EMERGENCY ENERGY PLAN





SOLVING THE PRICE & SUPPLY CRISIS

AUGUST 2022



SUMMARY - REFORM UK SOLUTION IN GLOBAL ENERGY WAR



GRAVEST ENERGY CRISIS IN LIVING MEMORY

- ☐ GLOBAL ENERGY WAR could continue for years
 - Centre of crisis is Western Europe & many nations in desperate scrabble for energy like PPE crisis
 - UK Energy market not fit for purpose Decade & of failure by politicians and others
- ☐ REFORM UK SOLUTION CAN PREVENT NATIONAL CRISIS:
 - Stop 1,000s elderly & vulnerable dying this winter of cold & hunger
 - Stop millions defaulting on energy bills
 - Stop 100,000 + small firms going bust
 - Stop 500,000 + jobs being lost
 - Reduce inflation & so reduce pressure to raise interest rates too far
 - Will solve supply crisis over medium term
- □ FORCE MAJEURE warlike situation & Government must declare that Force Majeure exists in failed UK energy market
- ☐ IN ENERGY WAR: GOVERNMENT MUST TAKE CONTROL OF UK ENERGY PRODUCTION PRICING



CRISIS OF SUPPLY & PRICE



PLAN FOR WORST, PREPARE FOR BETTER

☐ Crisis of Supply

- Serious risk of rationing of gas and electricity this winter
- No real increase in supply expected for 3 years plus
- Should assume no Russian gas available to Europe
- Even if Ukraine war ends, likely Putin will not reopen gas taps as can see pain it causes Western Europe
- No headroom for breakdowns or severe cold, windless, winter spell

☐ Crisis of Price

- Serious risk of millions unable to pay bills as gas & electricity prices soar
- From Oct 21, in 12 months prices risen by almost 300% from £1,277 per household to approx £3,700
- Forecast for Jan 23 over £4,400, perhaps £5,500 by April 23
- This is not temporary whilst supply crisis continues

□ URGENT – situation totally unsustainable

- NEED Immediate stable price solution
- NEED Medium term supply plan



CAUSE OF UK SUPPLY CRISIS



☐ STRATEGIC ERRORS

- Increasing reliance on imported electricity: up 400% from 2010 to 2021
- Increasing reliance on imported gas: up 25% since 2014, much of it by Liquified Natural Gas (LNG) in specialist ships
- Lower UK gas production: down 43% since 2010
- UK nuclear & fossil fuel generating capacity down over 30% since 2010 power stations closed with no replacements
- Underestimating mechanical failures:
- Risk of France unable to supply UK due to their own reduced capacity as nuclear power stations shutting with maintenance issues; they may need to buy from UK instead
- Risk of Norway unable to supply UK with electricity due to own shortages
- Risk of other breakdowns Sods Law

☐ TOTALLY UNNECESSARY

- Have vast resources energy treasure in UK under our feet and under our seas owned by us all
- North Sea oil & gas, onshore shale gas, coal
- Could have been totally self reliant (like 1980s to 2000s) thus barely exposed to this global energy crisis
- Must correct but will take 5-10 years

