

# GREEN JOBS FOR SUSTAINABLE TOURISM<sup>1</sup>

## Introduction

Tourism development is seen as a way of improving a country's economy and social wellbeing, but if this development is not handled carefully, tourists will migrate to competing destinations or attractions. In the future, there will be mounting pressure to develop tourism products with a sustainable focus, helping to fit in with the local environment and ensure its preservation.

Consequently, sound tourism policy should be geared towards more sustainable tourism. Tourism characteristic industries produce tourism characteristic products and this process is directly linked with tourism characteristic activities. These are employment related activities or tourism characteristic jobs.

Stemming from Agenda 2030, environment is embedded in the SDGs and targets - it is their key cross-cutting dimension. Target 8.9 states: "By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products". Since early 2000, the ILO, jointly with UNEP, has been actively involved in activities geared towards meeting climate change challenges through creation of green and decent jobs.

Since its foundation, the *Green Jobs and Sustainable Development International Centre (GJASD International)* has been working towards enhancing general awareness of the consequences of climate change and the importance of shifting toward a green and sustainable economy; promote greening enterprises and green sectors as the areas of significant opportunities for investment, growth and jobs; advance the mechanisms for measuring green growth and green labour market performance; assist countries in harnessing their green tourism potential. The work has been largely inspired by the ILO Green Jobs Programme.

This Note attempts to initiate a discussion on potential use of TSA for measuring green jobs in the tourism industries as a supplement sustainable tourism indicator to be produced using inputs from SEEA.

Sections 1 - 4 provide a briefly overview of the concept paper prepared for the Meeting of the Working Group of Experts on Measuring Sustainable Tourism<sup>2</sup> with special emphasis placing on "tourism employment/jobs".

Section 5 presents definition of "green tourism" which is a mirror view of sustainable tourism practices which takes into account the mutual needs of the ecology and environment, local people, businesses enterprises and tourists itself. It enables us to draw a framework of management and development, for both now and in the future. The aim of these strategies is to develop a governance mechanism with a prime attention to reduce negative environmental and social impacts of tourism operations located in rural or urban areas of any country premises.

Section 6 unfolds the concept of "green gobs", their units of observation and analysis, and explains schematic relationships between total employment, green jobs and decent work.

Section 7 treats green jobs and sustainable tourism; and Section 8 presents methodologies for assessing green jobs.

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<sup>2</sup> Measuring Sustainable Tourism: Developing a statistical framework for sustainable tourism. Overview of the initiative.

Finally, Section 8 discusses potential use of TSA for measuring green jobs in the tourism industries.

### 1. UNWTO initiative to establish a statistical framework for the measurement of sustainable tourism (MST)<sup>3</sup>

Sustainable tourism has been a topic of discussion in tourism circles since the early 1990s.

It is intended that a central feature of the statistical framework for measuring sustainable tourism will be the connections between the established accounting framework for tourism, tourism satellite accounts (TSA) and accounts from the System of Environmental-Economic Accounting (SEEA) framework.

According to the UNWTO initiative, ***sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations***, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

*Thus, sustainable tourism should:*

1. Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural resources and biodiversity.
2. Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
3. Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary.

Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them<sup>4</sup>.

Policy implications of a sustainable tourism agenda

1. Economic viability
2. Local prosperity
3. **Employment quality**
4. Social Equity
5. Visitor Fulfilment
6. Local Control

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<sup>3</sup> Adapted from UNWTO. *Measuring Sustainable Tourism: Developing a statistical framework for sustainable tourism. Overview of the initiative*. Madrid, July 2016.

<sup>4</sup> UNEP/UNWTO. *Making Tourism More Sustainable: A Guide for Policy Makers*, Box 1.1. Madrid 2005.

7. Community Wellbeing
8. Cultural Richness
9. Physical Integrity
10. Biological Diversity
11. Resource Efficiency
12. Environmental Purity

There is as yet no standardised basis for the collection of relevant information, particularly at the national level. This is a significant gap, and one that limits the potential for the development of policies directed at advancing sustainable tourism.

