

Finance Committee
Options Work Group

1. Context

At its meeting on February the Finance Committee (Finance Committee 5th February 2018 minute item 10) noted a number of uncertainties that had potential to impact future income materially and adversely given:

- the planned change of formula for National Subscriptions for 2019 onwards,
- the ambitious budget for 2018/19 to grow income rapidly from the Company Associate (CA) and Affiliate Members (AMP) programmes (e.g. for CA's from income of just \$5,950 in 2016 to \$55,000 in the proposed 2019 budget),
- the difficult trading conditions for publishing,
- the uncertain outlook for the financial markets.

The Treasurer undertook to organise a small work group to consider the short- and longer-term implications for IUPAC and the precautionary steps that might be considered, and to report back to the Finance Committee in 2019.

The work group met by teleconference and then developed ideas by email exchange. The work group comprised:

Chris Brett
Mark Cesa
Michael Droescher
Colin Humphris
And latterly, Richard Hartshorn

Whilst IUPAC efforts continue to be focussed on growing new sources of income, the work group's discussions centred on costs and what we should do if faced with a material annual shortfall of income of the order of \$200k p.a.

As a guide, the distribution of budgeted income in 2018 is:

Category	2018 Budgeted Income \$, 000	
NAO subscriptions	917	64.0%
ANAO & AO	3	0.2%
CAs	30	2.1%
AMP	50	3.5%
Publishing	291	20.3%
Investment Earnings	141	9.9%
Total	1432	

The costs for publishing are accounted for under expenses. The net annual publishing benefit to IUPAC appears to have plateaued at approximately \$200k.

2. Income Concerns during 2018

Many of the income concerns noted by the Finance Committee have appeared more real through the year and were discussed by the Executive Committee in November 2018:

- 2.1. The proposed new formula for National Subscriptions was approved by a substantial majority by Council members in September. A number of countries however voted against the proposals: China, Switzerland, Thailand, Czech Rep., Hungary and Egypt. Their future intentions are unclear although 2018 subscriptions are paid. China in particular considers its subscription too high to be sustainable. Brazil and Mozambique have indicated that they will leave IUPAC in 2019 citing the cost of membership during difficult financial times.
- 2.2. We have seen income growth from both the CA and AMP programmes but this is more modest than hoped and the budgets for 2020/21 reflect this. Earnings for CAs were just \$3550 in 2017 and whilst these have risen to \$16000 in 2018, the 2018 budget was \$30,000.
- 2.3. The European Commission and others around the world are pressing for all research funded by governments and inter-governmental agencies to be published freely. The principles of the European Plan “S” announced in September are attached. This is potentially a major disruptive change for all scientific publications. We will look at the implications closely with our publishing partner De Gruyter and with chemistry societies with extensive publishing (e.g. ACS, RSC, GDCh). Most are expected to publish position statements on Plan S by February 1st 2019. GDCh has and the statement of their concerns is also attached for information.

Following the EC discussion Richard Hartshorn has contributed to the work group.

3. IUPAC Cost structure

A review of the Income statements for the past biennium shows cash costs broadly as:

	2016	\$,000	2017	\$,000
Secretariat Staff costs and benefits		547		545
IUPAC Administrative Costs (including services, IT systems, CI production, financial services, ICSU membership)		304		288
Travel and Subsistence (for Officers, management meetings and the bulk of project expenses)		386		638
Totals		1237		1471

These reflect:

- the current size, scope and structure of IUPAC; the numbers of divisions, committees and interdivisional committees,
- the operation of the project system,
- the traditional approach to the management of IUPAC through the Council, the Officers, EC, Bureau, the biennial schedule of General Assemblies including elections throughout the organisation
- the ways IUPAC has to serve its volunteers and members and how it addresses the outside world. The transaction costs of settling expenses are approximately \$10k p.a. alone.
- The high cost of international travel.

This work is all serviced by the Secretariat based in RTP and Boston. Since 2013 the Secretariat has been overhauled to improve its efficiency and effectiveness with a new accounting system, website, databases and workflows. Full time staff are 5, down from the traditional complement of 6. The complexity of administering the Union in its current form remains high. The Secretariat is grossly overworked, a fact that not all of our volunteers recognise when making (sometimes relatively trivial) requests of Secretariat staff.

Steps have already been undertaken to outsource specialist activities. Publishing was outsourced to De Gruyter. The De Gruyter agreements run until December 31st, 2020. They will run for a further three years unless notice of termination is given in June 2020; the decision point.

We are also taking professional financial investment advice from BB&T Scott & Stringfellow.

4. Major cash shortage in the short term

In the short term we have limited options when cash is short. Given we are running close to breakeven or in deficit, cash flow will be a perennial problem, especially given the inevitable mismatch of timing of income and expenditure.

The Finance Committee is working with our Financial advisors to provide some cash flexibility through the creative use of the investment portfolio and borrowings against this. A balance is needed to limit the potential loss of earnings from long term investments relative to the costs of borrowing.