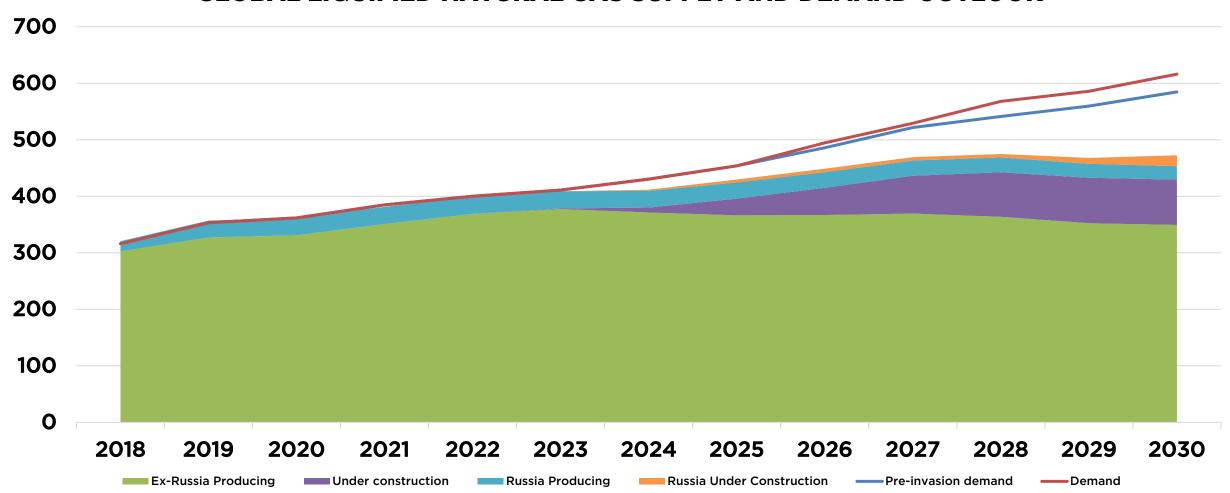
Sources: Statista and BEIS data



GLOBAL GAS SUPPLY CONSTRAINT



GLOBAL LIQUIFIED NATURAL GAS SUPPLY AND DEMAND OUTLOOK



Source: Rystad Energy, GasMarketCube, Rystad Energy Research and Analysis



CAUSE OF UK PRICE CRISIS



□ PRICE CRISIS

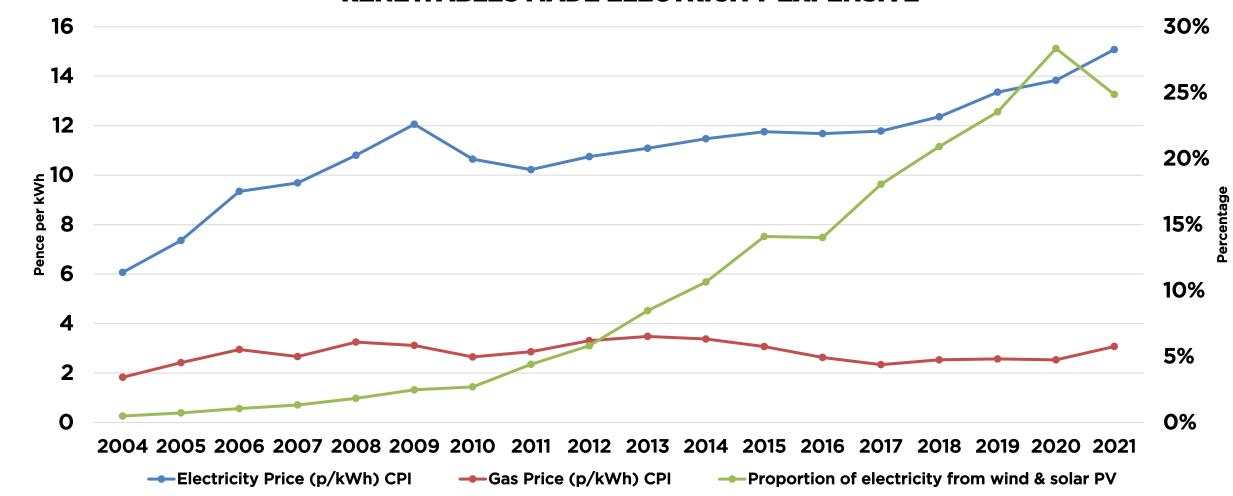
- UK already had expensive electricity pre-Ukraine War
- Renewables with inflation linked subsidies main cause electricity price rising 9% pa 2004 to 2021
- Renewable Subsidies now over £10 billion pa
- Renewable extra network transmission costs connecting to grid now over £5 billion pa
- Totals some £500 per household directly & indirectly via businesses
- Extra cost of having back up gas generating capacity when renewables unavailable: ie wind does not blow
- Gas price stable for this 17-year period until late 2021, when risk of Russian invasion dramatically increased price
- Flaws in UK energy market pricing structure



WHY IS UK ELECTRICITY SO EXPENSIVE?



