

Energy Transition and the Energy Trilemma

How SAIs Can Help Governments Balance Security, Affordability and Sustainability

Distinguished Mr. Edward Akol, Auditor General of Uganda and Chair of INTOSAI WGEI,

Distinguished WGEI Secretariat,

Distinguished Minister Vital do Rêgo, President of the Brazilian Federal Court of Accounts,

Distinguished Heads and representatives of Supreme Audit Institutions,

Dear colleagues, ladies and gentlemen,

It is a great honour for me to contribute to the WGEI All Members' Meeting on behalf of the INTOSAI Working Group on Environmental Auditing, or WGEA.

Allow me, at the outset, to express our sincere appreciation to the WGEI Chair, the Auditor General of Uganda, Mr. Edward Akol, and to the WGEI Secretariat for the kind invitation and for the continued cooperation between our two working groups.

I would also like to extend our warm appreciation to SAI Brazil and to Minister Vital do Rêgo, President of the Brazilian Federal Court of Accounts, for hosting this important meeting and for providing a meaningful platform for SAIs to discuss the governance of extractive industries in a time of global transition.

Today, I would like to speak on the topic:

“Energy Transition and the Energy Trilemma: How SAIs Can Help Governments Balance Security, Affordability and Sustainability.”

The key message is simple.

Energy transition is not only a technical shift from fossil fuels to clean energy. It is a governance challenge. It is a fiscal challenge. It is a social challenge. And it is increasingly an accountability challenge.

Governments around the world are being asked to do something extremely difficult. They must maintain energy security. They must keep energy affordable. And they must move towards environmental sustainability and climate commitments.

In other words, governments are juggling three balls at the same time: **security, affordability, and sustainability.**

But they often have only two hands: limited fiscal space and limited policy capacity.

This is where Supreme Audit Institutions can play a constructive role.

SAIs do not decide energy policy. We do not tell governments which energy source to choose. We do not replace policymakers.

But we can help governments see the trade-offs more clearly. We can examine whether decisions are evidence-based. We can identify hidden fiscal risks. We can assess whether vulnerable groups are protected. And we can provide constructive recommendations to improve public governance.

1. Why Energy Transition Matters to Both WGEI and WGEA

For WGEI, energy transition is directly connected to extractive industries.

Many countries still depend on oil, gas, coal, and minerals for public revenue, employment, exports, and energy supply. Extractive industries remain central to national development in many contexts.

At the same time, the global energy system is changing.

Countries are investing in renewable energy, grid modernization, battery storage, electric vehicles, critical minerals, green hydrogen, carbon markets, and new climate finance instruments.

This transition creates opportunities. But it also creates new risks.

For WGEA, energy transition is also a central environmental audit issue. It is linked to climate mitigation, air pollution, biodiversity, land use, water resources, and the long-term sustainability of public investment.

Therefore, WGEI and WGEA meet at a very important point.

WGEI brings deep knowledge of extractive industries, natural resource governance, revenue management, and sectoral risks.

WGEA brings experience in environmental auditing, climate accountability, sustainability, and public value.

Together, our two working groups can help the INTOSAI community understand one of the most important public governance questions of our time:

How can countries move towards a cleaner energy future without undermining energy security, affordability, fiscal stability, and social justice?

2. Understanding the Energy Trilemma

The Energy Trilemma is a useful lens for SAIs.

It reminds us that energy policy cannot be judged by one objective alone.

The first dimension is **energy security**.

People need reliable electricity. Industries need stable energy supply. Hospitals, schools, transport systems, digital infrastructure, and public services all depend on energy. If the energy system is not secure, the economy and society are exposed to serious risk.

The second dimension is **energy affordability**.

Energy prices affect everyone. High energy costs can create pressure on households, businesses, public services, and government budgets. Energy transition cannot be successful if people feel that it only increases their cost of living.

The third dimension is **environmental sustainability**.

Energy systems must reduce greenhouse gas emissions, limit environmental damage, improve air quality, and align with national and international climate commitments.

The challenge is that these three objectives do not always move in the same direction.

A measure that improves energy security may increase carbon emissions.

A measure that reduces emissions may require large public investment.

