

# Ukraine's Next Chapter – Elders Grand Strategy Options Paper

**Purpose** – Outline options for HMG & sow seeds of policy development for Ukraine's next chapter.

**Authors** – An assortment of leading academics, authors, strategists, planners, pollsters, comms, data scientists & tech leaders convened this weekend to consider and develop options for HMG.

**Our Intent:** *To swiftly impose strategic dilemmas, costs & frictions upon Russia, bringing Putin to the table*

## **Defeating Russia in Ukraine** [options detailed in annexes]

1. **Russia's End State: Putin must win fast.** Unrealistic overfocus on political NOT military .He risks popular revolution, palace coup or, at the least, damage to longer-term imperial project. To that end, we must at all costs keep Ukraine fighting.  
**Situation.** RUS executing traditional "Deep" tactical playbook with modern technology – but failing. Insufficient troop numbers in face of determined UKR forces and now armed population. Logistics LoC now RUS key tactical vulnerability. [Centre of Gravity – economic resilience of RUS business class].
2. **Our Main Effort: KEEP UKRAINE FIGHTING**
3. **West's End State: *DENY Russia (RU) achievement of its end state, COMPEL choice***
4. **The UK's narrative:** Innovative & informed leader of the Western alliance, acting multilaterally where possible but unilaterally where expedience requires. Must actively move beyond current "We stand next to UKR flags, but not their soldiers."
5. **Build multi-domain 'sensing' and dissemination network** = ID & Track Human network & reporting, develop live feeds, cohere mass behaviours. Develop ability to message & change behaviour at scale
6. **Discreet Operations.** Need to intervene in every way except 'official'.
  - Revisit legal restrictions on UK deniable ops. Greater resources required for UK discreet ops.
  - Campaign coordination and control mechanisms required XHMG (
  - Use PMCs to out Wagner, Wagner.
    - Urgent - A new doctrine, operating concept, and legal framework, for effectively integrating the activities of PMC's and other non-mil actors .
  - Supply lethal defence equipment now
  - Train and equip units for UKR in UK
  - Equipment capabilities - Fighters and MI35 gunships
  - Recruitment and deployment of Javelin/NLAW training and mentoring teams
  - Protect key UKR people
  - Logs have hit the 72-hour point - Catalyse campaign against RUS logistical tail
  - Info Ops - Directly to RU forces in UKR: to UKR forces of their successes
  - Support UKR to ID & retake/hold key geography & infrastructure
  - Drone project – Commercial drones & Styrofoam gliders (e.g., Kurds)
  - 3D printers – establish and deliver supply chain
  - Stay behind Gladio handbooks/ Partisan Pamphlet (RJ) [updated for information age]
7. **Tech-led, low-risk UAV humanitarian operation as hunger and suffering increases.** Assuming grinding series of urban areas under siege, a humanitarian airlift via unmanned aerial vehicles could relieve humanitarian sufferings and allow us to escalate humanitarian flights to manned aircraft. We provide a full and costed proposal and concept of operations for the Arcturus T-20.
8. **Exploit UK's financial and trade levers.** Increase pressure on Putin via the seizing of ships and cargoes busting sanctions, interdicting transactions rather than assets and punishing financial transgressors.

- 9. Cyber. Leverage UK's cyber strengths and connections to increase pressure on Putin regime.**  
Conduct Cyber operation to leverage favourable term for Ukraine: Protect UKR Unfractured, Threat Intelligence, Cyber Training.

## **Beyond Ukraine**

- 10. Establish an Inter-Agency Ukraine & Counter-Russia Task Force in Whitehall answerable to a single Minister.** Integrate all leading HMG capabilities & personnel in one place. Base integrated Task Force around Understand, Plan, Deliver & Measure functions with multi-disciplinary teams and a single Commander, reporting to a single Minister under a Theory of Change & XHMG results framework.
- 11. Grand Strategy Refresher for HMG Decision Makers.** Discussion with politicians, generals on fundamentals of strategic deterrence & dissuasion. Ensuring decision makers coalesce around established strategic concepts, language & planning processes e.g. Minister Heapey's flawed red lines saying any Western military activity would be escalatory & compare with Brodie's strategic deterrence frameworks.
- 12. Escalate & Integrate GeoEconomics Domain.** Appoint economic manoeuvre expert/leader in Task Force to introduce and coordinate options. Leverage UK deep knowledge and reach into global financial systems to 1) sp and reinforce immediate tac/op/strat goals against RUS, 2) sp and enable med/longer-term transition from conflict options for allies, UKR and RUS.
- 13. Drive ICC War Crimes Agenda.** Set international conditions, collection mechanisms and funding for collection of data & evidence
- 14. Integrate Tech Giants & Banks into Grand Strategic Aims/Orbs.** Meet with Tech Giants to persuade to run their own planning sessions to deliver against specified, decisive tech conditions.
- 15. Plan and deliver an innovative, decisive polling-led Information Operation**
- Establish world-leading polling-led info ops capability
  - Drive wedge between perception & reality of Russian State as global 'live' player
  - Russian population Info Op: Understand then shift needle showing Russians that this was Putin's error (builds on PM's speech to Russian people)
  - Dismantle Russian disinformation infrastructure
- 16. Military offset actions.** Increase friction & costs in RU historic heartland & newer locations
- Russian historically sensitive areas: Caucasus, Barents Sea, Vladivostok-Chinese front, Baltic, Black Sea Holding secured (only warm water port)
  - Wagner in Africa
  - Russian hydrocarbon infrastructure
  - High North
  - Syria
- 17. Shut down all sources of RU money in the UK, all UK-based banks to not handle any RU money.**  
Set up a cell to deal with exceptions and claims of disproportionality. At the oligarch level, there is no good money if we look hard enough, and we should force them to prove otherwise.
- 18. Understand potential for RU to weaponise food insecurity as a driver of regional and global instability.**
- 19. Drive Kissinger wedge between RUS-CHI**
- 20. Prevent RU weaponising global food supply chains in furtherance of its agenda in Ukraine.** Drive a wedge between RU-CHI by halting US & Western shipments to CHI, guarantee Ukraine's exports, watch the seas for Russian maritime hybrid aggression.
- 21. Remain wary of CHI-TAIWAN calculus.** Strengthen deterrence in Taiwan *by / with / through* US
- 22. Strategic Energy Plan.** "*There is nothing so vulnerable as a modern state desperately short of energy*". Opportunity to reset the European energy balance whilst maintaining support for

sustainable energy transition. Gas is critical to this plan. Must increase ST energy supply IMMEDIATELY. Leverage London's leading energy players. UK has opportunity to lead this activity from centre-stage. Provides the most effective way to support immediate allied campaign objectives against RUS, reset European dependencies, solve UK's self-imposed energy crisis, engage additional global political support behind the West, support "off-ramp" options (see below) and reinforce US role and importance.

- 23. Identify and clearly signpost off ramps for Putin.** *"Always leave an avenue of escape, do not make your enemy fight from a position of despair."* Whilst this may not be for Putin, others in charge of Commanding Heights of Russia may be enticed.

## **Longer Term Grand Strategy Options**

- 24. Consider & refine UK/West's End State.** Presently de minimis end state is "Putin must lose." Perhaps this can be refined to incorporate setting the conditions to continue reshaping the open international order of the future – championing free trade and global cooperation, tackling conflict and instability, and standing up for democracy and human rights. We may also wish to add the deterrence of potential adversaries via a new Global Charter setting out non-aggression, contributions to world policing etc.
- 25. Russia after Putin?** Consider what levels of instability would lead to Putin being overthrown and/or what comes next. Options might include a big, open generous offer to Russian people under new leadership; Robin Hood moment – Send money back to Russian people by seizing oligarchs assets and repatriating proceeds to post-Putin Russian people
- 26. Prepare for SWIFT II.** Finally, SWIFT is going to be destroyed by this – slowly, but inevitably as Iran, China, and Russia see the need for a non-US alternative. However, the power of a single neutral fabric of transfer is a) important and b) hard to break. SWIFT II becomes a point around which the next Versailles/Bretton Woods debate on global institutions can pivot (a practical UN/NATO body). And keep the cryptobros out of it. State-backed fiat beats distributed trust hands down as the underpinning of a stable society.
- 27. Strategic Risks**
- RU nuclear escalation/attack
  - RU attack on nuclear installation
  - RU escalation as campaign fails
    - Within & Beyond UKR
  - CHI goes for Taiwan
  - Additional nations enter conflict on RU side
  - East European nations deploy militarily into UKR
  - As conflict drags on, NATO (/EU) solidarity begins to splinter
  - Domestic UK public opinion gets fed up with paying £2 a gallon for petrol and pressure grows for compromise
  - RU ends up attacking TUR over closure of Straits and we have to decide whether we are prepared to risk nukes for TUR/NATO member.

## Strategic Planning Assumptions

Ukraine: The Next Chapter. Analysis & recommendations rest upon:

- **Restore the conditions necessary to shape an open international order of the future**
- **RU forces remain & escalate** - As campaign objectives falter RU forces remain &/or escalate
- **UKR leadership survives**- Pol & mil leaders remain coherent with an element of C2
- **Evolving Stalemate** - Especially in cities & at key infrastructure nodes
- **Hunger** - Humanitarian situation worsens dramatically
- **Ltd Western military appetite** - Our appetite for military action *within* UKR remains limited
- **The UK must up pressure in long term** – We must exert further pressure, deterrent and retributive, on RU in medium-long term, regardless of short-term military outcome in UKR
- **Multilateral preference but unilateral appetite** - UK seeks always to act multilaterally, but is prepared to take a unilateral lead where multilateral consensus is time-consuming/difficult
- **Stretching the law** - UK will not act illegally but is not prepared to extend the benefit of any legal doubt to targeted Russian actors and is prepared creatively to use the law to increase friction for such targets.
- **Isolating RU from the international community (IC)** - Isolating RU from IC, and especially from those tempted to support her, or to exploit the crisis for their own ends, is urgent.

