

PAJ Script

Re-imagining Oil Spill Response post 2020: new challenges will require new thinking for the next decade

Brian Sullivan

Title Slide (Slide 1)

Good Morning everyone and thank you for coming. My name is Brian Sullivan and I am the Executive Director of IPIECA, which is the global oil and gas industry association dealing with environmental and social issues. I'd like to take this opportunity to thank the Petroleum Association of Japan for inviting me out to Tokyo to address you. Although I don't get to spend much time here when I visit, Tokyo is one of my favourites and I never pass up an opportunity to visit this fascinating city.

Slide 2

Some of you may not be familiar with IPIECA which originally stood for the International Petroleum Industry Environmental Conservation Association – but nowadays, as our remit has expanded to include social responsibility and human rights, we just call ourselves “IPIECA” and we are the global oil and gas association for advancing environmental and social performance. IPIECA was formed in 1974 following the launch of the United Nations Environment Program or “UNEP”. While initially many oil & gas companies wanted to speak with UNEP and explain what they were doing on the Environment, UNEP soon realized that they could not cope with many separate companies and asked industry to form an Environmental NGO so that there was a single point of contact with industry.

We are the only global association for both the upstream and the downstream oil and gas industry, and our membership operates worldwide. We reach about 500 oil and gas companies when we include those reached through our association members; this in turn translates into over 1.1 million employees living in 180 countries worldwide.

Slide 3

As you can see from this slide, IPIECA Membership is divided into three classes:

- Corporate members, which include all the major international integrated oil and gas companies, several national oil and gas companies and independent oil and gas producers. You will see Japan represented by Inpex in this category.
- Associate members (usually Oil & Gas service companies) , an important channel to promote good practice through the supply chain.
- National and Regional Oil and Gas Association members including our kind hosts, PAJ. The Associations play an important role in representing their memberships in IPIECA activities and also as channel of outreach to the wider oil and gas industry.

Over recent years our membership has continued to grow and even in the two weeks since this slide was created, 2 new members have joined us.

Slide 4

As you will know, we concentrate on Oil & Gas industry Environmental and Social issues and we do this by using our convening power to bring together professionals from the member companies to work together to develop and share good practice that enables the industry to improve its environmental and social performance.

We use this information and our networks to enhance and communicate knowledge, engaging with members and others in our industry along the way.

We also work in partnership with key stakeholders. This can take the form of formal arrangements with UN bodies such as the UN Environment Programme, UNEP and the International Maritime Organization – the IMO - or consultations with key global bodies such as the World Bank, the International Finance Corporation – the IFC, the Equator Principles Banks and other major Non-Governmental Organizations (NGOs).

Slide 5

After it was formed in 1974 IPIECA was granted “Special Consultative Status” at the United Nations Economic and Social Council UN - ECOSOC the following year. UN – ECOSOC is a gateway into many other UN system organizations around the world and this is what enables us to belong to the various UN system organizations, some of which you see listed here. We are the industry’s principal channel of communication with the UN – and work closely with a number of UN bodies such as the United Nations Framework Convention on Climate Change , UNEP, the United Nations Development Program the IMO, and the United Nations Convention on Biodiversity .

Our role with the UN covers three areas: first, attending UN conferences such the climate summits, the high level political forum on sustainable development and the IMO Marine Environment Protection Committee meetings; second, engaging with the UN secretariats to provide a channel of access to information about the industry; and thirdly, to partner in projects where it makes sense for the international community and the global industry to work together. The most relevant example is our partnership with the IMO, the global initiative for oil spill preparedness and response which I will talk about later.

Slide 6

When you join IPIECA, your organization becomes part of industry group with shared values; we build consensus among our members on key issues and practices, which shapes everything we do and say. As you can imagine, on some issues, building consensus among a group of almost 70 organisations can be challenging, but once achieved, it is very powerful. Our role is not to lobby, but to be a constructive partner by taking a collaborative approach to emerging sustainable development issues and generally I would say that as an association we listen more than we speak.