A measure that keeps energy prices low today may create higher fiscal and climate costs tomorrow.

This is why energy transition requires balance.

And this is why SAIs can add value.

We can help governments ask the right questions before problems become crises.

3. The Metaphor: Juggling Three Balls with Two Hands

Let me return to the metaphor of juggling.

Governments have three balls in the air.

The first ball is **security**: keeping energy supply reliable.

The second ball is **affordability**: keeping energy accessible and reasonably priced.

The third ball is **sustainability**: reducing environmental and climate impacts.

But governments have only two hands.

One hand is **fiscal space**. Public budgets are limited. Energy subsidies, grid investment, compensation measures, climate finance, and public infrastructure all require resources.

The other hand is **policy capacity**. Energy transition requires coordination among many actors: energy ministries, finance ministries, environment ministries, regulators, state-owned enterprises, local governments, investors, and communities.

If one ball receives too much attention, another ball may fall.

If energy security is pursued without sustainability, countries may lock themselves into high-carbon infrastructure.

If sustainability is pursued without affordability, public resistance may increase.

If affordability is pursued only through untargeted subsidies, fiscal risks may accumulate.

Therefore, the question is not whether one ball is more important than the others.

The real question is:

How can governments keep all three balls moving together?

And for SAIs, the question is:

How can audit help governments manage this balance better?

4. The Role of SAIs: From Compliance to Constructive Accountability

Traditionally, many audits looked mainly at compliance.

Did the agency follow the law?
Was the procurement process correct?
Were funds spent according to the rules?

These questions remain important.

But energy transition requires SAIs to go further.

We need to examine whether policies are coherent, whether public money is creating value, whether risks are disclosed, whether institutions are coordinated, and whether outcomes are being achieved.

In this context, SAIs can provide **constructive accountability**.

Constructive accountability does not mean being soft. It means being useful.

It means that audit findings should not only identify weaknesses, but also help governments improve systems.

It means that recommendations should be practical, evidence-based, and forward-looking.

For energy transition, this is especially important because the risks are complex, long-term, and cross-sectoral.

SAIs can support better governance by asking five core audit questions.

5. Audit Question One: Is Energy Policy Coherent?

The first question is policy coherence.

Energy transition cannot be delivered by one ministry alone.

Energy policy must connect with fiscal policy, industrial policy, environmental policy, climate policy, social protection policy, and infrastructure planning.

If these policies are not aligned, governments may send conflicting signals.

For example, a country may announce ambitious climate targets while continuing to subsidize high-carbon energy consumption.

A government may promote renewable energy but fail to invest in grid readiness.

A country may support electric vehicles but lack a strategy for electricity generation, charging infrastructure, or critical minerals.

SAIs can examine whether the government has a coherent roadmap.

Are national energy plans aligned with climate commitments?

Are fiscal incentives consistent with environmental objectives?

Are regulators, ministries, and state-owned enterprises working under the same policy direction?

Are short-term measures consistent with long-term transition goals?

This type of audit helps governments reduce fragmentation and improve coordination.

For SAIs, policy coherence is not an abstract concept. It is a practical audit lens for identifying duplication, fragmentation, overlap, and gaps.

6. Audit Question Two: Are Fiscal Risks Visible?

The second question is fiscal risk.

Energy transition has visible costs and hidden costs.

Visible costs include public investment in renewable energy, grid infrastructure, storage systems, subsidies, tax incentives, and social protection measures.

Hidden costs may include government guarantees, contingent liabilities, stranded assets, losses of state-owned enterprises, declining fossil fuel revenue, and future adaptation costs from climate impacts.

For countries dependent on extractive industries, this issue is particularly important.

If public revenue depends heavily on oil, gas, coal, or mineral extraction, energy transition may affect fiscal sustainability.

If state-owned enterprises are exposed to fossil fuel assets, the public sector may carry future financial risks.

If governments delay transition, they may face higher adjustment costs later.

SAIs can help by examining whether governments are identifying, measuring, disclosing, and managing these fiscal risks.

Are energy subsidies transparent?

Are contingent liabilities reported?

Are stranded asset risks assessed?