## Putin's End State: Why Putin needs to win fast

1. **Popular Revolution**, risk of revolution in Russia – potential for revolts in Belarus, Kazakhstan etc. A long war against a small state 'makes him look a fool'. He is obsessed by end of Ghaddafi – he will want to avoid that at all costs.
2. **Palace Coup**. Pressure will pile on from oligarchs as a long war drags on – he will not want to give them excuses to threaten his authority.
3. **Damage to his long-term Imperial Project**. A long war will affect his international credibility, His 'tough guy' hubris will be popped an result in negative comparison with West – he has spent years bigging up Russia after humiliation of Cold War defeat. A failure to quickly defeat Ukraine will seriously undermine his project of re-establishing the glory of Russia an reduce his credibility with new rich friends in Belarus, Hungary, China, India, Middle East, Brazil etc. Most importantly will embolden NATO.
4. **Logistics**. protected war will create major logistical challenges. Also, the prospect of short-sharp sanctions has been factored-in, but a long-term war with punishing sanctions will quickly eat up his cash pile and ability to weather an economic hit.

With this in mind we should attempt at all costs to keep Ukraine fighting – every day they remain in the field, Putin's credibility at home and abroad drops, and his ability to fight NATO is degraded.

**Main Effort:** KEEP UKRAINE FIGHTING

## Scenarios

### Best case Course of Action (COA):

RU troops withdraw to pre-2014 lines. UKR set to rebuild. UKR will require nation building assistance, tech, instructors, experts. Rebuilding will need to be conducted with security and resiliency in mind. RU will probe.

### Most Likely COA:

Conflict will hit a stalemate; line will be fluid similar to Iraq/Syria. Ukrainian forces will require instructors and equipment. Logistics and Greater Cyber will be a key to helping Ukrainians communicate, gather intelligence, and coordinate operations. Equipment, like the conflict, will need to be just as fluid as the battlefield. If any one tech is used too often or frequently it will be targeted.

### Most Dangerous COAs:

Desperate actions to win at any cost (as result of stalemate). Either mass civilian casualties through destruction of cities using conventional weapons and/or escalation to CBRN – tac nukes, ‘dirty bomb’ chemical attacks (blamed on UKR). Chernobyl attack / leak is a possibility.

RU wins, UKR forces become insurgents. UKR forces will need to become experts in counterintelligence crafts. Reduced passive technologies. To maintain western support will need to be sure to minimise casualties. Hackers will be key to disruption; however, RU has a great deal of experience targeting hacker groups within their borders. May rely on foreign support

### Ukraine Chapter Two risks being characterised by Western strategic dissonance

The default Western Theory of Change (ToC) for defeating Putin appears centred upon: casting Putin as irrational; driving wedge between him & population; sanctions-led; limited to tactical support to UKR mil.

We posit that this ToC will be insufficient to deliver the PM’s clarion call that “Putin must fail.”

Accordingly, we outline potential ‘Boris Boosters’ by way of Grand Strategy Options that will, in concert, defeat Putin in UKR and set the conditions for the reshaping of an open international order of the future.

## Discreet Operations (Options)

**Discreet PMCs** (i.e., contracted by Ukraine or NGOs) – out Wagner, Wagner. We have a strong PMC industry to take this up. They can operate sophisticated weaponry like SAMS, cyber, combat air, drones and train an accompany Ukraine formations.

**Train and equip units for Ukraine in UK** – transfer equipment such as fighters (Poland has a bunch of Mig 29s, upgraded by Germany, about to be replaced by F-35s – give them to Ukraine. UK has a bunch of T1 Typhoons about to go out of service – give them to Ukraine. Ranger Battalions etc.

**Humanitarian and logistics operations** – also use PMCs or NGOs create for tasks.

Note these are all UK sponsored and commanded ops, using discreet cover to avoid triggering Article 5.

**Protect key UKR people** – Maintaining a visible, functioning UKR government is critical to the moral component of the UKR effort.

**Hit the Logistics Tail** – Beyond their 72-hour point, catalyse campaign against RUS logistical tail. Opens his supply chains; share targeting information on twitter ('here's the fuel truck')

### Info Ops

- Directly to RU forces in UKR: conscripts don't want to be there, don't believe in the mission, and have been demonstrably lied to. Fix that fast.
- Info Ops to UKR forces of their successes using soft resistance – the enemy doesn't want to kill them.

**Support UKR to ID & retake/hold key geography & infrastructure**

**Recruitment and deployment of Javelin/NLAW training and mentoring teams**

**3D printers – establish and deliver supply chain**

**Stay behind 'Gladio' handbooks/ Partisan Pamphlet (RJ) [updated for information age - Influencers to broadcast guidance in Ukrainian**

## The Lethal Defence Equipment We Can Send Now

### Intent

As the West works to provide additional lethal defensive assistance to Ukraine, here are several high-priority defence article transfers that can be pursued in the next day or two that will support Ukraine's territorial integrity and deter and defeat further aggression by Russia and other adversaries.

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### Air Defence

**Specifically: 200 Stinger launchers and 400 Stinger missiles (currently blocked by the State Department).**

RU is using helicopters extensively for both close air support and the transport of troops to points where they are engaged with Ukrainian Armed Forces. These targets can be effectively engaged with Stinger man-portable surface-air-missiles

### 2. Anti-Armor Infantry Weapons

**Specifically: 1,000 Javelin missile launchers and 5,000 Javelin missiles and 5,000 Next Generation Light Anti-Tank Weapons.** RU forces are organised in Battalion Tactical Groups (BTG). A BTG usually is based around an infantry battalion's three motor-rifle infantry companies (each with 11 BMP tracked fighting vehicles or BTR-80/82 personnel carriers) and are reinforced by a fourth tank company with 10 tanks, typically T-72B3s. For tank BTGs, that ratio is reversed. The massive presence of armoured vehicles (tanks and infantry fighting vehicles) needs to be defeated with modern anti-armour weapon systems. The UK has supplied a significant number of NGLAW, but more are needed.

### 3. Sniper Rifles (anti-personnel and anti-material)

**Specifically: 4,000 Barrett .50 semi-automatic sniper rifles and associated ammunition.** Sniper weapon systems are needed to tactical reconnaissance and surveillance, engage adversary personnel and material targets and contribute to the effectiveness of tactical manoeuvre units.

### 4. Tactical Communications

**Specifically: Barrett HF and VHF tactical radios.** RU BTGs are equipped with organic electronic warfare systems that include a capability to jam local commercial and some military HF and VHF communications. Anti-jam tactical radios, e.g., Barrett, would facilitate tactical communications.

### 5. Personnel Protective Equipment

**Specifically: 15,000 sets of body armour.** Russia's abundant rocket and tube artillery as well as automatic weapons fire necessitates body armour for Ukraine's troops.

### 6. Man-Portable Rocket-Launchers

**Specifically: 5,000 Shoulder-Launched Multi-Purpose Assault Weapon (SMAW)** or man-portable rocket launchers for anti-armour and bunker-defeat applications. There are several types in the U.S. inventory used by the U.S. Army and Marine Corps that could be transferred from stocks in Europe.

### 7. Tactical UAVs

**Specifically: 500 RQ-11B and 250 RQ-20A and other tactical UAVs.** Russian attack operations have neutralized much of Ukraine's intelligence, surveillance, and reconnaissance (ISR) capabilities. Ukraine has fielded a small number of Turkish Bayraktar TB2 UAVs, which can detect targets and engage them with small munitions. Encouraging Turkey to allow Turkish company Baykar to accelerate new deliveries of TB2



UAVs to Ukraine (and transfer Turkish government ones to replace losses) would improve Ukrainian ISR and targeting capabilities, and the transfer from U.S. Army Prepositioned Stock of legacy hand-launched RQ-11 and RQ-20 UAVs would enhance the ISR of Ukrainian units at the company and battalion level.

## **8. Loitering Munitions**

**Specifically: 1,000 Switchblade 300 and 250 Switchblade 600.** Ukrainian units lack air support to interdict manoeuvre formations, and anti-tank units armed with weapons like Javelin can be suppressed at the point of attack. Loitering munitions (aka lethal UAVs or kamikaze UAVs) can enable Ukrainian units to precisely localize and immediately attack Russian vehicles and personnel at ranges of up to 10 km for the Switchblade 300 and 80 km for the Switchblade 600. The transfer from U.S. Army Prepositioned Stocks of Switchblade 300 systems can quickly enhance the ability of Ukrainian units to attack enemy forces farther from the line of contact. The transfer from U.S. Special Operations Command stocks of Switchblade 600 munitions would allow Ukrainian units to not only attack personnel and light vehicles, but also defeat armoured vehicles.

## **9. Replenishing Munitions Stocks**

**Specifically: Surplus European stocks of weapons and munitions and 10,000 US 155 mm shells, e.g., M107, M110, M449, and M483 projectiles.** The Ukrainian Armed Forces are generally equipped with Soviet-standard munitions, and Ukraine faces major ammunition shortfalls. The United States should request that NATO and other states urgently transfer any surplus munitions and weapons, especially small arms and 152 mm artillery shells to Ukraine. The United States should contract Polish, Czech, Bulgarian, and Slovakian firms that produce relevant munitions to maximize their rate of production and deliver stocks to Ukraine as commercial sales. Lastly, Ukraine is equipped with one class of 155 mm (NATO standard) artillery piece, the 2S22 Bohdana. The transfer of 155 mm shells from US Army Prepositioned Stocks would increase Ukrainian inventories.