RENEWABLES MADE ELECTRICITY EXPENSIVE



Source: Electricity & gas prices - Quarterly Energy Prices (QEP), Table 3.4.1: Average for all non-domestic consumers, prices in pence per kWh - DUKES database



TORY GOVERNMENT SOLUTION



□ NO SHORT-TERM PLAN

- Just reactive, begrudging domestic handouts no help for business
- Covers months not years
- Too slow no recognition of fear amongst population

■ NO MEDIUM-TERM SUPPLY PLAN

- No confidence that understand urgent & strategic nature of supply problem
- No recognition of local planning constraints, need national solution
- Not enough recognition that must use UK shale gas treasure under our feet & North Sea resources



LABOUR AND LIB DEM SOLUTIONS



□ SHORT-TERM PRICE RELATED

- Just reactive domestic handouts no help for business
- Covers months not years
- No recognition of supply crisis
- FREEZE CAP SUBSIDY = £60 bn pa @£4,000 actual level for domestic, no help for businesses
 - = £90 bn pa @ £5,000 actual level for domestic, no help for businesses
 - = £250 bn to £500 bn if lasts 3- 5 years clearly unsustainable
 - = Businesses either go bust or raise prices = more inflation

■ NO MEDIUM-TERM SUPPLY PLAN

- No confidence that understand strategic nature of supply problem
- No recognition of local planning constraints, need national solution
- No recognition that must use UK shale gas treasure under our feet & North Sea resources
- No recognition that medium term windfall taxes will reduce investment in UK, accentuate own supply problem



REFORM UK PRICE SOLUTION - BOLD & RADICAL



□ DECLARE FORCE MAJEURE SITUATION

- Warlike situation requires wartime response
- Energy market no longer fit for purpose

☐ IN ENERGY WAR: GOVT MUST TAKE CONTROL OF UK ENERGY PRODUCTION PRICING

- UK energy producers obliged to sell to UK suppliers at 2021 average price or be nationalised
- Domestic cap returned to circa £1,750 per year
- Business cap at circa 35 pence per kwh
- Extra help still required for most vulnerable
- Exists until normal market conditions return
- Still exposed to global prices for circa 50% of gas needs, so approx 20% of total UK energy production



REFORM UK SUPPLY SOLUTION - BOLD & RADICAL



- MORE SUPPLY = LOWER PRICES
- □ "NATIONAL PLANNING, LOCAL COMPENSATION" regime to accelerate new gas and nuclear supplies
 - Unlock Shale Gas Treasure: £1 trillion + of levelling up, by drilling down
 - Accelerate gas & oil exploration in North Sea
 - Build High Efficiency Combined Cycle Gas Turbines
 - Accelerate latest Small Modular nuclear reactors
 - No more subsidized renewables unreliable & expensive
- □ Scrap windfall tax to motivate extra accelerated investment in new gas & nuclear supplies
- ☐ TIMEFRAME to be energy self reliant
 - Improvements start after minimum 3 years
 - Total resolution takes 7- 10 years



SUMMARY - REFORM UK SOLUTION IN GLOBAL ENERGY WAR



- ☐ FORCE MAJEURE exists UK Energy market not fit for purpose in global energy war
- ☐ IN ENERGY WAR: GOVT MUST TAKE CONTROL OF UK ENERGY PRODUCTION PRICING
 - UK energy producers obliged to sell to UK suppliers at 2021 average price or be nationalised
 - Domestic cap returned to circa £1,750 per year
 - Business cap at circa 35 pence per kwh
 - Extra help for vulnerable
 - Exists until normal market conditions return
 - National planning regime with local compensation to solve supply crisis over 3-10 years
 - Scrap the windfall tax to motivate industry investment

