Policy Strategy Document

Applied Microbiology International

Influencing Policy - The ‘Why’

At AMI, we have an expanding global membership of microbiologists, many of whom are at the cutting edge of microbiological advancement. AMI offers its members powerful opportunities to expand the reach of their research through its journals, publications, events and funding, enabling them to share their research more widely, gain recognition within the research community, and establish networks to further their careers. These opportunities contribute towards AMI’s vision of being ‘a conduit for scientific discovery to improve the planet for all’.

Policy is another key – but often underutilised – opportunity that AMI provides its members, and offers wider organisational opportunities; getting involved in policy enables us to establish a better foothold in the global policymaking sphere, increase recognition of the importance of microbiology within STEM and ultimately have an actual, direct impact on saving human lives and our planet by informing decision-making. Without the knowledge and expertise of our members (who provide evidence of the impact and value of microbiology), decisions that affect our lives, and the planet will lack vital evidence, which could make a key difference to global efforts. This is why AMI must continue to influence policy by informing decision-makers with relevant evidence.

AMI has historically influenced policy by responding to reactive engagement opportunities provided by the UK government, where we use our members’ knowledge to answer questions within relevant inquiries. Since AMI’s restructure, we have tailored our approach to respond to opportunities relating to the UN Sustainable Development Goals (SDGs) that now form the core of our organisational strategy. AMI has also previously undertaken some proactive policy work, including a case-study on AMR in the environment, and science policy report on Food safety, manufacturing and processing. From these examples, the majority of AMI’s policy work to date has had a largely national focus and as such, AMI’s policy team are working to identify how we can enter the international policymaking sphere.

Influencing Policy - The ‘What’

Since AMI’s strategy is now aligned with the UN SDGs, our goals highlight the key policy areas AMI should be trying to influence. The policy team have identified the sub-targets within these UN SDGs that are most relevant to AMI’s membership and its expertise, to determine the policy areas that are most appropriate for us to influence. A summary of these areas has been included below (please note these are not exhaustive, and may change over time as global progress towards the UN SDGs is made):

UN SDG 2: Zero Hunger (AMI Advisory Group – Food Security)

Relevant sub-targets:

- **Target 2.4** – By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

Policy areas AMI can try to influence:

- Increase awareness/actively promote agricultural practices that have microbial benefits, or microbial solutions that increase the sustainability and resilience of food production systems e.g.
  - How microbiology can be exploited to increase yield/production
  - How microbiology can help reduce greenhouse gas emissions in agriculture
  - Microbial solutions to synthetic fertilisers and pesticides
  - Microbial solutions to reduce food waste
  - How microbiology can contribute to the production of alternative proteins
- Increase awareness of how microbiology can be used to make the agricultural system (e.g. soil, crops, animals) more resilient to the effects of climate change
  - Microbial solutions to reduce disease incidence in crops and animals
  - Microbial solutions to prevent the dissemination of AMR in the food chain
- Increase awareness of key microbial processes that help to maintain ecosystems, and how these can be protected
- Increase awareness of microbial solutions to food preservation and safety
  - Fermentation: microbial fermentation processes can be utilised for food preservation, enhancing shelf life, and improving the nutritional content of various food products.
  - Probiotics: microbes, such as certain bacteria and yeast strains, can be used in food production to provide health benefits and improve food safety.
- Increase awareness of the use of biotechnology for improved crops
  - Genetic Engineering: Microbial biotechnology can be employed to develop genetically modified crops with enhanced nutritional content, resistance to pests, and improved tolerance to environmental stressors

UN SDG 3: Good Health & Wellbeing (AMI Advisory Group – One Health)

Relevant sub-targets:

- **Target 3.3** – By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases
- **Target 3.4** - By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being
- **Target 3.9** – By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
- **Target 3.b** – Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries […]

Policy areas AMI can try to influence:

- Increase awareness/actively promote microbial solutions that will reduce the incidence of communicable diseases
- Increase awareness of how microbial solutions can help reduce contamination of air, water and soil
- Increase awareness of the support needed to continuing developing new vaccines
- Support research on the influence of antibiotic use across the One Health spectrum, especially in developing countries
- Increase awareness of communicable disease across the One Health spectrum, including the risk of multi-directional spillover events

UN SDG 6: Water & Sanitation (AMI Advisory Group – Clean Water)

Relevant sub-targets:

- **Target 6.3** – By 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Policy areas AMI can try to influence:

- Increase awareness of how microbial solutions can reduce water pollution/ contamination including wastewater e.g.
  - How microbiology can tackle plastic/microplastic pollution
  - How microbiology can help reduce nutrient pollution (nitrogen, phosphorus & sediment pollution) from agriculture (including from slurry waste)
  - How microbiology can help tackle heavy metal contamination
- Enhancing access to safe water globally