## **10. Camouflage Netting**

**Specifically: 5,000 camouflage nets, such as Ultra Lightweight Camouflage Net System (ULCANS).** Ukrainian forces face high levels of observation from Russian ISR, and the density of Russian ISR may increase in the coming days as Ukrainian air defences are targeted. To hide from observation, Ukrainian forces will take cover in buildings, but this will be impractical for many units. The transfer of U.S. Army Prepositioned Stocks camouflage netting can improve the passive defences of Ukrainian forces and will be increasingly important as Russian attacks intensify.

## **11. Additional Steps**

We should fuse space, airborne, accessed civilian sensor (such as traffic and security cameras), and other ISR information and transfer it in real-time to UKR forces using distributed, secure communications systems. This information will be critical to allow UKR forces to respond to rapidly moving RU armoured and air assault forces and counterattack when appropriate. It will also enable Ukrainian air defences to remain concealed and not radiate and only activate to target aircraft when commanded, which can enhance their survivability. Improved targeting can allow Ukrainian artillery to use their limited stocks of munitions more efficiently and remain concealed as much as possible.



**Kyiv Airlift Proposal: Tech-led, low-risk UAV humanitarian operation as hunger and suffering increases.**

1. **Introduction.** In the coming weeks it is likely that pockets of Ukrainian resistance will be surrounded in the towns and cities, holding out against overwhelming force.

How long a modern city can survive without food supplies before people begin to starve is uncertain. Most estimates suggest days. Weeks at the most.

We've seen this playbook, enabled and support by Russia in Syria.

The pictures of starving families, dying children, will be on Social Media again. On the news night after night. The moral imperative to act will be overwhelming. The political pressure to do something will be similar.

In the sieges of Syria – in Aleppo, in suburbs of Damascus, in Madaya, in Kafraya and dozens of towns and cities – 2.5 million people suffered starvation, and the survivors the lasting effects of severe malnutrition. Nothing was done due to a reluctance to risk escalating tensions with Russia, and a failure of imagination – the belief that only crewed airlifts like that to Berlin 1948-49, was possible.

Neither of those two concerns are relevant this time. The UK and many nations are supplying weapons, perhaps including fighter jets, to support the Ukrainian Armed Forces. There is imagination and will. And a better option than crewed airlift.

Between 2014-18, Airbridge Aviation, a UK start-up, devoted itself to providing a solution to use cargo drones to fly aid to areas under siege. Building a global network, with the active support of the MP's Jo Cox, Alison McGovern, Andrew Mitchell, and Lord Ashdown, we won support from French President Emmanuel Macron, were favourably appraised by David Miliband's International Rescue Committee. Over 250 drones were appraised and down-selected. Logistics plans were in place. A robust CONOPS developed.

2. **Overview.** This document analyses the options for relieving the suffering that will follow if the war in Ukraine becomes a grinding series of urban sieges. It first describes the challenge, briefly examines manned aviation and guided parachute delivery options before providing a thorough and comprehensive comparison of unmanned aerial vehicle options. From this analysis is derived the recommended option of employing the Arcturus T-20, a clear concept of operations for their employment, and ROM costs for a proof-of-concept flight demonstration.

3. **Manned Aviation Air Drops?** These are not an option, without risk to life, and/or fighter escort.

4. **Guided Parachute Options?** Manned aviation operating from neutral or friendly air space over and launching guided parachutes with the Joint Precision Aerial Delivery System (JPADS) from large manned transport aircraft might be able to provide part of the answer, but the large, slow transport aircraft needed would still be within range of Russia's advanced surface-to-air systems and easily targeted.
5. Given Russia and Ukraine's forces operate many of the same systems, Russia could target aid aircraft while retaining a layer of plausible deniability – they can simply blame the Ukrainians. Furthermore, while the [Firefly system](#) used in JPADS boasts a 25km or greater range, we are not aware of it having been used operationally at such ranges nor how reliable it would be at maximum range in windy or inclement conditions, nor finally how capable it is in an electronic warfare environment – i.e. when those opposed to air drops deliberately jam the guidance and control signals.
6. JPADS could be part of the answer, but not without risk to the pilots of the aid aircraft, even if operating over neutral territory.
7. Consequently we need a solution that delivers aid to those most in need while removing the risk to aircrew. Our comparison of options focuses on developments in unmanned air systems as potential vehicles for relieving the sieges and providing humanitarian leverage in negotiations for ground access with the parties to the conflict.
8. Our aim at Airbridge is to lead an innovative low risk and affordable intervention using unmanned cargo drones to establish a 21<sup>st</sup> Century air-bridge like that of 1948-49 in West Berlin to alleviate suffering.
9. **Problem.** Kyiv is a city of 3 million people. Ranges selected to reach it from two locations - (a) NATO AFB in Campia Turzi in Romania (c. 500nm); (b) NATO AFB (FOB?) Rzeszów Jasionka, Poland (c.370nm).
10. **Considerations:**
  - a. **Range.** The aircraft must have an operational radius (half max range) of at least 400nm miles to reach Kyiv.
  - b. **Payload.** The aircraft must have a minimum payload capacity of 30kgs in order to be considered an effective option.
  - c. **Speed.** Speed is not a decisive factor, but does determine sortie rate. Sortie rates determine the amount of aid that can be delivered per 24hr period. Increased speed also reduces the aircrafts vulnerability to small arms fire at low altitude.
  - d. **Operating altitudes.** The aircraft must have a significant operating altitude range to ensure a range of mission profiles – efficiency, tactical, etc – are available for employment.
  - e. **Delivery mechanism.** The aircraft must be able to release the humanitarian aid and return without use of a runway at the delivery location.
  - f. **Launch & Recovery Mechanism.** The aircraft must be able to operate from austere locations or have an effective operational radius to enable aid delivery from range (>300nm).
  - g. **All Weather & All Climates.** The aircraft must operate in all weathers, austere environments.
  - h. **Control Mechanism.** The aircraft must have semi-autonomous guidance and fly through pre-set waypoints to minimise the number of air-vehicle operators required. Plus, able to navigate via dead-reckoning (calculating the aircraft's current position by using a previously determined position) for redundancy in EW and GPS-denied environments.  
Power Source. The aircraft must use readily available and globally accessible fuel types.
  - i. **Ground Crew Required.** The system must operate with the lowest possible number of persons to minimise costs and risk to human life.

j. **Survivability.** The key attraction of using drones is that they are more expendable – even if they get shot down no lives are lost. However, consideration must be given to the costs of losing aircraft. [Uplift aeronautics](#) aimed to resolve this risk by using very-low cost hobby drones which would be less expensive than the guided missiles that might be used to bring them down. At the other extreme, the [re-purposed Predator C, known as the Angel-1](#), a solution developed by Airbridge Aviation with General Atomics, costs an estimated US\$14-15m per aircraft.

k. Drones are often smaller than manned aircraft, giving them a low radar cross-section, and often run on smaller engines and so have a low heat signature. This makes them difficult to target, even with the most effective surface-to-air missiles and anti-aircraft artillery. For example, in July 2016 a drone – possibly Russian-built - left Syrian airspace and flew into Israel. It was widely reported in both [the Israeli](#) and [international press](#) that neither Israel's sophisticated US surface-to-air Patriot missiles nor its air defence fighters were able to shoot it down. Smaller drones are therefore more desirable when a hostile actor may try to shoot down humanitarian UAVs.

(1) Direct Fire. Aircraft operating above 500ft are generally regarded as safe from small arms (rifle) fire, rocket propelled grenades and most forms of direct fire – that which requires a human to judge the trajectory to the target. Small drones would be particularly difficult to hit at this altitude. Thus the aircraft selected must be able to transit at a minimum altitude of 500ft.

(2) Guided Weapons (missiles & AAA):

(a) **Infrared (IR) Guided Weapons.** Heat seeking weapons, principally shoulder and vehicle launched-missiles are a threat to UAVs as they are to manned aviation. Without expensive and classified trials work it is difficult to judge how many aircraft might be lost to this threat. Low IR signature aircraft are more desirable.

(b) **Radar. Radar guided weapons,** both Anti-Aircraft Artillery and surface-to-air missiles also pose a threat to unmanned aviation. Again, without trials work it is difficult to judge how many drones might be lost to this threat. Smaller aircraft with a low radar signature are more desirable.

(3) Electronic Warfare. Russia has repeatedly [jammed the Organisation for Security and Cooperation in Europe's \(OSCE\) drones in Ukraine](#). Any aircraft operating only under line-of-sight guidance would be similarly vulnerable in Ukraine, since Russian forces employ extensive Electronic Warfare capabilities, including tactical capabilities such as UHF & HF jamming stations, radio-proximity-fuse jamming/initiation stations, long-range jamming (EW), and aviation fire-control radar-jamming stations. While none of these are aimed at jamming aerial datalinks, nevertheless they might be used to create difficulties for humanitarian aircraft, and of course we cannot rule out the possibility that hostile actors might employ bespoke capabilities not believed to currently be in theatre. Jamming humanitarian drones would be an attractive option to those wishing to maintain the sieges, offering the option to prevent aid arriving in a way that would be plausibly deniable. However, aircraft that could fly fully autonomously would be able to continue to operate, and few if any jammers could completely prevent an aircraft from receiving navigational data via a satellite link – the receiver would usually be on top of the aircraft and the wings and fuselage would shield it from ground based jamming.

(4) Expendability:

(a) **Cost per Airframe.** [While unmanned systems are usually considerably less expensive than the manned systems they replace](#), nevertheless attrition caused by hostile action can impose costs on those seeking to use unmanned vehicles for humanitarian purposes. Lower cost airframes offer a more effective option, particularly in the early stages of an unmanned humanitarian airlift, when hostile action is most likely to occur.

