. We are open every day except Christmas Day and Boxing Day and currently attract circa 45k visitors per year. We have a fluctuating membership base which currently stands at 1800. We provide secure, permanent full and part-time employment to 23 staff and seasonal positions for around 24 staff. These positions are filled with local people living in a rural area and who depend on us for their livelihood. Staff work in various departments across the site and includes admissions, a gift shop, extremely popular tearooms and two five-star graded holiday cottages, the income from which goes to sustain and maintain the Gardens and mansion house. We also provide annual bursaries to train up a maximum of four horticultural students who will become gardeners of the future.

We have recently invested in additional woodland which currently afford magnificent, unspoilt views of the Tywi Valley. We hope to attract additional visitors and members as a direct result of this acquisition. We work extremely hard, and to very tight margins, in an attempt to maintain a surplus under what can only be described as extremely tough trading conditions. Any loss of tourism and its associated visitors would quite simply be catastrophic for the future of these unique and historical gardens.

We are extremely concerned that all the above could so easily and quickly be spoilt and even lost as a direct result of these pylons which will blight the entire Tywi Valley. Our concerns will also be shared by other tourist attractions and businesses in the valley. The big issue for Aberglasney is the terrible impact overhead power lines and pylons would have on the near horizon of the gardens; and the wider impact that they would have on the whole area as a key tourist destination. With wetter summers our visitor numbers are increasingly under pressure. Really visually intrusive power lines and pylons – as this scheme would undoubtedly create – would definitely deter people from visiting and staying in the area on holiday, which would be disastrous for us and bad for the local economy of the county, at a time when local businesses such as tourist attractions, restaurants and shops are really struggling, and about to struggle

even more with higher national insurance, increased minimum wage levels and the threat of the tourist tax, etc.

This is the major point for Aberglasney: yes the pylons would be visible (quite distantly) from some viewpoints, which is bad enough, but the loss of visitors would hit us very hard. No one wants to be staying on holiday near a pylon!

These major and very real economic concerns from the effects of the visual impact of pylons and overhead cables would disappear if a policy of undergrounding cables was agreed and enforced, both locally and throughout Wales.

Acting Chair
Aberglasney Restoration Trust
06/03/2025

Volunteering at Aberglasney

Further to my previous e-mail below I would like to add that we are also very fortunate in having over 40 volunteers supporting us at Aberglasney, not only in the gardens but in other areas as well. Our gardening volunteers in particular play a pivotal role in helping our small team of gardeners maintain and manage the gardens throughout the seasons and we could not operate without them. Some are trained to offer guided tours of the house and gardens and act as ambassadors, engaging with our members and visitors and adding to their enjoyment and knowledge of the site.

Volunteering at Aberglasney provides social opportunities and health and wellbeing benefits for all sorts of people, of all ages and skill levels. They have become an integral part of our workforce and many have been with us for many years and have made new friends and formed lasting friendships with people who share a common interest and delight in Aberglasney gardens.

Yours faithfully

Acting Chair
Aberglasney Restoration Trust
Registered Charity No 1044279