UN SDG 13: Climate Action (AMI Advisory Group – Climate Action)

Relevant sub-targets:

- **Target 13.1** – Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
- **Target 13.2** – Integrate climate change measures into national policies, strategies and planning
- **Target 13.3** – Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Policy areas AMI can try to influence:

- Increase awareness of microbial solutions and practices that increase resilience and adaptiveness to climate-related hazards (e.g. resilience of human health, agricultural health, environments) both on a wider national level, and individual practices that could be undertaken by the general public (care will need to be taken around public health messaging)
- Increase awareness of how microbial solutions can help in achieving net zero targets
  - How microbiology can contribute to renewable and green energy options
  - How microbiology can help reduce agricultural emissions
  - The role microbiology plays in preserving important carbon sinks
- Increase awareness of how microbes can directly contribute to clean pollutants, e.g., through bioremediation
- Increase awareness of the relevance of researching microbial communities in different environments in order to unlock their full potential and find new solutions for climate change
- Support mitigation strategies by incorporating microbiology into existing strategies, e.g., rhizosphere microbiome developments and research coupled to forestation, or wetland restoration and mangroves' restoration

UN SDG 14: Life Below Water (AMI Advisory Group – Ocean Sustainability)

Relevant sub-targets:

- **Target 14.1** – By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
- **Target 14.2** – Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
- **Target 14.3** – Minimise and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels
- **Target 14.4** – Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular Small Island Developing States and least developed countries

Policy areas AMI can try to influence:

- Increase awareness of how microbial solutions can help to manage and protect ecosystems e.g.
  - How microbiology can help to restore coral reef systems
  - Highlight other key marine ecosystem services provided by microbes, and the environments that need protection for them to continue
- Increase awareness of ocean warming and its effects, and microbial solutions that can help to mitigate this issue
- Microbial solutions to dealing with waste treatment and minimisation e.g., by providing more sustainable bioproducts
- Support AMI members in increasing scientific knowledge relating to ocean health and marine biodiversity in developing countries, including knowledge transfer and training activities to develop local capacity

UN SDG 15: Life on Land (AMI Advisory Group – Healthy Land)

Relevant sub-targets:

- **Target 15.3** – By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
- **Target 15.5** – Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and protect and prevent the extinction of threatened species.

Policy areas AMI can try to influence:

- Increase awareness of microbial solutions that increase soil health
- Increase awareness of microbial solutions to stop soil degradation and solutions that help restore degraded land
- Increase awareness of microbial solutions to directly enhance plant (particularly economic crop) performance, including enhancing drought, salinity, cold and pathogen resistance, and improving crop yields
- Increase awareness of microbial solutions to reduce/remove chemicals in the land environment
- Increase awareness of microbial solutions that help reduce/degrade any types of waste to reduce landfillIncrease awareness of microbial to improving physical stability and controlling evapotranspiration rates in dryland habitats

Reactive Policy Engagement

One of the easiest ways to feed evidence to policymakers is when they explicitly express interest in receiving evidence on a certain topic. These ‘calls for evidence’ show what topics are of major relevance to the government at that point in time.

We respond to any calls for evidence that sit within our remit and send these to our general membership and any relevant AMI Advisory Groups. We are trying to increase the engagement of our membership with these opportunities – we tend to get low response rates, despite any level of experience/evidence being valid.

Please note that our reactive activities are currently very UK-centric and focused around the interests of the UK government. We are looking to expand our policy focus to cover more international grounds; however, this will likely initiate from the proactive policy engagement activities (found below) rather than these reactive activities.

Although influencing national policy seems a narrow focus, the UK government is involved in international policy affairs, and therefore responding to these inquiries and work programmes may indirectly impact international decision-making as well.

The two routes we use for reactive policy engagement are:

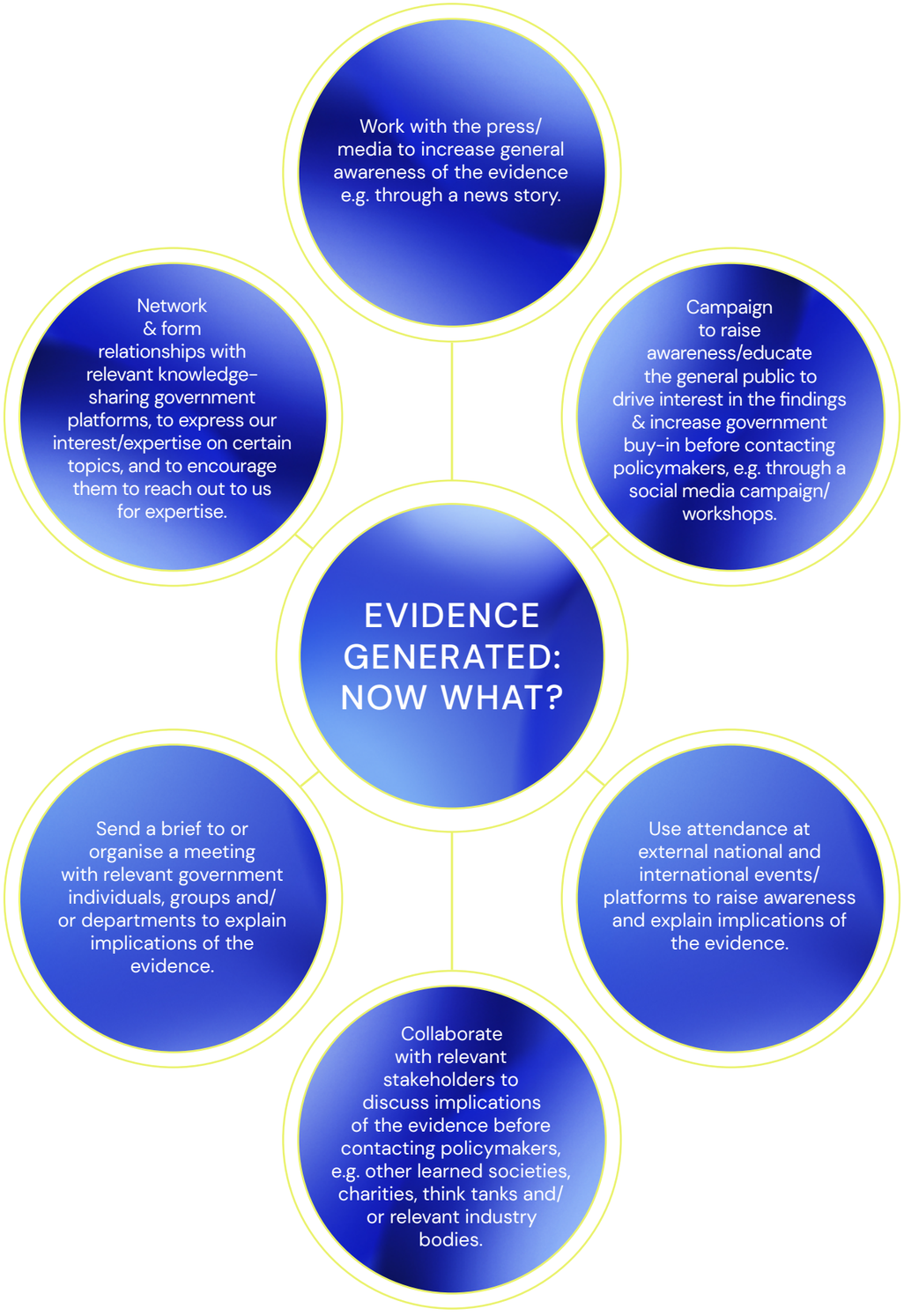
RESPONDING TO INQUIRIES RELEASED BY UK GOVERNMENT SELECT COMMITTEES & DEPARTMENTS

REGISTERING INTEREST TO RELEASED PARLIAMENTARY OFFICE OF SCIENCE AND TECHNOLOGY (POST) WORK PROGRAMMES TO INPUT INTO POSTNOTES

Proactive Policy Engagement

As mentioned, the benefit of reactive policy engagement is that we know which topics are of interest/importance to policymakers, and this makes engagement easier. However, there is a constant stream of evidence being generated from the laboratories of our members, which is of relevance to policymakers; they just may not be aware of it or its implications. This is where proactive engagement is needed, to raise the profile of important findings and their implications to policymakers in a digestible format that grabs their attention. This can be more difficult as it may not necessarily be on their radar and policymakers are less likely to give attention to work they don’t see as directly relevant to their current work priorities. As such it is really important to clearly link any research/evidence to policymakers’ current priorities if possible.

There are several routes for proactively sharing evidence with policymakers, including direct and indirect options. It’s always worth taking care to choose the option deemed most appropriate for the evidence generated; this doesn’t always involve going directly to policymakers themselves and can involve multiple routes combined or used sequentially. The diagram below lists the main avenues for proactive policy engagement that suit AMI’s activities. More detail on these routes can be found on the following page under ‘extra information’.



Extra Information:

DIRECT ROUTES

1. Send a brief to or organise a meeting with relevant government individuals, groups and/or departments to explain implications of the evidence.

AMI team leads: policy team.