(b) National Proprietary and/or Sensitive Technology. Given the need to comply with the [International Tariff on Arms Regulations](#), one-way drones must have means of reliably destroying their guidance system before they land. The concern otherwise is that the guidance system might be used by hostile actors to launch their own armed aircraft. Additional concerns surround the risk that sensitive technologies incorporated into advanced unmanned systems might be stolen and copied after an aircraft was either shot down or landed in Ukraine. The systems deployed must not incorporate any technology Russia is not already judged to have, and ITAR regulations must be accounted for in lead-times for deployment.

(5) Expected Attrition Rate. Attrition rates from hostile action may be modelled in computer based simulations. Absence funding and time for this, there are reasons to think that the attrition rate will be tolerable, as outlined above. Nevertheless, in any contract, who covers the cost of aircraft attrition by hostile action will have to be considered. Insurance options exist but may be unacceptably high.

l. Serviceability. Maintenance costs are typically higher for rotary wing aircraft than fixed wing due to the greater mechanical complexity of rotary wing aircraft. For the same reason, rotary wing aircraft are typically less reliable. Consequently, while quadcopters and helicopter unmanned aircraft are considered, the preference is for a fixed wing aircraft.

m. A number of considerations aid in assessment of serviceability and reliability:

- (1) Logged Hours. The greater the number of flight hours logged by an aircraft the more reliable are any inferences drawn for its serviceability.
- (2) In Service? The greater the number of organisations independently employing the aircraft in regular service, the more reliable the aircraft is likely to be. Furthermore, one should assess the competence of the operators to have made an informed choice. e.g. the US military has extensive funds, expertise and a wide range of domestic manufacturers to choose from in selecting aircraft, whereas a smaller nation might be more dependent on a single domestic supplier.
- (3) Operational Hours/Deployments. Hours flown on operations overseas should be given greater weight than hours logged in test conditions.
- (4) Attrition Rates & Maintenance. How long aircraft can fly between services, how many hours an airframe can fly for before needing to be replaced and how frequently aircraft are lost in flight to mechanical, control or other flight error all contribute to the routine attrition rate. Manufacturers should be able to provide an estimated attrition rate for their aircraft, which should weigh heavily in the comparison of options.
- (5) Scalability. How quickly can manufacturing scale if required, and to what limits?

11. **Comparison of Options.** We compared over 259 different unmanned aircraft to select the most suitable unmanned system for the Syria Air Lift. We are currently undertaking a renewed assessment for Ukraine, and are in active conversations with new manufacturers. This analysis will be updated as new analyses are completed.

12. Aircraft were excluded immediately if they had an operational radius <50nm, i.e. a range of 100nm or less. Fifty-four aircraft were excluded on these grounds. No hobby drone could meet this criteria, ruling out the use of very-low cost aircraft. 194 aircraft did not lift a payload greater than 15kgs and were excluded.

13. Comprehensive Table. We compared the aircraft in the table below in detail. Full analysis available on request.

	Penguin	Ares	APID One	FLYOX1	T-20
<b>Range</b>	60 LOS	70 LOS 500 BLOS	<100	>600	100 LoS, 500 BLoS
<b>Payload</b>	10kg	70kg	40kg	1850kg	35kg
<b>Speed</b>	115 kmh	240kmh	100 kmh	TBC kmh	
<b>Altitude</b>	4.5km	18km	10km	20-30km	20km
<b>Delivery</b>	Untested	Untested	Airdrop – untested?	Untested	Pod drop
<b>Launch/Recover</b>	Catapult/parachute	1200' runway/dirt strip	VTOL	RUNWAY	Catapult/belly
<b>Environmental</b>					
<b>Control</b>	LOS only	LOS, BLOS	LOS	BLOS	Datalink LoS, satellite, fully autonomous
<b>Manpower</b>	2 per ac	2 per ac			
<b>Survivability</b>					
<b>Serviceability</b>	No response to enquiries		Rotary		
<b>Cost</b>	\$50,000 per ac systems.	\$1.8-2.6m		TBC	As outlined below.
<b>Logged Hours</b>	>4000				

14. **Recommended Options in Detail – T-20.** Following the comprehensive comparison of options, Airbridge engaged directly with the shortlisted manufacturers. This allowed our assessments to be corroborated and the most suitable UAV found – the Arcturus T-20. The T-20s payload, range and size neatly met the demanding criteria we set without presenting a large and vulnerable target to hostile actors and the onerous engineering often found with rotary UAVs. Moreover, the T-20s impeccable serviceability record and wide spectrum of roles and global customers gave the platform real credibility in a crowded and confusing market. Conscious of costs, particular the operational cost, the T-20 generated one of the most attractive \$ per Kg of aid. Hence, this combination of robustness and reliability coupled with the core attributes of payload and range made it the ideal choice for the delivery of aid in arduous and semi-permissive environments.

15. **CONOPS Overview.** On day 1 of our in-country trial 2 x Arcturus T-20s take off from their catapult launchers carrying c.60kgs of aid between them, flying out from the selected launch base. As they approach the delivery area they descend to 500ft, still out of the range of small arms fire, and drop their pods which descend under parachute, landing in a football pitch sized zone secured with the assistance of activists on the ground or littering humanitarian daily rations across the city.

16. The T-20 has been tested with two types of airdroppable pods. Depending on the level of accuracy required, our existing [pod drop](#) system may be sufficient. If greater accuracy is required the [SNOWFLAKE system](#) based on the [Pelican 1200 ruggedised case](#) (14 carried, each with internal payload of 4466cm<sup>3</sup>/0.00447m<sup>3</sup>/4.47 litres. Total payload = 62500cm<sup>3</sup>/0.0625m<sup>3</sup> = 62.58 litres), would be more suitable. Additional low-cost options exist which might serve to further keep costs down, such as the very low cost [airdrop box](#), though these would have to be flight tested with the T-20.

17. With practiced crews, a sortie rate of >100 flights per aircraft per day might be technically possible. 100 flights a day would deliver 6000kgs of aid every day. The proof of concept would test the crew's ability to sustain high sortie rates, and prove the aircraft's reliability at high sortie rates.

18. Once the Airbridge has been established, the FLYOX1 would begin to support the mission, dropping the dollar per kilo cost of delivering aid perhaps as low as \$0.26. However their size makes them vulnerable. Once an effective unmanned airbridge is in place, the humanitarian leverage provided by the aerial resupply might be used to re-open the ground lines of communication, allowing the trucks to roll in again.

19. On conclusion of the trial, dependent on the situation on the ground, an expanded contract should be considered enabling a greater number of aircraft to be deployed to begin easing the suffering of those in Kyiv and potentially under siege across Ukraine.

20. **Proposal.** It is proposed that a UK Government fund a proof-of-concept to be conducted to demonstrate clearly the capabilities of the Arcturus T-20 and rival capabilities. This might be done in an electronic warfare environment if desired, but due to cost and the time this would take this option has not been included within this proposal. The aircraft could be computer-modelled, and its IR and radar signature tested against the surface-air-threat, again this has been excluded from this proposal due to cost and the time it would take.

### **Poland. 60 Day Demonstration**

21. T-20 flights will take place in-country in Poland enabled by HMG and our own contacts in-country. Arcturus will supply 2 aircraft to demonstrate a single aircraft aloft at a time. 5-6 Technicians will support. Flight times will be dependent on the target of the aid. We propose initial deliveries are to an area in Ukraine agreed with the Ukrainian Government. Flight operations will be 10 hours a day, 7 days a week, for 4 weeks. Staff will be on site for 12 hours a day to cover setup and breakdown. Meals and accommodation for Arcturus staff are included. No extra costs. **Total cost of the T-20 Proof of Concept in Poland: ~\$1.65m. Hardware value that can be applied to future deployment: ~\$800k. [TBC]**

22. The Poland proof of concept demonstrates:

- a. The ability of the aircraft to carry and drop humanitarian payloads (supplied and funded by HMG, IGOs, or NGOs).
- b. The ability of the aircraft to withstand high tempo operations - many launches and landings
- c. The ability for a flight crew to turn an aircraft around quickly - 30-45 minutes
- d. Aircraft speed & full aircraft range in the Ukraine operational environment.
- e. NOTE: Export license required - 12 weeks for issue unless HMG can engage with US authorities to expedite.

NOTE: Any special costs such as visas etc. not included. Assumes force protection is provided as necessary. See previous comments on the need to determine with any manufacturer where any cost of aircraft loss/attrition to enemy action fall (applies only to the Pouncer).

23. HMG support and funding for this proposal and a follow-on contract to support sustained operations offers the opportunity to make a significant difference to the lives of people who may be suffering under-siege and in hard-to-reach areas in Ukraine, aligns with Prime Ministerial intent to show Britain to a forward thinking, outward looking nation, offers economic benefit to British workers and pioneering British industries – supporting the science superpower agenda. Unmanned aerial vehicles can make a significant difference in Ukraine. Our impartial and extensive work in comparing all available options provides HMG with the information to make a fully-informed and evidence-based decision as to unmanned aircraft to deliver aid in Ukraine.

K P DEAR - CEO Airbridge Aviation

Annex: Arcturus T-20 Operational Capabilities & Airbridge in Syria FAQs.

## Annex 8

# Exploit UK's Financial and Trade Levers

**Purpose:** exploit UK's financial and maritime strengths to increase pressure on Putin regime

**Author:** Dr Jonathan Boff, University of Birmingham (j.f.boff@bham.ac.uk)

### Assumptions:

- 1) UK will be required to exert further pressure, deterrent and retributive, on RUS in medium-long term, regardless of short-term military outcome in UKR
- 2) UK seeks always to act multilaterally, but is prepared to take a unilateral lead where achieving multilateral consensus might prove time-consuming or difficult
- 3) Isolating RUS from the international community and especially from those tempted to support her, or to exploit the crisis for their own ends, is urgent
- 4) UK actions are dual-purpose, designed to produce both real-world and information effects
- 5) UK will not act illegally but is not prepared to extend the benefit of any legal doubt to targeted Russian actors and is prepared creatively to use the law to increase friction for such targets.