□ PREVENTS NATIONAL CRISIS

- Elderly and vulnerable protected
- Consumers protected
- Businesses protected
- Jobs protected
- Reduces inflation & so reduces pressure to raise interest rates too far
- Will solve supply crisis over medium term



APPENDICES - ALL UK GOVT DATA



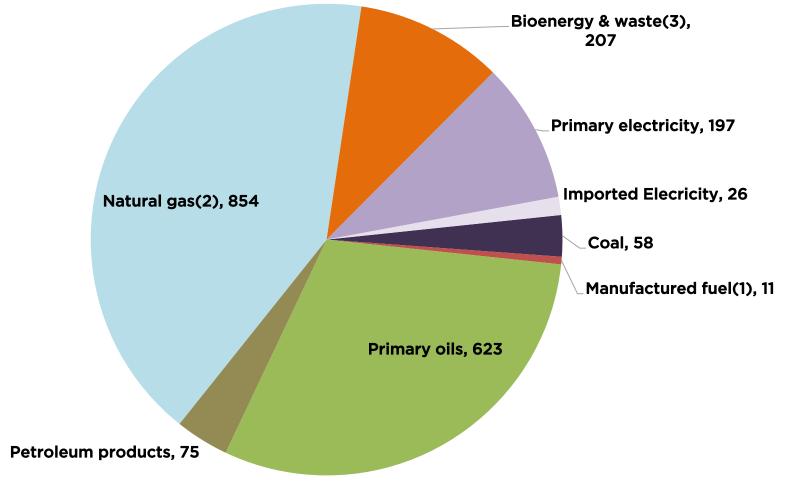
☐ The Digest of United Kingdom Energy Statistics (DUKES) is the annual energy statistics publication produced by Department for Business, Energy and Industrial Strategy. It provides a detailed and comprehensive picture on the production and consumption of individual fuels and of energy as a whole.



UK ENERGY SUPPLY AND PRODUCTION 2021



UK Primary Energy 2021 By Fuel (TWh)



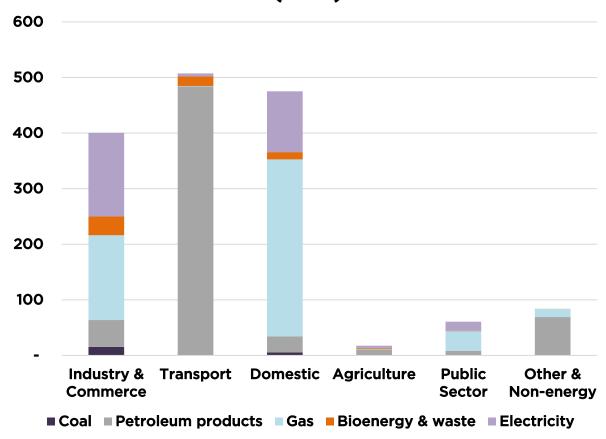
- ☐ Primary Energy is before fossil to electricity conversion.
- ☐ Primary electricity is wind, solar, nuclear.



UK ENERGY USE 2021



UK 2021 Energy Use by Fuel by Sector (TWh)