The ambition of the MST initiative is therefore to develop a statistical framework for the multiple domains of sustainable tourism, such that there is (i) a standardised framework for the collection of information; (ii) a means to integrate tourism statistics with other economic, social and environmental information; and (iii) a coherent information base for the derivation of indicators that are relevant for the monitoring and analysis of sustainable tourism.

## **2. Scope of the MST initiative**

At this stage the intended focus for the MST initiative is coverage of economic and environmental statistics and some social statistics such as **employment**.

As the initiative progresses, consideration will be given to the integration of socio-cultural information.

When considering the links between the economic and environmental domains some particular topics that might be examined include:

- The environmental impacts of tourism activity (e.g. greenhouse gas (GHG) emissions and climate change, solid waste, wastewater, disruption of ecosystems and biodiversity)
- The dependency of tourism activity on the environment (e.g. water and energy requirements, healthy and good quality ecosystems – beaches, reefs, forests, etc.)
- Activities and responses (both economic and behavioural) of tourism businesses and visitors in relation to environmental challenges (e.g. environmental protection expenditure, environmental taxes, destination choice)
- Some socio-economic impacts of tourism activity (e.g. on **employment**)
- The dependency of tourism activity on infrastructure including a suitably qualified workforce, transport infrastructure and public facilities.<sup>5</sup>

***The ambition is to largely rely on data from ongoing measurement programs and thus place tourism statistics in a broader context to support local and national decision making.*** Overall, it is anticipated that the development of a statistical framework will facilitate a range of tourism related information and statistics being collated and presented to tell a coherent and broader story about tourism.

## **3. The use of accounting to form a statistical framework**

Primary focus will be on the potential to combine the accounting frameworks of Tourism Satellite

Accounts (TSA) and the System of Environmental-Economic Accounting (SEEA). Work on combining these frameworks has been considered previously.<sup>5</sup>

### **3.1. Salient features of SNA as a basis for a wider accounting work.**

National accounts gives internationally agreed definitions in measurement terms to macro-economic concepts such as production, consumption, income, investment, international trade, saving and net wealth.

The SNA provides a coherent measurement framework in which data about the various economic variables and accounts can be confronted and balanced to provide a single, integrated picture of the macro-economic situation of a country. This is not only true in terms of specific time periods but also in terms of providing a consistent time series and, via the international standards, the capacity to compare across countries.

The breadth of the national accounts including its compilation in both nominal and real terms, provides a framework for the compilation of economic statistics generally.

Together, these three factors mean that there is an important and long-standing rationale for the support of national accounts systems and the use of accounting frameworks.

***It is likely that a large range of information relevant to the analysis of sustainable tourism can be brought within an accounting based framework.***

## **4. Potential integrated tables and indicators for sustainable tourism**

Primary focus in developing the statistical framework will be on the potential to combine the accounting frameworks of Tourism Satellite Accounts (TSA) and the System of Environmental-Economic Accounting (SEEA).

### **4.1. Indicators for sustainable tourism**

An extensive set of indicators has been proposed in relation to sustainable tourism but they have not been selected or developed in the context of a statistical framework. The ambition in the MST initiative is to enable indicators to be derived from the statistical framework and hence have a firm base for ongoing measurement and comparison, for the assessment of data quality and for appropriate co-ordination of collection activities.

At this stage there has been no conclusive discussion on the types of indicators of sustainable tourism that might be defined. However, related discussion has taken place in the context of defining indicators for monitoring the UN Sustainable Development Goals (SDGs). There are two targets that require measurement of sustainable tourism, namely:

- Target 8.9: By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

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<sup>5</sup> Jackson, C. et al. (2008), "Linking the Canadian Tourism Satellite Account and the Canadian System of Environmental and Resources Accounts to measure the environmental impact of tourism in Canada: An exploratory study for two pilot countries", presented to the 9th International Forum on Tourism Statistics, Paris, November 19-21, 2008.