Slide 7

We have four strategic themes: **Climate & Energy**, which addresses climate-related risk whilst meeting the world's growing energy needs; **Environment**, which is about conserving the natural environment in and around our operations; **Oil Spills**, which is about preparedness and response to minimize the impacts of Oil Spills, whether or not they originate from industry assets; and **Social Responsibility**, where we try to improve social performance of oil and gas operations in the communities in which we operate. These themes reflect how stakeholders segment in terms of their specialisms and also how our member organisations segment their expertise.

Slide 8

Almost all of the knowledge, tools and good practice that comes from IPIECA is made available to the entire oil and gas industry and not just restricted to members. You can see our main audiences in the outer circle on the slide with the industry on the right and external stakeholder groups on the left. You won't see the public or the media on there as we leave that space for other associations and individual companies to fill.

In this way IPIECA is facilitating industry wide changes and helping decision makers to improve understanding and performance of their environmental and social challenges.

Slide 9

Talking of environmental challenges, most years in this forum, attendees hear that the continual decade – on – decade decline in spill frequency and volume is continuing, and this is good news for all of us and a particular credit to those who spend so much time and effort to accomplishing this. The statistics from ITOPF show the amount of oil spilt from tankers each year and although the overall trend is downward, a single large spill can have a material impact. But we must always stay prepared because the possibility of another incident like the Sanchi will always be with us and for this reason it is vital for all organisations involved to maintain their preparedness and avoid complacency.

Slide 10

It is February 2020, and before looking at the future this is a good time to revisit the past and remember how we got to where we are. Early events defined the actions needed for improvement, from the Torrey Canyon spill in 1967 and Amoco Cadiz ten years later and the early attempts to either set fire to the ships or the use of crude kerosene-based dispersants.

The outcomes of these spills lead to an incremental improvement in international cooperation through IMO and the Oil Pollution Response and Cooperation Convention (OPRC) as well as the U.S. Oil Pollution act of 1990 (OPA 90).

We also saw better ships with double hulls, better trained crews, a ground-breaking liability and compensation regime and the start of a consistent decade on decade drop in spill frequency and volume that you are now so familiar with.

Slide 11

Sometimes it takes a seminal event to galvanize world opinion, whether it is the effects of Global Climate Change..... or a major oil spill. The impact of the Macondo and Montara incidents precipitated a thorough re-evaluation of our capabilities and an understanding of the need to re-learn what we thought we knew in areas such as Risk Assessment, Capping & Containment, Well Intervention, Incident Management Systems, and Tiered Response and Mobilisation.

Slide 12

Many new techniques were developed for the Macondo spill and the response was massive and technically difficult, although it led to many innovations and a different way of thinking.

Slide 13

An early step was to invest massively in the capping, containment and sub-sea dispersant injection or "SSDI" of dispersants, such that we now have this capability all around the world, with facilities manned 24/7 in four locations: Cape Town Stavanger, Rio de Janeiro and Singapore. The sub-sea application of dispersants was first practiced during the response to the Deepwater Horizon accident and there is now an extensive range of research available from numerous sources. These identified optimal dispersant injection points and methods; and confirmed that readily available dispersants (Corexit, Dasic, and Finasol) are all effective on a wide range of oils and reduce droplet size by at least an order of magnitude. Flux modelling validated that SSDI substantially reduces concentrations at the sea surface and the testing of deep-sea organisms (selected fish, shrimp and corals) established that they are equal or less sensitive to oil toxicity than surface organisms. We also developed a guideline for conducting subsea monitoring for SSDI. Droplet size field measurement research led to the development of the Silhouette Camera which significantly enhances capability for droplet size measurement, and a comparative risk assessment model was developed collaboratively to quantitatively evaluate response options.

Slide 14

Various national and global initiatives to advance our knowledge, understanding and approach to oil spill preparedness and response were undertaken and notable amongst these, were the Oil Spill Response Joint Industry Project, co-hosted by IPIECA and the International Association of Oil and Gas Producers and the American Petroleum Institute's Joint Industry Task Force. These alone represent millions of dollars of investment and the collective contribution of hundreds of subject matter experts from around the world.

The two initiatives have produced numerous technical reports, good practice guides and recommended practices that have offered significant advances in industry's oil spill preparedness and response capabilities. Additionally, the various research projects conducted primarily by API have greatly enhanced the understanding of the efficacy and fate and effects of selected response options with a focus on subsea dispersant injection.