During December 2017 and again in the autumn of 2018, IUPAC was forced to suspend settlements of expenses due to severe cash shortages. This is only acceptable in emergencies as we cannot expect our volunteers to fund our work by carrying our costs on their credit cards. If this was to continue, we would soon have fewer volunteers.

If we are aware of pending problems, the Officers, on advice from the Treasurer and Executive Director, could challenge the organisation to avoid all but the most essential travel and subsistence costs. The Officers could require justification from those still wishing to travel. We should certainly encourage a conservative approach to travel now. This is the typical response of companies in similar positions. Meetings and essential decision making might be undertaken across the internet, “go to meeting”, webinars etc. The work group recognised the importance of face to face meetings but also noted that whilst this is important for creativity in relatively small, multi-cultural, groups it is less so for very large meetings

(particularly those with a significant element of “reporting”) where the personal interaction opportunities are much more limited. The software for internet meetings is improving all the time and becoming cheaper.

5. The Next Budget cycle

IUPAC has no sustainable future if it attempts to run persistent budget deficits. The investment portfolio will simply diminish and with it the important earnings we receive from our investments; it’s a vicious circle.

When considering the finances within the budgetary cycle, two broad suggestions were made:

- The work group considered that it is better to focus limited funds on the core science output rather than the running costs of IUPAC. We could avoid the off-year face to face Bureau meeting (typical cost \$70,000) and have the Bureau meet more regularly by “GoTo meeting” or through webinars. Bureau meetings have become large, expensive and we felt contribute little to the strategic role of the Bureau. They provide few opportunities for members to engage in discussion of what is best for the Union. Similarly, the Executive Committee could meet more frequently over the web but hold just one face to face meeting (in off years) rather than two annual meetings per biennium (potential saving \$20,000).
- Faced with a material shortfall of income, the budgets of the Divisions and Committees could be reduced across the board for a following biennium and they could be encouraged to limit expenditure against already approved projects in the current biennium. It should be noted however that IUPAC currently lacks the management processes to prioritise funding to particular groups or to retire activities of lesser importance. This is a difficult task being considered by the Evaluation Committee. The process by which administrative structures across the Union can be changed is constrained by statutes and by-laws but limited by the current low frequency of Bureau and Council meetings and a poor relationship between the timelines for such decisions and other critical functions such as budget setting.

The core activities appear to the work group as:

- (a) Colour Books (regularly updated electronically in future)
- (b) Technical Reports, and critical evaluation of data
- (c) Conference Series (income earning for us in future?)
- (d) Programmes on Education and Capacity Building probably working with others such as UNESCO and OPCW
- (e) Programmes on Sustainable Development in support of UN organisations.
- (f) Standards for a digital world
- (g) A programme of activity on Chemistry and Society

Some rebalancing of Divisional Budgets is required; the historic basis of the different levels of funding is unclear. There may be a need to reduce the proportion that can be used operationally rather than for projects to discourage travel. Some rebalancing is also needed if we are to fund the new strategic areas of sustainable development or digital standards. This

could be achieved by increasing the amount available to the Project Committee for cross-divisional or interdivisional activities consistent with the strategy.

6. Medium to Longer term

6.1. Secretariat

A single large cost component is the Secretariat, its staff, office and support systems. The work group were clear that there is no scope to reduce this cost in the absence of material changes to the ways in which IUPAC functions. Some thoughts have been aired that might be worthy of consideration longer term, and some that could/should be evaluated now:

- A reduction to four with skills attuned to the skills and competences required for the future tasks. We have installed a lot of new systems.
- More extensive use of interns.
- Possible office relocation to a lower cost location. There were doubts that any exist in realistic locations for English speaking staff. A possibility might be an arrangement with an existing national chemistry organisation to share overheads. This might raise concerns from other national members over independence that would have to be considered.
- A dispersed secretariat in the manner of ICCA although this only appears to work with a hands-on Board that directs just four programmes of activity. It is designed to be very simple. The IUPAC Secretariat is already partially dispersed, and it is clear that cooperative individuals are required to ensure effective teamwork in these situations. The work group were of the view that the Secretariat work is preferably carried out at a single location.

We have to recognise that change is coming at the Secretariat through retirements. Inevitably we will have to budget for the cost of hand overs in the next few years. The current office lease runs until June 2021 with an option to renew for 5 years.

6.2. Divisions and Committees

As argued above, the current scope and diversity of IUPAC drives the overall administrative cost. Each unit, be it Division Committee, interdivisional committee, etc, places a call on Secretariat time and resources in support of their elections, volunteers and operations. Currently IUPAC comprises a matrix of science disciplines and science application areas (environment, health, industry and education), with a trend towards a growing number of inter-divisional committees and cross division projects. There would be real value in finding ways to simplify the organisation, reduce the number of independent units, and to focus on the highest priority themes for the Union e.g. electronic data standards and sustainability. Such fundamental change would require Council approval and a first step would be to seek approval for an evaluation of the opportunities to simplify, focus and reduce the costs of our science and applied science work and the effectiveness of the project system. Interestingly at the Bureau meeting in Bratislava in April 2018 when members had the opportunity to consider IUPAC some years hence there was a broad consensus of agreement that the current Division and Committee structure will need to change.