This is a direct route of feeding evidence straight to policymakers. There are many different audiences to consider sending evidence to:

- Ministers of specific government departments
- House of Commons and House of Lords select committees
- Relevant All-Party Parliamentary Groups (APPGs)
- Relevant civil servants in certain departments/agencies
- Individual MPs or peers with a noted interest in the subject area

A spreadsheet noting relevant individuals, groups and departments can be found here - Policy contacts .xlsx.
This can be used to determine the most appropriate routes for the evidence, which can sometimes be multiple.
Please note that this is a live document, and subject to change.
There are several ways to relay the evidence we want to share:

- Producing a short written brief that includes a highlights page of key bullet points.
- Offering to hold a short meeting or event to present the evidence in person.

Other opportunities for engagement:

- To help identify proactive opportunities for AMI to engage with policymaking, keep an eye on the 'Areas of Research Interest' (ARIs) for each government department. You can register interest in working with a department on a certain question using the contact details on the relevant webpage.
- Another opportunity is keeping an eye on what debates or committee meetings have been scheduled each week, and contact relevant policymakers who can make use of our evidence. This would require a very quick turnaround.

DIRECT ROUTES

2. Network & form relationships with relevant knowledge-sharing government platforms, to express our interest/expertise on certain topics, and to encourage them to reach out to us for expertise.

AMI team leads: policy team.

- Keep in contact with POST – let them know our areas of interest and consider suggesting future POSTnote topics.
- Reach out to the House of Commons and House of Lords libraries to register our interest in providing evidence – they often refer to academics to when drafting briefings and debate packs.
- Form contacts with the Devolved Administrations:
  - Scottish Parliament Information Centre (SPICe)
  - Research Service in the Senedd Cymru
  - Northern Ireland Assembly Research and Information Service (RalSe)
- Form contacts with the European Commission Joint Research Centre
- Form contacts with international policy platforms

INDIRECT ROUTES

3. Collaborate with relevant stakeholders to discuss implications of the evidence before contacting policymakers, e.g. other learned societies, charities, think tanks and/or relevant industry bodies.

AMI team leads: policy team, advisory group coordinator.

It's worth considering whether the evidence would be better 'heard' by policymakers if there is backing from other organisations. Try to identify whether any other organisations would be interested in the evidence and its potential implications. This includes those who would be positively influenced by the findings and those who may oppose it.

Types of organisation to consider:

- Other charities/learned societies: if there are others within the sector for whom the evidence is also relevant (e.g. RSB, RSC, Royal Society, FEMS), a joint briefing could be created, which would likely hold more weight with policymakers than a briefing from a single organisation.
- Industry bodies: often industry is where the evidence (if taken forward) could eventually cause change or have an impact, so it can be useful to meet with industry bodies to discuss implications, feasibility in enacting said change etc. Sometimes evidence isn't always feasibly applicable in the real-world setting, so this is a good opportunity to discuss solutions from both viewpoints, providing a more rounded (and therefore more attractive) point of view for policymakers.
- Think tanks/research institutes: think tanks are research institutes/charities that aim to make and influence policy across all levels and tend to be specific to a certain area. Think tank researchers influence public opinion and public policy and tend to have very close/direct links with policymakers, which could make them valuable to collaborate with compared to traditional research institutes.

One way to collaborate/build a stronger evidence case is to host policy roundtables; inviting experts from across disciplines and sectors to discuss topics is helpful in producing well-rounded and evidence-backed briefing documents and outputs. These can be held virtually or in-person.

INDIRECT ROUTES

4. Use attendance at external national and international events/platforms to raise awareness and explain implications of the evidence.

AMI team leads: policy team, advisory group coordinator, comms and events team.

There are specific opportunities to 'push' relevant evidence at certain events that AMI or AMI members attend.

- Participate in policy-specific sessions at events (e.g. FEMS)
- Provide presentations at events on evidence in relation to policy (e.g. ProFSET)
- Participate in policy-related roundtables at events (e.g. at ISME)
- Participate in side events/exhibitions to promote evidence in relation to policy (e.g. at COP)
- Provide opportunities for other people to host their own policy-related events (e.g. through sponsorship)

In particular, AMI should look to its Global Ambassadors and Advisory Group members for help with identifying potential opportunities relating to attendance at events/platforms.

INDIRECT ROUTES

5. Campaign to raise awareness/educate the general public to drive interest in the findings & increase government buy-in before contacting policymakers, e.g. through a social media campaign/workshops.

AMI team leads: advisory group coordinator, comms & marketing team, events team.

This is a new policy avenue that the policy team has identified – AMI should consider how we could potentially use this going forward.

Rules and guidance around how charities can campaign can be found here.

INDIRECT ROUTES

6. Work with the press/media to increase general awareness of the evidence, e.g. through a news story.

AMI team leads: advisory group experts, comms team.

This is a new policy avenue that the policy team has identified – AMI should consider how we could potentially use this going forward. If we do decide to go ahead with this route we will need to consider contacting the Science Media Centre.

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