**Intent:** To swiftly impose strategic dilemmas, costs & frictions upon Russia to bring Putin to the table

### Options:

#### 1) Maritime Interdiction

Divert Russian merchant ships suspected of sanctions-busting to UK ports and hold them, as the French did with *Baltic Leader* on 26 Feb.

- increases pressure on Russian trade and economy;
- **flexible:** can be stepped up or dialled down as required;
- 'suspicion of sanction-busting' is helpfully vague;
- it happens out at sea: potential for violence low and easily controllable;
- any RUS response would require it to use its navy, increasing its strategic dilemmas and pitting a RUS weakness against a NATO strength.

#### 2) Financial Blockade

Measures have already been taken to exclude Russian banks and individuals from Western financial markets. Further measures are planned or under discussion. RUS actors will inevitably seek to circumvent such measures, using third-country banks and jurisdictions as '**back doors**' to liquidate foreign assets and build up holdings of hard currency cash.

We need to 1) **to detect & block** all Russian financial channels, including their 'back doors'; & 2) to detect & prevent particular transactions in non-Rouble currencies, assets & gold or other commodities.



This requires a financial intelligence cell, bringing together experts from the Bank of England, FCA, Treasury, FCDO, NCA, DIT, and from private sector banks, to **analyse flows, identify possible back doors, and to punish back doors** by excluding them in turn from the markets they need to survive.

#### Principles:

- best and quickest done via indirect, probably informal, influence of institutions over whom we already have power;
- the more we coordinate with allies, the more effective this will be;
- it is **easier to spot and to stop transactions than to trace and sequester assets**; and assets that can neither be used nor sold are not assets.
- Nonetheless, **Unexplained Wealth Orders** should be aggressively used to increase pressure on Putin associates, with precautionary seizures of assets where owners are considered a possible flight risk.
- It's **flows, not stocks, which matter in war**. Target the flows, and you'll rapidly exhaust the stocks. No stock is ever big enough for a country at war.

As of Monday 28 February, there are reports (including from FT) that Russian Ministry of Finance is going to compel all exporters to sell 80% of their overseas currency earnings to the RUS government.

So What? If confirmed, that means:

- ALL sales of USD/GBP/EUR or other hard currencies by ANY RUS corporation will flow back to the benefit of the Putin regime.
- RUS has just made the mistake of nationalise its export earnings.
- This gifts us an excuse to broaden the blacklist from the previously named banks and oligarchs, and so to escalate our financial deterrence.

### 3) Most-Favoured-Financial Nation Status

- Invent a new Most-Favoured-Financial Nation (MFFN) status, accorded by default to all states worldwide except RUS and other rogues. This would accord **normal access to our financial markets**, such as the Stock Exchange, Sterling clearing, transactions with UK-branched banks, and also, importantly, markets for **Insurance, Commodities and Freight** (the Baltic Exchange). States without MFFN status would be excluded from access to these markets as RUS has been.
- The **main purpose of creating this MFFN status is to give us the weapon of taking it away**. It would produce a low-cost, simple and very clear sanction for divergence from accepted international norms which could if necessary be used to deter, say, China.
- Establishing MFFN will in itself send a message to those trying to decide how far their support to RUS might extend.

### 4) Defence Budget as Signal

- A new Cold War requiring higher western defence budgets seems increasingly likely.

- A **NATO** commitment to increase **defence spending to 2.5% of GDP** and to consider raising it to 3% if necessary to defend Europe from Russian aggression would send a strong signal to RUS and to our publics about the threat, our determination to meet it, and our cohesion as an alliance. It could easily be reversed if no longer needed.
- Achieving NATO-wide consensus on this will probably take time, however, so **UK, USA**, and other willing states should be prepared to **move first** and set an example.
- Rapid impact fund for Ukraine support ops an build back armed forces fund (ensure these are focused on UK industrial base – i.e. spent in UK)

## 5) Cost of Living Crisis

- Higher prices as a result of tensions with RUS which hit British voters in the pocket are a threat to public support for HMG's hard line over UKR.
- Calls for wage restraint from the Governor of the Bank of England have been poorly received.
- Any sense that companies are exploiting the crisis and holding or increasing their margins to profiteer will be quickly corrosive of consensus.
- Threaten an Excess Profits Tax at 50% or higher on corporate profits which are X% higher than pre-crisis/pre-Covid to deter price rises and demonstrate that HMG is on the consumers' side.
- Revenue raised will help pay for increased defence expenditure. Also defence expenditure linked to industrial strategy / levelling-up agenda

## Cyber Operations and Cyber Intelligence

**Purpose:** Leverage UK's cyber strengths and connections to increase pressure on Putin regime

**Author:** Mr. Joshua Huettner, joshua.huettner@huettech.com

**Assumptions:**

1. The UK has the established training, expertise, and equipment to exert pressure, create a deterrent, and gather intelligence on RUS forces operating in and out of UKRAINE.
2. The UK has the capability and resources to act unilaterally as well as multilaterally. Leveraging established relationships to conduct cyber operations.
3. RU cannot fully isolate themselves from the global internet regardless of Russian desire to or preparation of.
4. UK operations will be dual-purpose, designed to produce both real-world and information effects.
5. The UK will act and operate within the UK domestic Law, UK policy, and Legal agreements set forward in international agreements.

**Intent:** Conduct Cyber operation to leverage favourable term for Ukraine.

Options:

### 1) Protect Ukrainian Unfractured

Prepare and deploy Cyber Protection Teams to Ukraine to provide Cyber Hunt and Clear mission.

- **Hunt:** Proactively searching for cyber threats on networks suspected of being compromised.
- **Clear:** Remove identified malware
- **Harden:** Using best practices and policies to make network more resilient to compromise.
- **Cyber Counterintelligence:** Recognize Russian Intelligence use of cyber.
- **Threat Intelligence**

### 2) Threat Intelligence

Research new avenues to gain actionable intelligence for Cyber Security, Cyber defenders, Cyber Protection team, local IT support team. Threat Intelligence will enable informed operations and targeted defensive operations.

1. **Tactical:** Focused malware analysis, behavioural threat analysis
2. **Operational:** Understanding RU capabilities, infrastructure, tactics, tools and procedures culminating in targeted cyber operations.
3. **Strategic:** High level RU trend analysis.

Cyber Threat Emulation. Collected intelligence can better defend and address United Kingdom cyber security concerns.

### 3) Cyber Training:

Provide multitiered cyber training to UKR personnel.

1. Cyber Protection Teams
2. Cyber Defence Teams
3. Cyber Operations Planning training
4. Cyber Counterintelligence
5. Cyber Best practices (low level course/ instruction) for Ukrainian troops to reduce vulnerabilities in cyber.

#### **Principles:**

1. **Establish Mission Purpose and Goal** – The Cyber Operation Teams will obtain an understanding of the supported mission and synthesize a concise statement that describes what the mission is supposed to do, elicit the purpose, method, and goals They will craft the description of the mission as a system of high-level activities.
2. **Establish Unacceptable Losses** - Identify the unacceptable losses and effects on mission outcomes. An unacceptable loss is a specific high-level outcome (an effect) or event that directly lead to mission failure.
3. **Establish hazardous system states** – A hazard is a condition with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation.
4. **Create Mission Functional Control Structure Model**- Developing the missing functional control proceeds from general to specific. This is the actual model of the system that will be evaluated to identify mission functional hazards. This task includes multiple sub-tasks. The sub-tasks are accomplished in an iterative manner.
  - a. Identify Model Elements. The “operator” is the controller of the system and the “automated control” is the engine on how the operator will accomplish the designated actions.
  - b. Identify each Model Element’s responsibilities in carrying out each of the key activities necessary to conduct the mission. Capture the responsibility each element has in carrying out each of the key activities and prepare a table for each key activity.
  - c. Identify Control Relationships. Some elements “control” others. Issue direction, monitor feedback, and Identify the key activities (tasks) within which the control takes place.
  - d. Identify the Control Actions necessary for each element to execute their responsibilities. These actions will be critical to identifying how the operator achieves the designated tasks.
  - e. Develop Process Model Description. The decision logic can be arrived by developing an engineering technique input, output, and control variables diagram.
  - f. Identify Process Model Variables (PMV). The variables are all required inputs. PMV determine the context of the mission and enable the controlling element to issue the proper control actions.
  - g. Identify Process Model Variable (PMV) Values. There are three types of values the PMV can assume. Yes, no, or unknown. Be sure to include “unknown”. Each FFIR,

PIR, etc. should have expected values. It does not need to be fine-grain but must be inclusive.

5. Identify critical information flows and associated hazards - For each control action the group must determine if issuing the control action or not issuing the control action violates one of the constraints that was previously identified.
6. Generate Casual Scenarios - Gain an understanding of the dependence of mission function on particular aspects of cyberspace to understand what is actually important. Using the results of terrain mapping, for each critical information flow identify the following for each control action:
  - a. Information Generation
  - b. Information Processing
  - c. Information Storage
  - d. Information Communication
  - e. Information Consumption
  - f. Information Destruction

“What could the adversary do to the critical terrain to dispute the control action?” “How do we defend against it?”

## Annex 10

# Establishing an Inter-Agency Ukraine & Counter-Russia Task Force in Whitehall answerable to a single Minister

**Purpose:** To set out how a single Inter-Agency UKR Task Force can be stood up and demonstrate it's immediate and decisive impact.