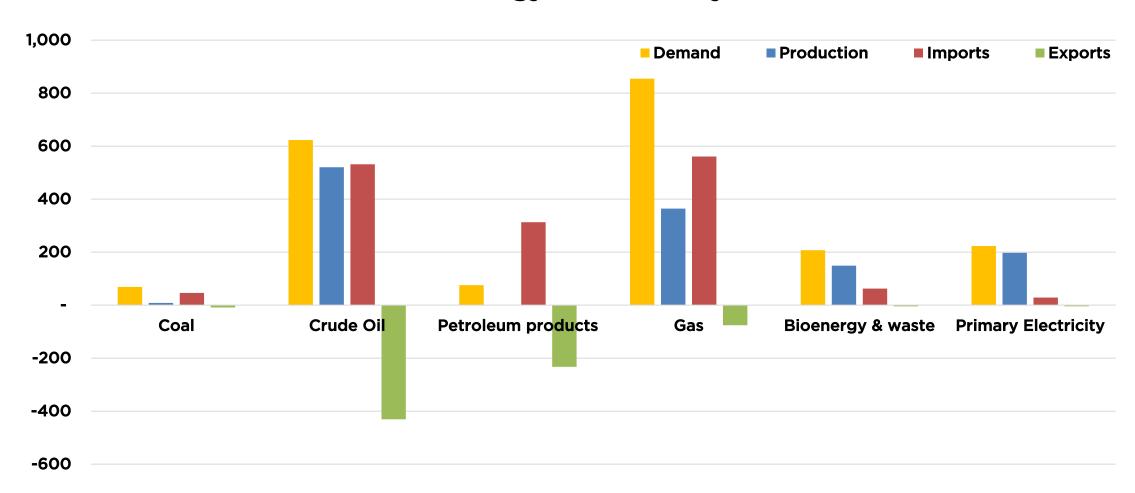
- ☐ Electricity includes primary plus fossil generated (414 TWh of fossil consumed, 254 TWh being gas)
- ☐ Gas used predominantly for heat. 15TWh of non-energy gas for fertiliser manufacture etc.



UK ENERGY SUPPLY BY FUEL 2021 - (TWh)



UK 2021 Energy Production By Fuel

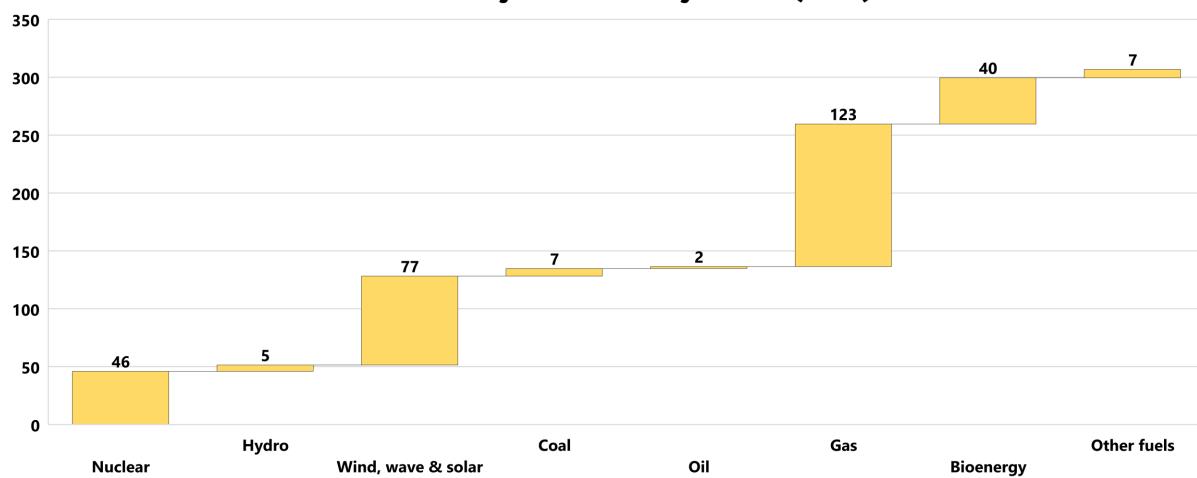




ELECTRICITY SUPPLY 2021



UK Electricity Generation By Source (TWh)