- Target 14.7: By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

For both targets, the current proposals are for the measurement of sustainable tourism using information that can be derived from TSA – that is, tourism GDP (TGDP) and **tourism employment/jobs**. These two indicators are intended to cover the economic dimension of sustainable tourism and, in part, the social dimension. At present there is insufficient confidence in the capacity to measure indicators that capture the environmental dimension.

Building on the discussion above, the statistical framework envisaged here would support the derivation of indicators such as tourism related GHG emissions, energy use and water use. Within an accounting framework these flows might be compared to TGDP or tourism expenditure. These types of indicators will support an improved understanding of the environmental pressures created through tourism activity.

## 5. Green tourism

There is a growing body of evidence that greening tourism can lead to broad economic, social and environmental benefits for the host countries and their communities<sup>6</sup>. Tourism’s potential for **creating employment, supporting livelihoods and enabling sustainable development** is huge, given that it is one of the main sources of foreign exchange income—the principal source for one-third of developing countries and one-half of the world’s Least Developed Countries (LDCs) according to the UN Conference on Trade and Development.<sup>7</sup>

**Tourism in a green economy** refers to tourism activities that can be maintained, or sustained, indefinitely in their social, economic, cultural, and environmental contexts: “sustainable tourism”. Sustainable tourism is not a special form of tourism; rather, all forms of tourism may strive to be more sustainable.<sup>8</sup>

Sustainable tourism describes policies, practices and programmes that take into account not only the expectations of tourists regarding responsible natural resource management (demand), but also the needs of communities that support or are affected by tourism projects and the environment (supply)<sup>9</sup>.

Sustainable tourism thus aspires to be more energy efficient and more “climate sound” (e.g. by using renewable energy); consume less water; minimise waste; conserve biodiversity, cultural heritage and traditional values; support intercultural understanding and tolerance; and generate local income and integrate local communities with a view to improving livelihoods and reducing poverty. Making tourism

<sup>6</sup> For example: Mill, R., and A. Morrison (2006): *The Tourism System*. Kendall/Hunt Publishing Company. Fifth Edition. Rainforest Alliance. Buenas Prácticas de Manejo en las Empresas Turísticas: sus Beneficios e Implicaciones. San José: Sustainable Tourism Program. 2010.

Klytchnikova, I. and P. Dorosh (2009): *How Tourism can (and does) benefit the Poor and the Environment. A Case Study from Panama*. In En Breve, 146, August, The World Bank.

<sup>7</sup> *The Contribution of Tourism to Trade and Development*. Note by the UNCTAD secretariat. TD/B/C.I/8, 2010.

<sup>8</sup> *Making Tourism more Sustainable. A Guide for Policy Makers*. United Nations Environment Programme and World Tourism Organization. Madrid 2015.

<sup>9</sup> ILO views sustainable tourism as “composed of three pillars: social justice, economic development, and environmental integrity. It is committed to the enhancement of local prosperity by maximizing the contribution of tourism to the destination’s economic prosperity, including the amount of visitor spending that is retained locally. It should generate income and decent employment for workers without affecting the environment and culture of the tourists’ destination and ensures the viability and competitiveness of destinations and enterprises to enable them to continue to prosper and deliver benefits in the long term” (see: *Developments and challenges in the hospitality and tourism sector. Sectoral Activities Programme*. Issues paper for discussion at the Global Dialogue Forum for the Hotels, Catering, Tourism Sector (23-24 November 2010)).

businesses more sustainable benefits local communities and raises awareness and support for the sustainable use of natural resources.<sup>10</sup>

## 6. Green jobs

“... and what about jobs?” This key question is often asked by policy makers around the world when considering whether or not prioritising sustainable economic development strategies. Policies to go green depend in large parts on the perceived positive or negative impact on employment. To help answer this question, economic modelling can inform the potential employment implications of different policy choices. In order to become sustainable, green economy needs green jobs.