**Author:** Dom Morris

### Assumptions:

1. HMG has no single focal point to analyse, plan, deliver and measure. At present it is operating on a dispersed model
2. There currently exists multiple plans across HMG for UKR and broader Counter-RU
3. The inter-departmental frictions are significant
4. Ministers are unsure with whom to engage
5. Allies are unsure with whom to engage

**Intent:** To swiftly bring orchestration and unification to HMG's efforts in UKR via establishment of an Inter-Agency Task Force in order to swiftly impose strategic dilemmas, costs & frictions upon Russia to bring Putin to the table.

### Recommendations

- Appoint a political leader (Minister) and a Commander (Military) to own the Campaign
- Select a location in Whitehall with appropriate connectivity and space
- Conduct Inter-Agency Campaign Planning Process
- Build Analyse, Design, Deliver & Measure teams
- Build Alternative Thinking Team to challenge campaign design, delivery & measurement

### Principles:

- Single point of leadership, ownership & responsibility
- Single XHMG team
- Inter-Agency by design, staff are XHMG and multi-disciplinary
- Multi-domain by design, comfortably straddling physical, cognitive, virtual, cyber and space domains
- Challenge function embedded from the start

## Annex 11

# Grand Strategy Refresher for HMG's Decision Makers

**Purpose:** Create shared and consistent toolbox of strategic concepts and language to facilitate strategic planning and communications

**Author:** Dr Jonathan Boff, University of Birmingham (j.f.boff:bham.ac.uk)

### Assumptions:

- 1) Not everyone has experience, or been professionally educated, in strategy. This risks unwanted confusion or worse;
- 2) We need shared language and concepts to debate, formulate and communicate strategic policy;
- 3) We need to create a toolbox that delivers that common understanding quickly and effectively. It needs to be a shot of espresso gulped down fast, not a leisurely americano enjoyed in the sunshine.

### Intent:

- use a mix of academics and practitioners to deliver a series of short, sharp round tables/workshops (2 hours max) to senior decision-makers and comms practitioners...
- ...to equip them with the toolbox necessary to develop global strategy for UK with special regard for the UKR/RUS crisis, including its global implications...
- ...using real-world examples and possible courses of action to introduce key concepts and language and spend limited time most effectively
- backed up with a short handout 'cheat sheet' defining key terms and summarising important points (8 pages, max?)

## Workshop 1: The Nature of War and Grand Strategy

Questions to address:

- War as the continuation of politics and the civil/military interface
- Uncertainty and Risk
- The Ends/Ways/Means model and its limitations
- Joined-up strategy
- 'How does this end?': the question that looks smart but might be very dumb

Real-World Discussion:

- Possible end-states and UK objectives for this crisis

## Workshop 2: Deterrence and Dissuasion

Questions to address:

- Deterrence: a strategy of coercion, not control
- How to make deterrence work
- Linkages
- Problems of deterrence: rationality, reasonableness and predictability

- Deterrence is only one strategic tool among many

Real-World Discussion

- How to peel China off from RUS while reasserting Taiwanese independence

### **Workshop 3: Strategy in a multipolar world**

Questions to address:

- How to make strategy work with Allies:
  - Bilateral relations
  - Coalitions of the willing
  - Formal alliances: NATO
  - the EU
- World opinion: the UN, the ICC, global media
- Back-channels

Real-World Discussion:

- Should we noisily announce further forward basing of UK NATO assets in POL/Baltics/ROM?



## The Legal/Strategic component - Defence of Democracy

### 1 Lawfare at the Grand Strategic Level: Preserving International Rule of Law

Lawfare is the pursuit of strategic objectives using legal measures. It can act both as an executive measure (arrests/prosecutions/ sequestering of assets etc) and to achieve effect as part of a strategic narrative.

None of the following measures depart in any way from traditional and long-lasting UK policy and approaches.

#### (i) General Approach and Messaging

The Moscow Declaration of 1943 set the scene for 80 years of War Crimes litigation (Nuremburg/ICTY/ICC etc). It says this:-

*'Let those who have hitherto not imbrued their hands with innocent blood beware lest they join the ranks of the guilty, for most assuredly the three Allied powers will pursue them to the uttermost ends of the earth and will deliver them to their accusers (sic) in order that justice may be done.'*

Consideration should be given to a similar declaration that notwithstanding the limitations of the International Criminal Courts jurisdiction, democratic powers will pursue Russian military or civil officials involved in targeting civilians or of serious war crimes 'to the ends of the Earth'.

#### (ii) The Crime of Aggression:

Although the ICC has denied that it has jurisdiction with respect to the Crime of Aggression, aggression is still the supreme state crime. There is the famous statement from Nuremburg that the crime of aggression "[...] is the supreme international crime differing only from other war crimes in that it contains within itself the accumulated evil of the whole.' The UK should declare that with immediate effect the UK recognises aggression as a crime with universal jurisdiction. This means that the UK could pursue and prosecute those reasonably suspected of this crime. This would apply to all of those involved in the decision to start the war and the illegal conduct thereof. For the avoidance of doubt legislation (easily drafted) would be required.

#### (iii) Other War Crimes

- 1 The UK should reinforce its determination to provide all possible support (including intelligence support – we did this during the Bosnian War for the ICTY, at least partially) to the International Criminal Court in its efforts to investigate war crimes (Ukraine has accepted jurisdiction).
- 2 The UK should make clear that it will be exercising Universal Jurisdiction for war crimes on behalf of the victims of the Ukrainian War, whatever the course of the War. The implication for this is that the UK will seek to prosecute perpetrators of war crimes wherever they are committed. The UK already has this policy for torture. Legislation could be considered to extend that jurisdiction to all war crimes as defined by the ICC Statute (also easily drafted).
- 3 Further, the UK should make clear that as a matter of policy its Magnitsky Sanctions Regime will be actively applied to all those reasonably suspected of war crimes in the Ukraine War.

State intelligence agencies will be instructed to identify perpetrators publicly. (see below at 2.(ii).5)

## **2 Defending our Democracy: Defensive Lawfare Measures**

It would be surprising if the government is not considering all or some of the provisions in (i) below since many have been recommended by UK Authorities and have been held up. As part of a holistic 'integrated' defence and national security legal strategy to ensure the defence of our democracy, begin by:

### **(i) General Provisions aimed at strengthening democracy targeting those involved in Grand Corruption:**

- 1 Immediately passing legislation mandating a full UK Property register, as per recommendations of Lord Faulks, preferably inviting him to ensure efficient passage and implementation. Legislation is ready to go.
- 2 Move on pursuing the government's objectives outlined in the 2016 Anti-corruption summit, including *but not limited to*:
  - a. amending s 1 of the Finances Act 2017 to close off possible defences/counters to Unexplained Wealth Orders (UWO) as revealed in recent appeal cases.
  - b. Look at Irish success in this field and examine a civil legal approach to dealing with criminally acquired assets.
  - c. To ensure equality of arms in the investigation and trial process, properly fund and support the NCA and other law-enforcement and prosecution teams involved in anti-money laundering and grand corruption. Focus might be directed at enablers failing properly to consider 'suspicious activity reports' (SARs). Many other instruments available, not least discussions with the legal profession to strengthen due diligence on clients.
  - d. Accept the recommendations of the National Crime Agency to amend the Sanctions and Anti-Money Laundering Act 2018 to include serious and organised crime as grounds for sanctions.
  - e. All of these provisions, and many more could be included in an Economic Crimes Bill for the 2022-23 session.

### **(ii) Provisions specific to the Ukraine War.**

- 3 Broaden and widen the application of the Magnitsky provisions. Immediately publicly identify and target senior Russian military commanders involved in war crimes in Ukraine, such as shelling of civilians. (see above)
- 4 Amend the Official Secrets Acts to introduce a category of 'Foreign Agents' as per the ISC Russia Report to ensure MI5 has the legal instruments to pursue and deal with agents of a foreign hostile power such as Russia.
- 5 As part of a 'Support to Ukraine Act', consider including provision to seize assets of foreign agents and/or applying Magnitsky provisions to any agent reasonably suspected as being complicit in the aggressive war against Ukraine. As threats to national security these provisions should be applied and enforced worldwide (e.g. yachts etc). Proceeds to go to a Reconstruction of Ukraine Fund.

## Annex 14

# Convening Tech Companies

**Intent:** Technology companies possess the ability to disrupt RU operations and assist UKR forces both within country and beyond. However, without a clear mission and some coordination, technology companies are unlikely to provide this assistance. The aim of this document is to suggest ways to gather technology companies, inform and coordinate them to maximise their impact.

**Background:** Technology companies, organised by people in this group, made substantial contributions to the fight against COVID. We believe they can also assist in the resistance against RU.

Defensive cyber is a capability widely held through tech organisations. Offensive cyber is less frequent, but nonetheless valuable. But the wider technology community also has the power to assist Ukraine in defeating the Russian invasion.

Initially, it can be used to gain situational awareness of the sentiment of the Russian population, through Ben Warner's note on polling.

In parallel, it can disrupt Russia through:

- Information operations to civilian populations (with message testing)
- Collecting any leaking information through devices or apps
- Preventing payments where possible, ensuring it's also difficult for Russia to use the shadow banking system
- Deny access to compute or other products

And it can assist Ukraine through:

- Making high quality expertise widely available
- Providing situational awareness to the Ukrainian public

Additionally, any activities undertaken by private companies are less likely to escalate the conflict with Russia.

**Options:** to coordinate this, we suggest starting by convening a round table of tech companies in the UK. Ideally, this would be done by an authority with sufficient status, e.g., number 10. In practice, this could probably be done by Patrick Vallance and Andrew McCosh, although an invite from Steve Barclay or the PM better.