This work could not have been done without the help and support of the IPIECA and IOGP members who invested millions of dollars to build new equipment and make new techniques available to all and you can see some of the major contributors on this slide.

Slide 15

IPIECA's contribution focussed on the five-year Oil Spill Response Joint Industry Project in which we developed 24 documents, replacing the previous internationally recognized IPIECA Oil Spill Response Report series. These presented the current views on good practice for a comprehensive range of oil spill preparedness and response topics and supported the alignment of industry approaches and individual activities, informed stakeholders, and served as a communication tool to promote awareness and education. We also produced many accompanying technical documents.

Slide 16

The IPIECA – led group also produced a number of animations and videos on the six key learnings that you should test your response plan against. These plan scenarios should be developed based on the identification of the most likely scenarios, including an offshore release from a tanker, an offshore spill following a subsea release, a spill potentially impacting a populated area, a nearshore release in spawning season, and an onshore or nearshore release.

Slide 17

These scenarios are then further developed using Spill Impact Mitigation Assessment or "SIMA". I want to dwell for a moment on SIMA because until now there has been a real challenge when planning for or responding to an oil spill event. Predicting the potential impacts on different sensitive ecological, social and commercial resources; determining their relative importance and priority to different stakeholders; and developing a response strategy comprising a set of response actions which serves to achieve a commonly accepted preferred or optimal outcome in the circumstances. This has been a focus of planners and responders for decades, and various approaches have been sought. One approach which has endured, are the conceptual principles of NEBA – Net Environmental Benefit Analysis which many of you will be familiar with. However, while the over-arching principles of NEBA were generally understood, in reality we often struggled to harness them tangibly in their response decisions, that suitably balance the interests and concerns of so many varied resources and stakeholders. Working together across all three key industry associations – IOGP, IPIECA and API, the principles of NEBA were harnessed into a simple qualitative process, now known as SIMA. This enables resources to be selected and assessed for potential impacts from an oil spill, different response measures to be considered for their potential positive or detrimental effects on each resource, and stakeholders to explore the complex issues within a clear framework, to align more closely on the optimal actions to take in the circumstances. A remarkable feature of this SIMA process, is the platform it provides to bring stakeholders together from very different backgrounds and with highly varied and often strong views, and the opportunity to reach a more common and shared

perspective of the genuine and high concerns, the realities of response and what can be achieved in practice, and ultimately hard choices that need to be made. SIMA therefore represents a break-through in both planning for and responding to oil spill events and I encourage you to download this wonderful tool.

Slide 18

Now you know the likely location and needed resources, you now have to work out the logistics of where the resources should be based in order to be able to cascade them into the theatre of operations in a timely manner. The optimal resource location (local, regional or global) should be decided in advance and be arranged to avoid unnecessary duplication.

Regulators, industry and the response community have for decades recognized the need to provision response capability and position it in suitable locations, in readiness for responding quickly to any oil spill event. Over the years however, various difficulties have been encountered in defining what that capability was, how much was needed and where to station and maintain it most effectively and cost-efficiently. Since the 1980's, IPIECA has promoted the concept of holding resources in 3 'tiers', by connecting together the need for some to be maintained close by certain operations and locations, ready for deployment quickly by local organizations, especially for smaller incidents that were potentially more likely to occur more frequently – tier 1. Building on this, tier 2 resources were seen broadly as being maintained in fewer locations, serving the needs of a variety of organizations and needs, often targeted at a particular geographical region, for those incidents deemed less likely but which would still be needed to supplement tier 1 resources on occasion, in an effective and cost-efficient way. Beyond this, the industry tier 3 capability was seen as an international resource with specific centres of expertise, and resources held in readiness to supplement the other 'tiers' of capability, on a global setting.