Words such as “green”, “environmental” and “sustainable” are often used interchangeably to describe companies, people or technologies that do “greenish” things. Although they are not synonymous, they are all commonly used to refer to the way in which natural resources are used to produce goods and services. **The term “green jobs” usually refers to people working in ecologically sustainable or environmentally beneficial jobs.**

The joint UNEP/ILO/IOE/ITUC report defined “a green job” as any decent job that contributes to preserving or restoring the quality of the environment, be it in agriculture, industry, services or administration. In practice these jobs: (i) reduce consumption of energy and raw materials; (ii) limit GHG emissions; (iii) minimize waste and pollution; (iv) protect and restore ecosystems; and (v) enable enterprises and communities to adapt to climate change<sup>11</sup>.

In the broader definition currently used by the *Green Jobs Programme of the ILO*, it is further specified: “Jobs are green when they help reduce negative environmental impact ultimately leading to environmentally, economically and socially sustainable enterprises and economies. More precisely *green jobs are decent jobs* that: reduce consumption of energy and raw materials; limit greenhouse gas emissions; minimize waste and pollution; and protect and restore ecosystems”<sup>12</sup>.

Given the above, it is possible to say that a green job is any job or self-employment that genuinely contributes to a more sustainable world, it may also be stated that a green job is a job related to the environmental sector.

Further, a green job is the coming together of a company or organisation, with an individual motivated and capable of performing the role. The company or organization can either be in a 'green' sector (e.g. solar energy), or in a conventional sector but making genuine and substantial efforts to green its operations (not just greenwash).

“Green” encompasses virtually all sectors of society: food, energy, transportation, education, government, etc. There are so many companies, organizations and jobs that it would be impossible to list them all in one place.

The issue of sustainability is complex and ever-changing. It's not always obvious what is truly “green” and sustainable, and what is not. If there's any doubt, techniques such as ecological footprint analysis,

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<sup>10</sup> Adapted from *Tourism: Investing in energy and resource efficiency*. United Nations Environment Programme, 2011.

<sup>11</sup> ILO. *Sustainable development, decent work and green jobs*. Report V. International Labour Conference. 102nd Session, 2013. Geneva 2013. Available at:

[http://www.ilo.org/wcmsp5/groups/public/@ed\\_norm/@relconf/documents/meetingdocument/wcms\\_207370.pdf](http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@relconf/documents/meetingdocument/wcms_207370.pdf)

<sup>12</sup> See: Green Jobs Programme of the ILO. Available at: [http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/documents/publication/wcms\\_371396.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_371396.pdf)

cradle-to-grave analysis, or environmental impact assessment should be applied to determine just how green any organization, product, service or job actually is<sup>13</sup>.

Agencies at the national and international level have responded in a variety of ways to the challenge to provide statistics on sustainable development and on the impact of human activity on the environment. Operational definitions have been developed and applied in a growing number of countries and work is under way to formulate agreed statistical definitions at the national, regional and international level. In the sphere of economic statistics, agencies have collaborated to develop a System of Environmental-Economic Accounting (SEEA)<sup>14</sup>.

The SEEA definition of environmental activities covers a similar range of activities to those covered in the *Green Jobs Programme of the ILO* (see above), but it also offers specific guidance on the activities that are to be included or excluded. While the SEEA provides a central measurement framework for preparing integrated national accounts for the environment and defines the activities to be counted as environmental, it does not contain guidelines on the measurement of employment in those activities. The advantage of using the concepts described in the SEEA is that there is international agreement on the definitions and classifications to be used.

### 6.1. Units of observation and analysis<sup>15</sup>

Two basic units of analysis, the job and the person, are relevant to the measurement of employment in green tourism, depending on the objective and measure pursued. Whilst data are likely to be most frequently provided by establishments and households, the usual unit of analysis for green jobs statistics is the job. The job is defined with reference to the latest relevant resolution of the International Conference of Labour Statisticians (ICLS), for example on statistics of work and employment, occupation or working time. According to the most recent 19th ICLS Resolution concerning statistics of work, employment and labour underutilization<sup>16</sup>, a job is defined as “a set of tasks and duties performed, or meant to be performed, by one person for a single economic unit”.

Where the objectives of the statistics include the measurement of how the economy is changing, how establishments re-structure their organisation and production processes and which technologies are used to reduce the environmental impact of the production, the most appropriate unit of observation and analysis is the establishment.