Short of this, there are some private sector investors and CEO's that would be able to convene a similar group (e.g., Brent Hoberman). To do so, he would likely require someone senior in the military to advise him that this was a good idea, and someone from our group to coordinate and run the meeting.

**Recommendation:** Marc Warner to reach out to Vallance and McCosh to see if they have interest in coordinating.

## Information Operations

### Intent:

- Dismantle Russian Disinformation Structures
- Research and Audiences
- Russian Population Info Ops
- Degrade Russian Reputation Abroad

The Russian approach to power projection expertly integrates information manipulation. Clint Watts<sup>1</sup>, former FBI analyst and a leading specialist of Russian disinformation strategy, characterises Russia's ability to target audiences in an orchestrated manner as "the most sophisticated in the world".

As a priority, the UK and allies must shut down Russia's ability to influence the behaviour of audiences in key geographies (including our own). At the same time, we must spin up our own information operations to exploit opportunities in relation to audiences in RU, UKR and other key geographies. Neutralising Russia's ability to affect political decisions and processes abroad and degrading its ability to deceive its own audience will severely impact its ability to impose policy inside its borders and influence policy making outside its borders.

### Dismantle Russian Disinformation Structures:

Russia has developed digital infrastructure for disseminating disinformation to specific audiences in whichever theatre it has active operations. In each case, we have observed it repackaging local dynamics into a broader "anti-imperialist" narrative while supporting authoritarian actors who are often opposed to Western policy

The digital infrastructure RU relies on for this activity is based on manipulation of social media networks, often in ways that are already disallowed by the companies themselves. This is a key vulnerability for RU since its infrastructure exists as long as the social media platforms refrain from acting against it

Russian disinformation can in many cases be severely degraded almost overnight should Facebook, Twitter, Telegram etc choose to enforce their existing policies on activities such as the use of automated software<sup>2</sup>

Engaging social media platforms, diplomatically, legislatively and perhaps legally to ensure they enforce their existing policies is a quick and relatively easy way to seriously disrupt Russian power projection

Although there has been political focus on RT broadcasts, Russia's "information seeding" capability encompasses a far greater array of online media outlets. Some like Breakthrough News, Sputnik and Maffick have already been identified as Russian state-affiliated entities. Others, like Grayzone, have

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<sup>1</sup> Clint Watts is Distinguished Research Fellow at the Foreign Policy Research Institute and Non-Resident Fellow at the Alliance for Securing Democracy and author of *Messing With The Enemy: Surviving in a Social Media World of Hackers, Terrorists, Russians and Fake News*

<sup>2</sup> In one instance in Sudan, a Facebook takedown of 1,000 Pages caused disinformation output to fall by 75%

managed to obscure their funding. A number of actions can be undertaken against these outlets. The most obvious is legal since the content of these media outriders is frequently in contravention of media law in the UK, US and EU. Aggrieved parties currently tend to ignore libel/defamation by these outlets. Were they to aggressively pursue these outlets, it is likely they would be forced to close.

### Research and Audiences

Identifying and understanding key audiences will be key to information operations capabilities aimed at Russian, Ukrainian and third-country audiences. It is possible to use cutting edge, data driven techniques to quickly compile detailed audience profiles in many geographies at once.

Social media data scraping can be used to broadly identify online audiences and understanding their influence in online conversations. It is possible to then enrich these profiles by including sentiment obtained using natural language processing. Other data sources can also be added including open-source intelligence and leaked data already available on the dark web (Russian bureaucracy is extensively compromised by the selling of secret data)

Audience profiles used in information operation campaigns can be continuously refined through the use of social media organic and paid ads analytics.

AI-powered models that predict how those audiences will react to specific developments in the course of conflict

### Russian Population Info Ops:

Understanding Russian audiences is vital to be able to identify and exploit any discomfort and disquiet within Russia over the conflict in Ukraine. Although the Kremlin has attempted to insulate Russian audiences from information sources it doesn't directly control, we know that Russian audiences rely on and seek alternative sources of information. We can use this knowledge to directly target Russian audiences via social media ads

### Degrade Russian Reputation Abroad

Due to the perception Russia has succeeded in imposing its will in multiple global crises, its stature as a competent international actor has grown – even amongst traditional UK allies (such as those in the Gulf). The prospect of a lacklustre military operation in Ukraine provides the opportunity to challenge this view. Understanding key audiences in key geographies will be key, and should be included in the information operations research phase

## An innovative Polling-led Information Operation

A collapse in the public's attitudes in either UKR or RU would likely lead to a culmination of the conflict. This collapse could be driven by a number of different factors, most of which we could quantitatively track through different data sources. However, it is likely that only large-scale surveying can quickly give you the insight you need on the current views and activities of the population. That it is not dependent on access to data science capability that is often scarce in government is also a bonus.

The information in the polling will help us understand the effect of our actions and ongoing events, and then to develop improved interventions, targeted for maximum impact.

To do this, we need the modern methodology that is used within best in-class marketing and political campaigns: large scale polling is used to build machine learning models that enable understanding of the behaviour and beliefs of the population.

Large scale data collection is the first, time sensitive step towards this - while complex models can be built in the background, most beliefs and behaviours are time-dependent, and we would need to establish a baseline - we cannot go back in time to collect data.

### Survey contents

The survey should cover the following areas:

#### *Views/Beliefs*

- High level views of peoples, what do they care about and fear most?
- Views on specific groups, institutions and people
  - West, Ukraine, different information channels (media & social media) key figures, Military
- View on the Ukraine action,
  - Whether it is valid
  - How successful it is.
  - Where their information is flowing from

#### *Lived experience*

- The current lived experience, and how they feel this will change in the future
  - Access to food, energy, money, fuel.

This will allow us to :

- Understand the different groups that exist within RU, and whether this changes over time.
- Define groups that should be prioritised, the messages that are most likely to resonate with them, and ways to target these messages to the group.
- The effect of the different actions that the west is carrying out, both on public opinion but also the lived experience.

Large scale polling is essential to detect differences in views across geographic and socio-economic groups.

The quantitative results from polling allows the verification of anecdotes from other sources, or to build a richer picture. For example, social media may show queues to access ATMs or petrol, and a question "have you had problems accessing money in the last 24 hours" allows us to both identify any

situational change and estimate how widespread it is. Or if a data set allowed us to track the levels of cash in ATM's we could use polling to understand what effect this was having on people's behaviour (i.e. movement to card) or morale.

### **Methodology**

We should look to use different methodologies for data collection, to access different audiences. In particular, we should look to survey-driven advertising and mobile phone applications. These cheaper forms of survey collection, though seen as less accurate ways of polling, will allow better access to the target demographic if Russia looks to close access in the future so having a robust comparison could be useful.

### **Target demographic**

While large-scale polling aims to capture the beliefs, opinions and situations of whole populations, we should plan to define sub-groups of interest based on results from the initial polling. This could include a subgroup looking at opinions specifically in families of conscripts, if these are seen to differ significantly from the national average.

Samples of both Russian and Ukrainian populations will be essential to obtain context and detect changes over time across the entire conflict theatre.

### **Sample size**

As we do not know how the population of Russia/Ukraine segments, it is difficult to estimate the exact size of the survey. But, a significant original sample size is necessary in order to robustly look at sub-populations (i.e. families of conscripts). This means that it is likely that we should be looking to do a base of N=20k.

### **Cadence**

In order to capture the changes in opinions, beliefs and lived experience, and to map across to actions taken and development of events, the polling needs to be repeated. A weekly cadence should capture changes with enough granularity in the first instance.

### **Considerations**

A potential problem with this methodology is that people are unwilling to tell the truth. To combat this we may want to ask a question that seeks to understand fear of the state.

In political polling it has been seen that "who do you think will win" is often more accurate than "who will you vote for", as this leads people to integrate the opinions of their social network. Using questions of this type may allow us to gain a more robust perspective, and enable a way round any fear of state problems.

A further area that should be investigated is the use of geo targeting to see if we can poll soldiers that are involved within the conflict. It is likely that this information would be highly noisy, but may also shed light on the current state of morale within the Russian and Ukrainian forces.

## Operational Outline

### Operational Outline: Adversary Focus

#### Ukraine, Near Abroad: Full military operation.

- **Influence:** Cohere Ukrainian efforts to counter global footprint (LIVE)
- **Information:** Information network through ground elements
- **Technical:** Ground elements in support of live technical operations
- **Physical:** Direct imposition of physical damage including kinetic

■ Network Capability   ■ Adversary Threat   ■ Potential Impact

#### Libya & Sahel / SSA: PMC and proxy force presence.

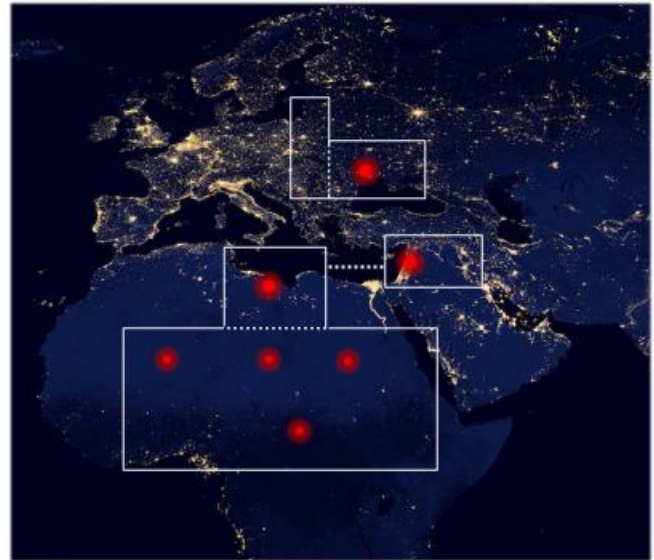
- **Influence:** Live op in Libya, networks in Sudan, Mali, CAR, Chad (LIVE)
- **Information:** Live ground monitoring of adversary locations across AO (LIVE)
- **Technical:** Stood-off technical teams vs adversary and enabler locations
- **Physical:** Direct physical damage including non-lethal kinetic (LIVE)