Are long-term energy investments tested against climate scenarios?

Are fiscal risks communicated to parliament and the public?

This is a vital contribution of SAIs.

Because what is not disclosed cannot be properly debated. And what is not measured cannot be responsibly managed.

7. Audit Question Three: Is the Transition Affordable?

The third question is affordability.

Energy transition will not be sustainable if people cannot afford it.

Energy prices affect household welfare, business competitiveness, public service delivery, and macroeconomic stability.

In many countries, rising energy prices can quickly become a social and political issue.

Governments often respond with subsidies, price controls, tax reductions, or emergency support measures.

Some of these measures may be necessary. But if they are poorly targeted, they may become costly, inefficient, or regressive.

SAIs can assess whether affordability measures are well designed.

Are subsidies reaching the people who need them most?

Are support measures temporary or permanent?

Are they fiscally sustainable?

Do they create incentives for energy efficiency?

Do they protect vulnerable households without weakening the long-term transition?

The role of audit is not to say that subsidies are always good or bad.

The role of audit is to assess whether public resources are being used effectively, equitably, and transparently.

A balanced energy transition must be affordable not only for the government, but also for citizens.

8. Audit Question Four: Is the Transition Just?

The fourth question is justice.

Energy transition creates winners and losers.

Workers in fossil fuel industries may face job insecurity.

Communities dependent on coal, oil, gas, or mining may lose local revenue.

Small businesses may struggle to adapt.

Poor households may be more exposed to energy price increases.

Indigenous communities and local communities may be affected by new energy infrastructure or mineral extraction.

Therefore, transition must be not only green, but also just.

SAIs can examine whether governments have identified affected groups and designed appropriate support measures.

Are workers supported through reskilling and employment programmes?

Are local communities included in decision-making?

Are compensation mechanisms transparent?

Are regional economies being diversified?

Are vulnerable groups protected from disproportionate burdens?

This is where environmental audit connects with social accountability.

A transition that leaves people behind will not be stable.

A just transition is not only an ethical objective. It is also a condition for successful policy implementation.

9. Audit Question Five: Is the Energy System Resilient?

The fifth question is resilience.

Energy systems now face multiple shocks.

Geopolitical tensions can disrupt supply.

Extreme weather can damage infrastructure.

Technology can change faster than expected.

Energy prices can become volatile.

Climate regulations can affect trade and investment.

Demand patterns can shift quickly.

In this environment, governments need to plan not only for today, but also for uncertainty.

SAIs can use foresight-oriented audit questions.

Has the government stress-tested energy policy against future shocks?

Is the grid ready for renewable energy expansion?

Are storage and backup systems sufficient?

Are emergency energy plans updated?

Are climate risks integrated into energy infrastructure planning?

Are investment decisions robust under different scenarios?

This is where SAIs can help governments “see before the crisis.”

Audit should not only look through the rear-view mirror. In complex policy areas, audit should also help governments look through the windshield.

10. A 5S Audit Pathway for Balanced Energy Transition

To translate these ideas into practice, I would like to propose a simple framework:

The 5S Audit Pathway for Balanced Energy Transition.

The first S is **Scan**.

SAIs should scan the energy landscape: energy mix, fiscal exposure, climate commitments, institutional responsibilities, public investment, social impacts, and future risks.

The second S is **See the Trade-offs**.

SAIs should help governments and parliaments understand the trade-offs between security, affordability, and sustainability. The audit should make these trade-offs visible, evidence-based, and open to public accountability.

The third S is **Stress-test Policy**.

SAIs can assess whether energy policies remain robust under different scenarios: price shocks, supply disruptions, extreme weather, fiscal pressure, or technology change.

The fourth S is **Support Just Transition**.

SAIs should examine whether workers, communities, households, and vulnerable groups are protected and meaningfully included.

The fifth S is **Shape Constructive Recommendations**.

Audit recommendations should help improve systems. They should be practical, forward-looking, and designed to strengthen policy coherence, fiscal transparency, resilience, and public trust.

This 5S pathway can help SAIs move from identifying problems to supporting solutions.

11. What Constructive Recommendations May Look Like

In practice, SAIs may recommend several types of improvements.