A better understanding of the impacts of a greener economy on labour markets and an assessment of the effectiveness of policy measures requires a more specific definition for consistent data collection and measurement. Operational definitions have been developed and applied in a growing number of countries and work is under way to formulate agreed statistical definitions at national, regional and international levels.

Measurement of green jobs must take account of employment in green economic sectors and industries from an output perspective, as well as of environmental occupations and job functions in all sectors from

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<sup>13</sup> See: <http://www.goodwork.ca/what-is-a-green-job>

<sup>14</sup> The most recent version of SEEA was adopted by the UN Statistical Commission at its 43rd session in 2012. Available at: [http://unstats.un.org/unsd/envaccounting/seeaRev/SEEA\\_CF\\_Final\\_en.pdf](http://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf)

<sup>15</sup> ILO. *Proposals for the statistical definition and measurement of green jobs*. 19th International Conference of Labour Statisticians Geneva, 2-11 October 2013; and Report III. Report of the 19th ICLS Conference, pp, 19-21; *Guidelines concerning a statistical definition of employment in the environmental sector*, pp. 29-34. Available at: [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_234124.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_234124.pdf)

<sup>16</sup> See at: [http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/19/WCMS\\_234124/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/meetings-and-events/international-conference-of-labour-statisticians/19/WCMS_234124/lang--en/index.htm)

a process perspective. These two concepts complement each other and shed light on different ways of greening enterprises and economies, offering different entry points for policies. The figure below presents these relationships schematically, specifically:

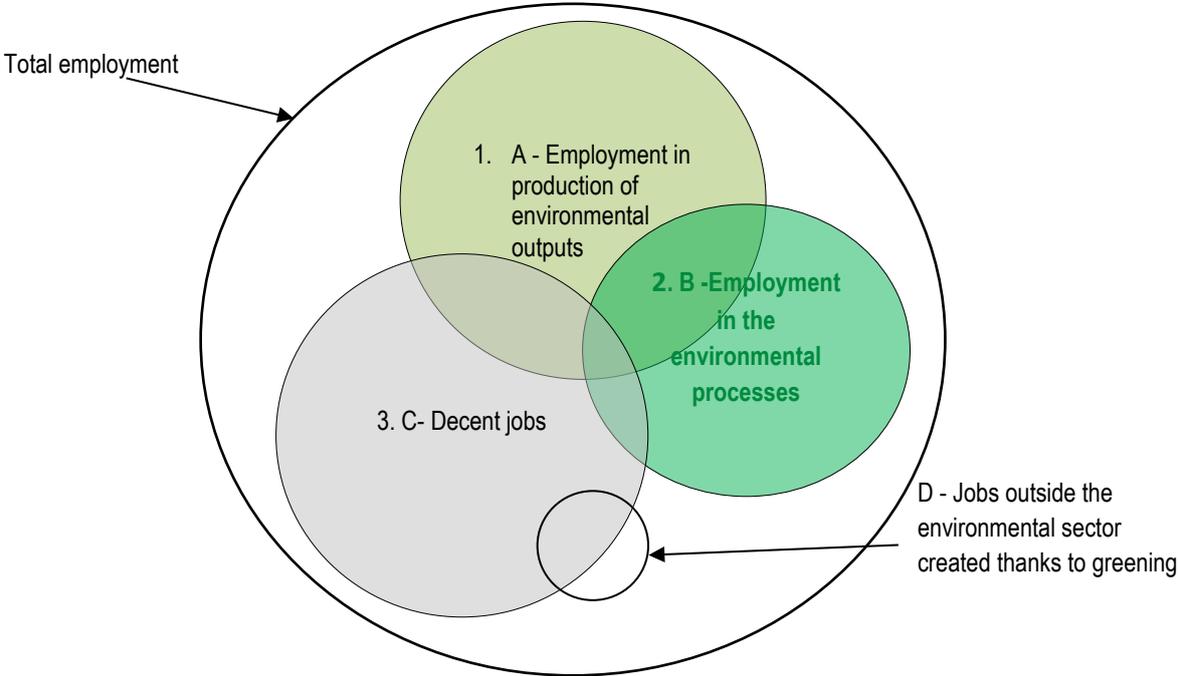
- A = Employment in production of environmental outputs
- B = Employment in environmental (friendly) processes
- C = Decent jobs
- D = Jobs outside the environmental sector created thanks to greening