■ Network Capability   ■ Adversary Threat   ■ Potential Impact

#### Syria & Levant: PMC, proxy force and regular military presence.

- **Influence:** Generate red-on-red tensions with Iranian militias (LIVE)
- **Information:** Penetration of Syria-Libya mercenary recruitment (LIVE)
- **Technical:** Close-in technical collection vs adversary locations (LIVE)
- **Physical:** Direct threat vs local enablers excluding kinetic

■ Network Capability   ■ Adversary Threat   ■ Potential Impact



## Operational Outline: Adversary Focus



## Operational Outline Adversary Focus

### Ukraine, Near Abroad: military operation.

- **Influence** Cohere Ukrainian efforts to counter global footprint
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■ Network Capability
 ■ Adversary Threat
 ■ Potential Impact

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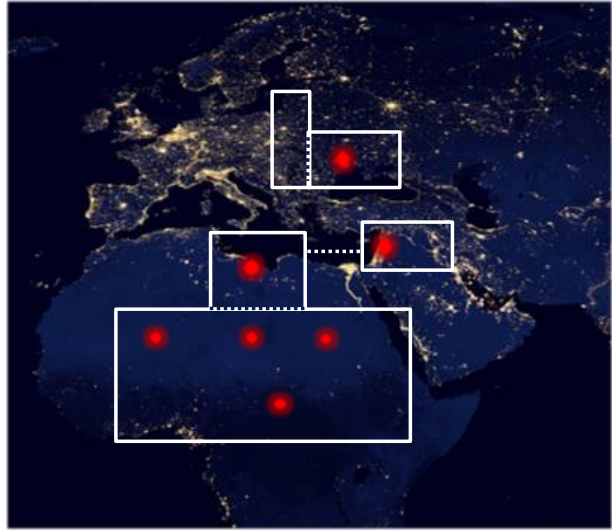
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■ Network Capability
 ■ Adversary Threat
 ■ Potential Impact



## Annex 18

# Weaponising Food Security - Drivers of Wider Regional Instability

**Purpose:** Prevent RU weaponising global food supply chains in furtherance of its agenda in Ukraine.

**Authors:** Dr Ian Ralby, Dr David Soud, Rohini Ralby, Justin Holt MBE (justin.holt1@fcdo.gov.uk)

**Context:** The Black Sea basin is one of the world's most important areas for grain and agricultural production, and the food security impact of the conflict will likely be felt beyond Ukraine's border, especially on the poorest of the poor. Interruption to the flow of grain out of the Black Sea region will increase prices and add further fuel to food inflation at a time when its affordability is a concern across the globe following the economic damage caused by the Covid-19 pandemic.

### Assumptions:

- 1) After just one day of the invasion, Russia effectively controls nearly a third of the world's wheat exports, three quarters of the world's sunflower oil exports, and substantial amounts of barley, soy and other grain supply chains;
- 2) Ukraine alone accounts for 16% of the world's corn exports and has been one of the fastest growing corn producers; a dynamic particularly critical to meeting China's rapidly growing demand for corn;
- 3) While hydrocarbon production can be immediately surged in different places to meet shifts in requirements, grain production cannot be surged in the same way, and even a major expansion cannot make up for the sheer volume of agricultural output that Russia now controls either directly or indirectly;
- 4) Russia's control of Ukrainian grain shipments will likely signal price increases in Middle Eastern markets that are hyper-sensitive to price fluctuations. This may lead to food riots and political instability;
- 5) The World Food Programme (WFP) has issued a statement of deep concern on the impact on the WFP's operations globally, e.g., 50% of Yemen's grain imports come from Ukraine.

**Direct impact on UK:** Ukraine is now the UK's third largest supplier of wheat and corn, and its share of UK imports for both has more than tripled over the past few years. Over the same stretch, however, Ukraine has been far and away the UK's biggest supplier of corn. The expected increase in grain prices will further exacerbate domestic cost of living rises.

Defending the NATO alliance is and should be a priority for the U.K and its allies. But if they do not also prepare to defend these global supply chains now, they may lose the ability to do so later. While it does seem that [China may be in a tough position](#) by claiming to respect both Russia's concerns and Ukrainian sovereignty, talk is cheap, the situation is fluid, and the economic and strategic incentives remain strong for China to be Russia's guarantor.

In close coordination with the U.S., an effective response will need at least three main approaches:

- Drive a wedge between RU and CHI by making CHI uncomfortable in its relationship with RU
- Rally food supplies to provide resilience to the states most dependent on UKR exports and, in the process, expressly guarantee UKR's economic sovereignty and survival

- Watch RU's maritime movements — naval and commercial — and be prepared to respond to them

**All three must occur simultaneously.**

### **1. DRIVING A WEDGE BETWEEN RUSSIA AND CHINA**

If the U.S. and other major grain producers were to halt grain shipments to China to simultaneously protest Beijing's support of Moscow and help make up for the reduction in global supply heading to fragile or vulnerable states, it would significantly change the dynamics. China would feel an immediate impact over its choice to align its fortunes and food with Russia. Losing face as well as critical supplies over that relationship may induce China to end the guarantees on which Russia is relying.

### **2. SUPPORTING UKRAINE AND ITS TRADE PARTNERS**

At the same time, the U.K and U.S. should expressly guarantee Ukraine's economic sovereignty and survival by rallying grain supplies (largely from what would have gone to China) to maintain trade orders to Ukrainian partners. If the main Ukrainian partners — such as Indonesia, Philippines, Vietnam, Malaysia, Thailand, South Korea, Egypt and Morocco — all back this effort, they can meaningfully support Ukrainian independence even without directly sending military aid.

Such a temporary measure would allow for Ukraine to hold its place in the market despite Russia's efforts at a hostile takeover, while also maintaining critical GDP flow. The Ukrainian government could work with the U.K. and U.S. to negotiate the means by which that grain-based revenue would be paid — perhaps in the form of military equipment, for example.

With sufficient will, this rallying of states could take a step further and work to elbow Russia out of critical marketplaces, particularly in parts of the world where sovereignty concerns loom. While this may not harm Russia economically if China turns to Russia to make up for a loss of supplies from other partners, it would curtail some of Russia's hegemonic influence campaigns.

### **3. WATCHING THE SEAS**

Finally, with regard to maritime movements, Russia seems to be gearing up to protect supply routes in different parts of the world. Anomalous naval movements by the Russian Navy have been reported for the last several months in several places, including [off Norway](#) and [Ireland](#) in Europe, the [Gulf of Guinea](#) in Africa, and just this week with an odd formation of [16 Russian warships](#) off Syria. Additionally, given the Russian commercial fleet's long history of maritime hybrid aggression, attention must also be paid to anomalies in its movements and behaviour (by flag, management, ownership, and beneficial ownership).

## A UK Strategic Energy Plan

*"There is nothing so vulnerable as a modern state desperately short of energy".*

**Purpose:** To outline an opportunity for the UK to lead the reset of the European energy balance whilst maintaining support for the sustainable energy transition.

**Author:** Rob Bassett Cross

**Context.** The UK has an opportunity to lead this activity from centre-stage. It provides perhaps the most powerful and direct means through which to support immediate allied campaign objectives against RUS in UKR, reset UK European dependencies from the east, solve UK's self-imposed energy crisis, engage additional global political support behind the West in its support for UKR, support "off-ramp" options for RUS and reinforce the US's role and importance in the UKR situation.

**The How.** Leverage the leadership and knowledge in London energy markets. Engage and integrate key commercial expertise in Task Force.

Gas is critical to this plan. Gas accounts for more than half of the UK's primary energy consumption, more than half of which is now imported. The UK must designate natural gas and nuclear as "sustainable" for investors and find ways to remove the continued delays production capacity awaiting approval. Gas is the transition fuel in the move to a lower carbon economy.

### Proposals:

- 1) **UK must increase gas supply immediately.** The UK must increase ST energy supply IMMEDIATELY. UK Oil and Gas Authority needs to incr. North Sea production, expedite approvals for new North Sea fields and for exploration west of Scotland and for onshore fracking in the Midlands and North of England. Remove hurdles for the 18 North Sea fields awaiting approval. Must also speed options for incr. ST nuclear. Even if these supplies are not required long-term, identifying them and creating a clear legal framework for their exploitation will help avoid future crises. (Also presents a vital opportunity to integrate security/foreign policy with ongoing domestic energy price issues).
- 2) **UK to lead international deal to purchase US flare gas surplus.** This is an immediate fix to ST supply concerns and will provide an entirely appropriate mechanism to strategically engage and reward the US in the UKR situation. UK to lead diplomatic and commercial efforts to open-up storage capacity in Turkey and Germany to receive US gas supplies. (Recognising UK and NATO relationship with Turkey vital strategic ground in situation with UKR/RUS).
- 3) **Secure new global supply sources.** Open immediate negotiations, UK FCDO diplomatic led, for longer-term gas supply with Mozambique, Somalia, Nigeria, Azerbaijan, Iran (and others) for productionisable reserves (need to incentivise/enable BP/Shell others), to import to Europe via Turkey. Reinforces wider, deeper global alliance. Changes energy supply landscape. Counters long-term Chinese influence and supply/price control in these markets.
- 4) **Post conflict, LT strategic planning.** LT planning for allied campaign transition to RUS reengagement post conflict/sanctions (post regime change?) in global energy and commodity markets must start NOW. Must have options to support reinvigoration of damaged RUS economy and closer integration into Europe/West. Energy/commodities key levers in this phase.