Similar to the NEBA situation I talked about just now, while these over-arching principles of Tiered Preparedness and Response were generally understood, practitioners often struggled in reality to harness them into tangible and robustly defensible decisions on what resources to provision, how much and where. Over the years this has manifested in flaws to the planning process for example with potential oil spills being perceived as 'tier 1 events', 'tier 2 events' etc., the response capability often viewed narrowly on occasion as more focused on specialized equipment such as for offshore activities, and also many aspects of oil spill risks not being coherently addressed as a whole and provisioned accordingly. The IPIECA-IOGP Good Practice Guidance Series now sets out a coherent 'golden thread' approach to planning for potential oil spill events. First, in the Contingency Planning guidance, by characterizing oil spill risks through planning scenarios, tangible depictions of what could happen, what might be affected and what significance this could have. Then, the SIMA guidance lays out a powerfully simple approach to making sense of the variety of issues that need to be addressed, in order to define clearly an overall response strategy – i.e. what combination of response actions is needed to achieve an outcome deemed preferred/optimal in the circumstances. The Tiered Preparedness guidance then starts from this point, informed directly by a defined response strategy – and supports decisions being

made on what resources are needed, how much, and by when. It also offers a much better focus on the variety of resources needed, by categorizing them in terms of for example, surveillance, offshore dispersants, mechanical recovery, shoreline clean-up, wildlife response, waste management and so on. Addressing the issue of 'what, how much, and by when' allows planners to clearly define what needs to be provisioned close by, what can tolerably be provisioned in a more effective and cost-efficient way in a collaborative (tier 2) manner, and what will be needed from national or international 'tier 3' resources. It also drives discussion and greater clarity on what is a tolerable timeframe for resources to be needed in, set against what is perceived as needed and feasible in practice, and recognizes that in some cases any kind of local incident may call for wider tiers of resources to be mobilized, thereby challenging the myth of there being a 'tier 1 spill'.

All of this clarity and sharper focus is fundamental to robustly managing oil spill risks and response solutions. Taken together, and with the Tiered Preparedness and Response approach now redefined in this way, the resources needed to be provisioned in 'tiers' becomes much clearer, more technically justified, and much more closely linked to the oil spill risks that a regulator, oil company operator and response service provider may need to deal with in their area of interest. This tiered approach provides the last piece of that 'golden thread' that links oil spill risks (using planning scenarios) to response strategy to tiered capability needed for the job of response, and as such, is another break-through development.

Slide 19

It is now necessary to manage the incident, and this is always difficult to discuss in countries that have not historically adopted unified command (like the United States) and the Incident Command System that goes alongside it. While the functionality of ICS was generally accepted in principle in the international response community, features of how it worked in practice had motivated a reluctance to adopt this approach elsewhere. This was reinforced in many countries by adherence to response structures preferred or indeed regulated by government agencies who retained overall control of any oil spill response in different situations. However, during the Joint Industry project, the generic principles of ICS were embraced and captured in an Incident Management System (IMS) Good Practice Guide. This guidance can be applied by any designated 'Responsible Party' responding within any regulatory regime, across a worldwide setting that encompasses 170+ countries with a sea border and countless more landlocked countries – all with a variety of prevailing oil spill risks. While many of the principles existed before, the adaptation of this by industry for an international setting, marks a break-through in how response will be planned, organized and managed going forwards.

Slide 20

All that remains now is to suggest that responders get the grips with the guidance we have produced which is relevant to their operations. They can all be found on the IPIECA website.

Slide 21

These materials include:

Guidance on dispersants; dispersants allow rapid response offshore, to protect important coastal areas, and sub-sea dispersant injection proved highly effective in the Macondo incident. The selection, testing, supply, & fate/effects of dispersants are detailed in new guidance and we have also produced a guide to getting regulatory approval & authorisation.

Slide 22

With In-situ burning, the latest field and laboratory data were incorporated into practical guidance including when and how to apply In Situ Burning, equipment design and selection for fire-resistant boom and ignition systems as well as operating considerations and monitoring.

Slide 23

Often overlooked, are the many technical reports that we have published alongside the good practice guides: detailed guidance on Satellite and airborne surveillance, Oil Spill trajectory modelling and metocean factors, in-water surveillance, and common operating picture.