A suggestion to allow Divisions to raise their own funds for their meetings was raised. This would need to be thought through to ensure it is compatible with the current financial

management processes and the Statutes (9.5), and to mitigate risks that such activities by one part of the organisation may limit opportunities for the wider Union or create conflict and confusion (internal and external) if more than one body within IUPAC is engaging with a potential funder.

6.3. Council, Executive Committee, and Bureau

IUPACs administrative meetings carry a high cost; supported delegates to Council cost \$50,000 alone in 2017. We commented on the cost of Bureau and EC above. Again, a number of thoughts were aired by the workgroup that would be worthy of consideration:

- We speculated that a move to web based large meetings with electronic voting may be possible. The jury is out on the recent Council voting on National Subscriptions and feedback should be sought from the NAOs on their experience of the webinars and the voting system and from those who chose not to take part. In principle key decisions could be taken in this way between Council meetings obviating in part the need for Bureau. There are however particular challenges associated with this approach, notably limitations of time zones, situations where the NAO is not the local chemical society (and therefore not perhaps as engaged with chemists as they could be) and the need for the technology to improve.
- The work group felt that it is important that NAOs (or their representatives) meet face to face with the officers of the Union, Divisions and Committees. The money spent supporting NAO attendance might however be better focussed on developing countries and especially on those who have no representative already supported as titular members at the General Assembly.
- We could consider moving to a triennial cycle of General Assemblies and elections but would need to consider carefully the implications for those considering standing as Officers for potentially longer periods.
- A smaller hybrid of the EC and Bureau might more efficient way of representing Council in off GA years. It could be structured more formally to comprise the Officers and two representatives of the Division Presidents and Committees Chairs and two from the elected members to Bureau. Both groups would run their own networks and hold meetings at the GA. This would have the advantages of being democratic and providing a reasonable balance between the officers and those elected to EC to ensure the interest of the various groups are well represented. As noted above this group might meet frequently (quarterly) over the web.

6.4. National Membership

If faced with persistent shortages of funds, two future options were raised that are probably representative of a spectrum of alternatives. These are only ideas at this stage that need to be thought through to ensure all the implications are understood.

Firstly, we might limit National Subscriptions to cover the administration costs and core scientific programmes (a) and (b) above alone. We might explore options to generate revenue for the conference series (c). The important cross cutting programmes of activity (d), (e), (f), & (g) might be managed by programme councils and funded through solicitation of funds from NAOs, IGOs, industry or other stakeholders. This would create an active market for activities and a focus onto the real priorities i.e. what attracts the money. It could also provide important new mechanisms for active engagement with all

our stakeholders including representation on the programme councils. The proposed Endowment policy could play a significant role in funding the programmes of activity.

The second option would be to broaden national membership significantly by widening the category of national members who pay only a nominal fee and changing voting rights. Only full NAOs would retain voting rights at Council but these new “national associations” could run AMP and CA programmes to raise funds for their organisations and nominate representatives to Associate positions throughout the Union’s Divisions and Committees. This would be consistent with the changes made to rights to nomination at the Sao Paulo Council meeting. Funded Titular members would continue to be nominated by full NAOs. “National associations” would therefore pay a low membership fee but be expected to fund their representatives to IUPAC activities. This might be an attractive option to many of the smaller countries effectively inverting the current subscription model to something more akin to “pay as you go”. It would have the additional benefit of reinforcing the relationship between the national organisation and its nominees.

7. Conclusions

The work group has considered precautionary steps in the event of a material shortfall in income to IUPAC (>\$200k). Many of the uncertainties of concern to the Finance Committee in February 2018 have started to look more real since then.

We recommend:

In the Short term

- Continue to work with our financial advisors to help manage our cash flow.
- Consider policy changes to encourage the reduction of the need for travel and subsistence by judicious use of virtual meetings.
- Take the opportunity to review the future skills and competence needs of the Secretariat. Plan for succession of staff and reassess the office location by the end of 2019, well ahead of the lease renegotiation.

In the Budget outlook

- Avoid major discretionary face to face governance meetings of Bureau and EC.
- Rebalance Division and Committee budgets to maximise focus on projects and create the opportunity to fund the new cross organisational strategic programmes.

Medium to longer term

- Rethink the way we run the Council meetings and the structure of the Bureau and EC.
- Assess the opportunities to simplify and focus the science organisation (and retire less productive activities).
- Reassess the administrative task of the Secretariat in light of these two points.
- Think through new options for the structure and funding of our work involving our stakeholders in cross cutting programme activities.
- Consider radically different approaches to national subscription funding designed to allow far greater national membership and engagement with IUPAC globally.

C J Humphris
On behalf of work group