Employment in the environmental sector =  $A \cup B$   
 Employment created thanks to greening =  $A \cup B \cup D$   
 Green jobs (employment in the environmental sector that is decent) =  $(A \cup B) \cap C$

Each of these elements may require a different measurement strategy. It should however be noted that it is relatively easy to quantify jobs involved in the production of environmental output, whereas measuring the jobs involved in improvements in material or waste efficiency of the economy as a whole is more challenging. Chapter 6 proposes methodologies for estimating A and B.

The advantage of this conceptual framework for statistics on employment in the environmental sector is that (i) it allows the requirements of the users for different types of statistics to be met, (ii) it greatly assists in identifying the gaps in data, and (iii) it allows the progressive construction of a more complete and coherent family of statistics on “green jobs”.

**Schematic relationships between total employment, green jobs and decent work**



Most practical applications have taken an industry approach, identifying green jobs with employment in industries that are judged to produce green products and services with variations in scope and thresholds (e.g., tourism industries producing products and services for sustainable tourism). The UNEP

et al. definition is broader, in that it includes employment in green sectors which operate in an environmentally friendly manner.

## **7. Green jobs and sustainable tourism**

Recalling the definition presented in Section 1 of this Note, sustainable tourism is "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities"<sup>17</sup>

Sustainable tourism is directly and positively linked to the SDGs, poverty reduction, rural development, preservation of culture and society, gender equity, environmental protection, climate change mitigation and shows a beneficial impact on climate change mitigation.

A just transition of the economy to sustainable practices with a view to green jobs is needed including the education and awareness of employers, employees, host communities and tourists, with the local government to be put in the fore front.

Green jobs can be created through the development and promotion of green products, green services and green public works. Green labels and certification programmes support these products and services, but they are still underdeveloped in many tourism destinations.

The understanding of and commitment for green jobs supporting an adequate transition for workers and employers towards a low carbon, climate change decelerating, environmentally friendly and socially respectful development should be a crucial part of sustainable tourism policies in any tourism oriented country. Green jobs therefore need to be integrated in all tourism related policies on employment and business as well as climate change mitigation with a view to their sustainability

## **8. Methodologies for assessing green jobs<sup>18</sup>**

### **8.1. Inventories and surveys**

Surveys and inventories can provide a simple and effective way of assessing how many green jobs exist in specific sectors, regions or countries. A survey is usually carried out in the form of a questionnaire sent out to relevant companies, government departments or analysts, whilst an inventory commonly draws on a national or regional database to provide employment statistics. Some such studies are comprehensive, whilst others offer only a snapshot or "scale-up" a more limited review so that it can provide an estimate of green jobs for a whole country or region. Inventories and surveys, if repeated consistently over a prolonged period, can also provide a useful measure of the extent of the new employment realised by policies aimed at developing employment in sustainable sectors.

A study carried out by the Spanish government estimated the number of green jobs in Spain to be 530,947 in 2009, equivalent to 2.6% of Spain's working population (See Table 1). The extensive research employed a combination of both interview and survey techniques to identify and quantify green jobs, and to calculate totals on a sector basis. The approach chosen meant that only direct green employment was included in the total number of green jobs, though the depth of analysis was also able to provide some information as to the potential within each sector for the generation of new employment.

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<sup>17</sup> UNWTO. Sustainable Development of Tourism, 2012. Available at: <http://sdt.unwto.org/en/content/about-us-5>

<sup>18</sup> Adapted from: ILO. *Methodologies for assessing green jobs: Policy brief*. February 2013. Available at: [http://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/documents/publication/wcms\\_176462.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_176462.pdf)

In our view, looking at the data presented in Table 1 and keeping in mind that Spain is one of the 5 top European tourism destinations (No. 3 in 2013), it is highly probable that an important share of these green jobs were located in tourism industries.