Slide 24

In summary then, and looking back at our efforts to date, we need to think of the five lessons we've learned:

1. Think - risk-based scenarios: they are the starting point
2. Use NEBA/SIMA based response strategies
3. Plan using tiered response – local, regional, global
4. Align on a single common Incident Management System
5. Know and use the latest oil spill response tools

But looking forward – and this is where I think we will have new challenges – is the 6th Challenge: involve regulator and community stakeholders from the very beginning – even before an incident happens

Slide 25

Volunteer Management Challenges are the first of my suggested challenges that are going to become more important over time. Communities are increasingly “in touch” with their local environment and there is an expectation that they will be consulted and participate in clean-up – even if they are not trained in the hazards of oil spill clean-up. “Volunteers of Opportunity” can be useful but require training. Experience in the Cosco Busan and Rena spills shows that this has to be properly managed, because if it is badly handled, reputational damage will likely result. This particularly applies to oiled wildlife where difficult decisions need to be taken on sensitive issues such as euthanasia, and IPIECA continues to work with Oil Spill Response Limited and the Sea Alarm foundation to improve our understanding of what well-planned and managed oiled wildlife response should look

like. IPIECA has produced a Volunteer Management Technical Support Document with two case studies.

Slide 26

Getting Social Media and reputation management right is really important

Social media can shape and control a company's message during a crisis and needs to be handled well through active management; if messages are not "on-point" and practiced other stakeholders will supply the message and this can damage reputation and affect stock price and brand value. It is important to remember that regulators are a stakeholder too; during an oil spill, the public demands to know not only what the company is doing to clean up an oil spill but also how the regulator is exercising their duty of care. Macondo showed that joint efforts to provide information can help both parties demonstrate a collaborative effort to minimize environmental damage.

Slide 27

Increasingly, small spills are more likely to be from bunkers but the new bunker Sulphur rule could present difficulties for cleanup: there are a "new generation" of low sulphur marine fuel oils (heavy distillates and residual fuels) coming on the market and they are expected to be more paraffinic/waxy with higher pour points; this will likely affect clean-up strategies and could present challenges to responders in cold climates. This is being addressed in the 2020 work programme of IPIECA's Oil Spill Group which you can see...

Slide 28

... here. As previously, the programme is divided between initiatives to build and share knowledge, to present new and update existing good practices and tools, and to forge engagement and dialogue with both regulators and oil spill response practitioners globally. You can see the work programmes on low sulphur marine fuels here as well as development on guidance on situational awareness and response infrastructure in remote areas.

Slide 29

Our technical stewardship programme will continue to update the very successful Good Practice Guides – which include translation into different languages. We would be very happy to work with you to add Japanese to the list if you feel it is necessary.

Slide 30

We would also like to see you at one of the triennial oil spill conference series:

We were active at Spillcon, in Perth Australia, last year and this year we will be at the International Oil Spill Conference, in New Orleans, May 11th – 14th

IPIECA is also co-chairing the Interspill conference in Amsterdam, in 2021.

Slide 31

Before closing, I would also like to pay tribute to our joint programme with the IMO – the Global Initiative. Since the 1996 launch of the IMO/IPIECA Global Initiative, results have been encouraging. The programme has initiated regional/national workshops, training courses and exercises that have promoted and enabled the ratification and implementation of the relevant international conventions; the identification of responsible government agencies in charge of oil spill preparedness and response at national level; the approval of more national oil spill contingency plans and regional plans, and improved communications between government and industry at national and regional levels.

Today, four different regions have established Global Initiative programmes as you see here. This has been an extraordinary success – working together to improve oil spill preparedness and response in many regions of the world has resulted in excess of 200 workshops over a combined 35 years of experience of building capacity in 43 countries since 1996: no fewer than one third of all maritime states are now covered by an IMO/IPIECA regional programme.

Slide 32

The closest program to you is the South East Asia programme and while it was originally designed to provide a platform for stakeholders to come together and assist ASEAN Member States and industry build OSR capacity. It is open to members from the wider region. GI South East Asia has played a significant role in enabling the adoption of the ASEAN MoU and more recently, the Regional Oil Spill Contingency Plan which provides the mechanism for regional cooperation and mutual assistance including support for the ratification of OPRC across ASEAN. In 2019 it has run a Regional Workshop on regional Oil Spill Contingency Planning, a Sub-regional 'Train-the-Trainer' Workshop on OPRC Model Courses and three National Workshops on Oil Spill Contingency Planning in various countries. The expertise and capability of this program is available to you if required.

Slide 33 – Closing slide

Once again, I would like to thank you for the privilege of addressing you and hope that your discussions today go well.

Thank you