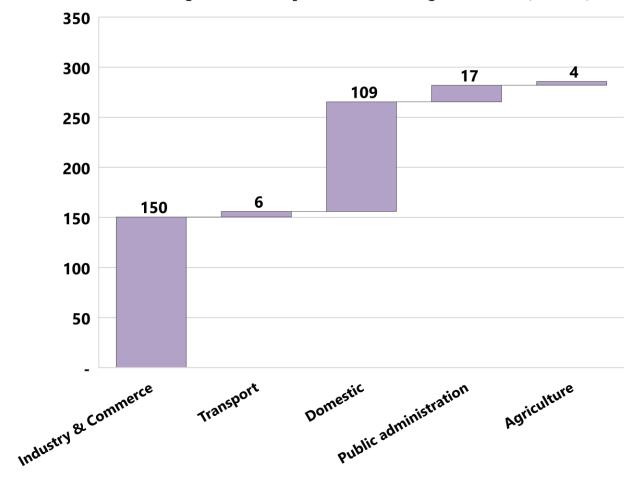




ELECTRICITY DEMAND 2021



UK Electricity Consumption 2021 By Sector (TWh)



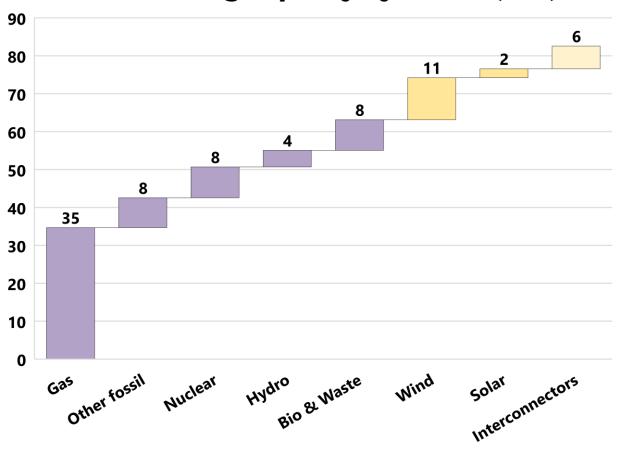
- ☐ Domestic is approx 38% of total demand
- ☐ These are annual figures. Some domestic demand does not compete with industrial / commercial demand.
- ☐ Average demand 33GW
- ☐ Peak demand is around 50GW



ELECTRICITY GENERATION CAPACITY 2021



UK Generating Capacity By Source (GW)



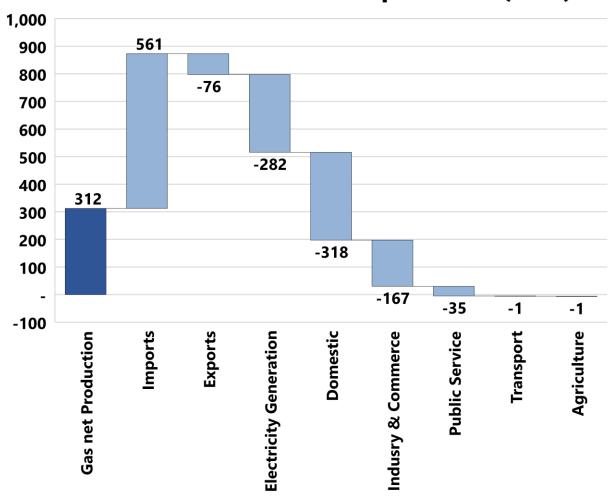
- □ Availability of wind, solar and interconnectors uncertain.
- □ Interconnectors include 1 GW to Ireland and Northern Ireland (which is part of Irish grid system)
- ☐ Gas is 42% of generation, rising to 50% on still night (55% if no interconnector)
- ☐ At 50GW peak a sensible capacity margin depends on high plant availability



GAS PRODUCTION & CONSUMPTION 2021



UK Gas Production and Consumption 2021 (TWh)



- ☐ Exports to Ireland, Netherlands and Belgium.
- ☐ LNG import from Russia was 34 TWh, approx. 3% of UK demand.
- □ 2021 production low due covid and some major maintenance delays. Over past ten years has been 400 to 450 TWh.
- □ Production covers electricity generation requirement.
- ☐ Industry includes gas for fertiliser production.



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