Sector	No. of jobs
Waste water treatment and purification	58,264
Management and treatment of waste	140,343
Renewable energy	109,368
Forest management	32,400
Environmental services to business	
Environmental education	26,354
Organic agriculture and stock breeding	7,871
Management of green spaces	49,867
Industry and services	10,935
Public Sector	20,004
Environmental research and development	53,072
Services	21,929
	540
<b>Total</b>	<b>530,947</b>

Source: Green Jobs in a Sustainable Economy

## 8.2. Input-output analysis and Social Accounting Matrices

Input-output (I-O) analysis and Social Accounting Matrices (SAMs)<sup>19</sup> are empirical tools that rely on the construction of a matrix or table listing all subsectors in an economy and detailing how outputs from one sector are used as inputs in others. These models draw on information from the national accounts and are the most widely employed methodology for assessing green jobs.

In the Table 2 below, the rows show the total output of an industry that is consumed by either other sectors or through final demand (e.g. household consumption). The columns show the share of inputs a sector uses in order to reach its final output.

**Table 2. Simplified Input-output table**

	Agriculture	Food & beverages	Land transport	Final demand	Total output
Agriculture	1323	2290	6	1911	6467
Food & beverages	333	1390	17	8074	11670
Land transport	34	261	480	5794	10775

Source: ILO. *Assessing green jobs potential in developing countries: A practitioner's guide*. Geneva 2011.

The basic input-output model measures how much additional output is needed from each sector to meet an increase in final demand. If information on the labour intensity of the different sectors in an

<sup>19</sup> The difference between I-Os and SAMs: Whilst I-O tables provide a disaggregation of the system of production and can illustrate the interactions within it, SAMs go further by describing the interrelationships of income and transfer flows between different institutional units.

economy can be obtained, then the matrix can be used to estimate the effect on employment of an increase in demand for a green service or product. Thus, these models can be used to answer questions such as “How many jobs might result from a given programme of investment in sustainable economic areas?” or “For a given level of investment, which sector or sectors would yield the greatest number of jobs?” I-O models and SAMs are usually used to provide short to medium term projections for policies.

Likewise in the earlier case, many green jobs linked with Table 2 may be found in tourism industries.

There are other methods for assessing green jobs<sup>20</sup> but the objective of this Note is to make a general overview of green jobs paradigm rather than detailed presentation or discussion of methods, tools and measurement frameworks.

**9. Potential use of TSA for measuring green jobs in the tourism industries**

Stemming from materials and discussions documented in previous Sections, employment in green tourism industries expressed in absolute numbers of green jobs and as a percentage of total employment in these industries, is a potential headline indicator of progress towards green and sustainable tourism.

The TSA has Table 7 covering “employment in the tourism industries” in terms of number of jobs; hours of work; and full-time equivalent jobs by status in employment of employees and self-employed, all broken out by twelve tourism characteristic industry/activity groups.

It is therefore suggested to discuss a possibility of using Table 7 as a basis for constructing Table 7a “Green jobs in tourism industries” to supplement other sustainable tourism indicators to be produced within the statistical framework for the measurement of sustainable tourism discussed in the UNWTO/UNSD initiative. More specifically, it is proposed to explore the use of the SEEA framework for the construction of TSA “Table 7a”.

The above proposal stems from the fact that the SEEA definition of environmental activities covers a range of activities covered by the ILO extended green jobs concept, i.e. jobs are green when they help reduce negative environmental impact ultimately leading to environmentally, economically and socially sustainable enterprises and economies. More precisely green jobs are decent jobs that: reduce consumption of energy and raw materials; limit greenhouse gas emissions; minimize waste and pollution; and protect and restore ecosystems. In addition, the SEEA offers specific guidance on the activities that are to be included or excluded.

It may also be useful to consider launching a small survey of UNWTO Member States asking few questions regarding production of green jobs statistics when measuring and/or analysing sustainable tourism.

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<sup>20</sup> For example, employment factors, computable general equilibrium (CGE) models and system dynamics, etc.

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