First, governments may need stronger policy coordination.

Energy transition requires a whole-of-government approach. SAIs may recommend clearer mandates, better inter-ministerial coordination, integrated roadmaps, and stronger monitoring systems.

Second, governments may need better fiscal transparency.

SAIs may recommend that energy subsidies, tax incentives, guarantees, liabilities, and stranded asset risks be disclosed more clearly in budget documents and fiscal risk statements.

Third, governments may need better targeting of affordability measures.

SAIs may recommend that support for households and businesses be evidence-based, targeted, temporary where appropriate, and aligned with long-term energy efficiency.

Fourth, governments may need stronger just transition mechanisms.

SAIs may recommend measures for reskilling, community participation, local economic diversification, and protection of vulnerable groups.

Fifth, governments may need better resilience planning.

SAIs may recommend scenario analysis, infrastructure stress-testing, emergency preparedness, and climate risk integration into energy investment.

These recommendations do not tell governments what political choice to make.

They help governments make better-informed choices.

That is the strength of SAIs.

12. The Link with Extractive Industries

For WGEI members, the connection with extractive industries is especially important.

Energy transition does not mean that extractive industries disappear overnight.

In many countries, oil, gas, coal, and minerals remain deeply embedded in the economy.

At the same time, the transition creates new demand for critical minerals such as lithium, cobalt, nickel, copper, rare earth elements, and others.

Therefore, extractive industry governance will remain central to the energy transition.

SAIs may need to examine both sides.

On one side, there are risks from declining fossil fuel dependence: revenue loss, stranded assets, environmental liabilities, and social disruption.

On the other side, there are risks from new mineral demand: licensing, environmental impact, community rights, revenue management, corruption risks, and supply chain accountability.

This is why collaboration between WGEI and WGEA is highly valuable.

Energy transition requires both extractive industry accountability and environmental accountability.

One without the other will be incomplete.

13. The Role of INTOSAI Working Groups

INTOSAI working groups have an important role in helping SAIs learn from each other.

No single SAI has all the answers.

Some SAIs have experience auditing fossil fuel subsidies.

Some have audited renewable energy programmes.

Some have examined mining governance.

Some have reviewed climate commitments.

Some have assessed energy affordability, electricity markets, state-owned enterprises, or environmental rehabilitation.

By connecting these experiences, WGEI and WGEA can help the INTOSAI community develop practical knowledge.

We can share audit questions.

We can develop case studies.

We can identify emerging risks.

We can support capacity building.

We can promote dialogue between environmental auditors and extractive industry auditors.

This cooperation is not only technical. It is strategic.

Because energy transition is one of the defining governance issues of the coming decade.

14. Closing Reflections

Dear colleagues,

Energy transition is often presented as a choice between old energy and new energy.

But in reality, it is much more complex.

It is about how countries protect energy security while reducing emissions.

It is about how governments maintain affordability while investing in cleaner systems.

It is about how societies move forward without leaving workers, communities, and vulnerable citizens behind.

It is about how public institutions manage uncertainty with integrity, transparency, and foresight.

For SAIs, this is a moment of responsibility.

We can help governments reveal the risks.

We can help parliaments understand the trade-offs.

We can help citizens see whether public money is being used wisely.

We can help public institutions improve their systems.

And we can help ensure that energy transition is not only green, but also secure, affordable, just, and accountable.

15. Final Key Message

Let me close with one final message.

Energy transition is not about choosing one ball and dropping the others.

Governments must keep three balls moving at the same time: **security, affordability, and sustainability.**

But they must do so with limited fiscal space and limited policy capacity.

SAIs can help by providing evidence, identifying trade-offs, assessing fiscal risks, supporting just transition, and offering constructive recommendations.

This is how SAIs can support governments in juggling three balls with two hands.

Not by taking over the role of policymakers.

But by strengthening accountability, improving governance, and protecting the public interest.

On behalf of INTOSAI WGEA, I would like to thank WGEI once again for this opportunity.

We look forward to continued cooperation between WGEI and WGEA, especially on issues where extractive industries, environmental sustainability, climate accountability, and public finance meet.

Thank you very much.

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