We offer examples of reviews from the Electronic database "Market analysis".

The full list of reviews is here:

https://pro-consulting.ua

Обзор мирового рынка СМИ. 2015 год. (2)

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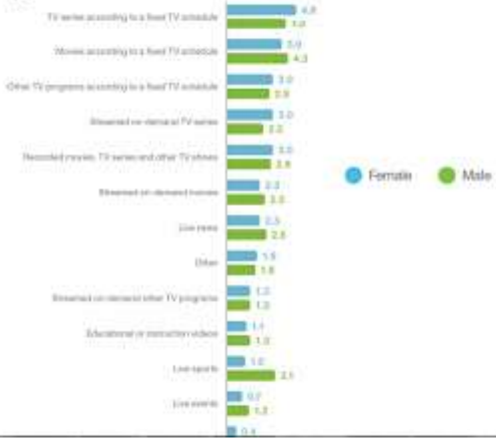
ERICSSON CONSUMERLAB ANNUAL RESEARCH
REPRESENTING
1.1 BILLION
PEOPLE
100,000
RESPONDENTS
MORE THAN
40
COUNTRIES
15
MEGACITIES
STUDIED


REPRESENTING ~680 MILLION CONSUMERS
8
industry
expert
interviews
6TH
ANNUAL
TV and
media study
14500
measured
android
smartphone
users
Social
media
scanning
Qualitative and quantitative
Quantitative
Qualitative: 30 in-depth interviews (San Francisco, Mexico City, Paris & Stockholm)
Quantitative: 20 000 online interviews (1000/country) age 16-59 + booster >2500 online interviews age 60-69
Base 20 Markets: Brazil, Canada, China, Colombia, France, Germany, Greece, Ireland, Italy, Mexico, Portugal, Russia, Spain, South Korea, Sweden, Taiwan, Turkey, UK, Ukraine, US

HALF OF VIEWING TIME IS TV SERIES & MOVIES

Average number of self-reported weekly hours of active TV/video viewing, by gender:



"Family movies. More than series, family movies, funny movies. Sometimes I like to mix, start with children movies and then go on with action movies and closing with a funny movie to go to sleep happy."
- Veronica, 40 years, Mexico

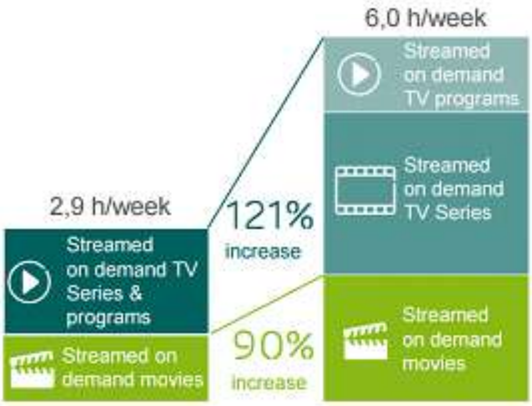
30 HOURS per week is the average weekly active viewing time

TV SERIES IS THE NEW BLACK

45% of streamed on demand viewing of long content is TV series

"The world of series is so, so huge now, there's so many of them. And that's taken over from normal films from cinema."
- Anne, 38 years, France

Average number of self reported weekly hours of active TV/video viewing:



SENIORS LOVE THEIR LIVE NEWS

Average nr of self reported hours watching live news per week per age group

>80%

higher average viewing time of live news for 60-69 year olds, than for millennials (those aged 16-34)

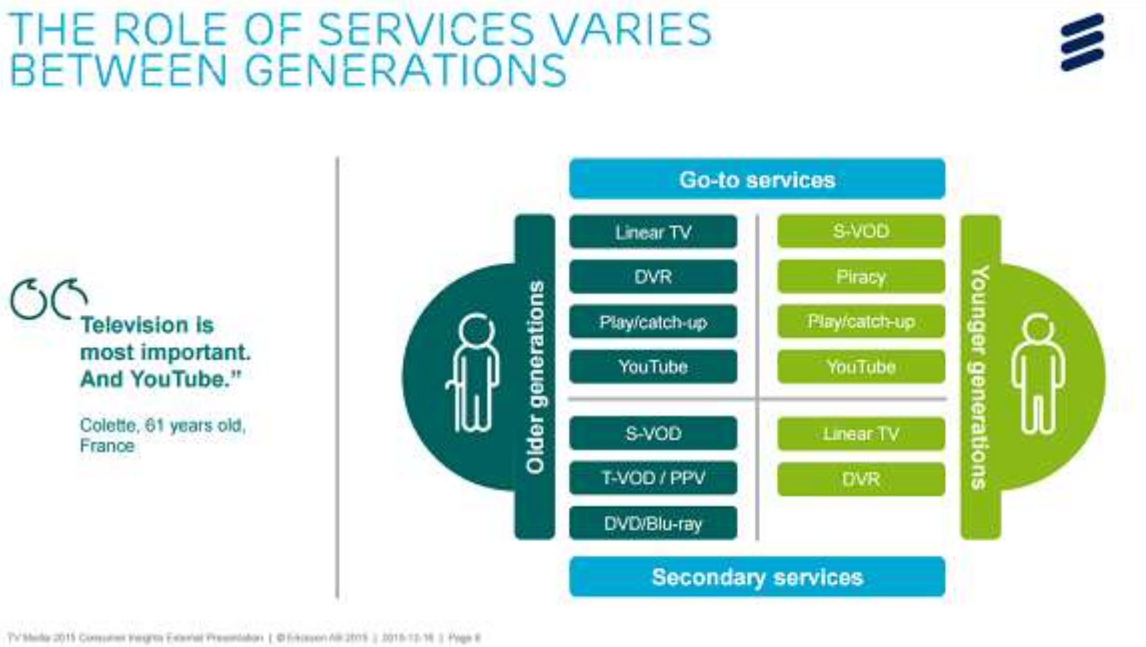
YOUTUBE GROWS IN IMPORTANCE

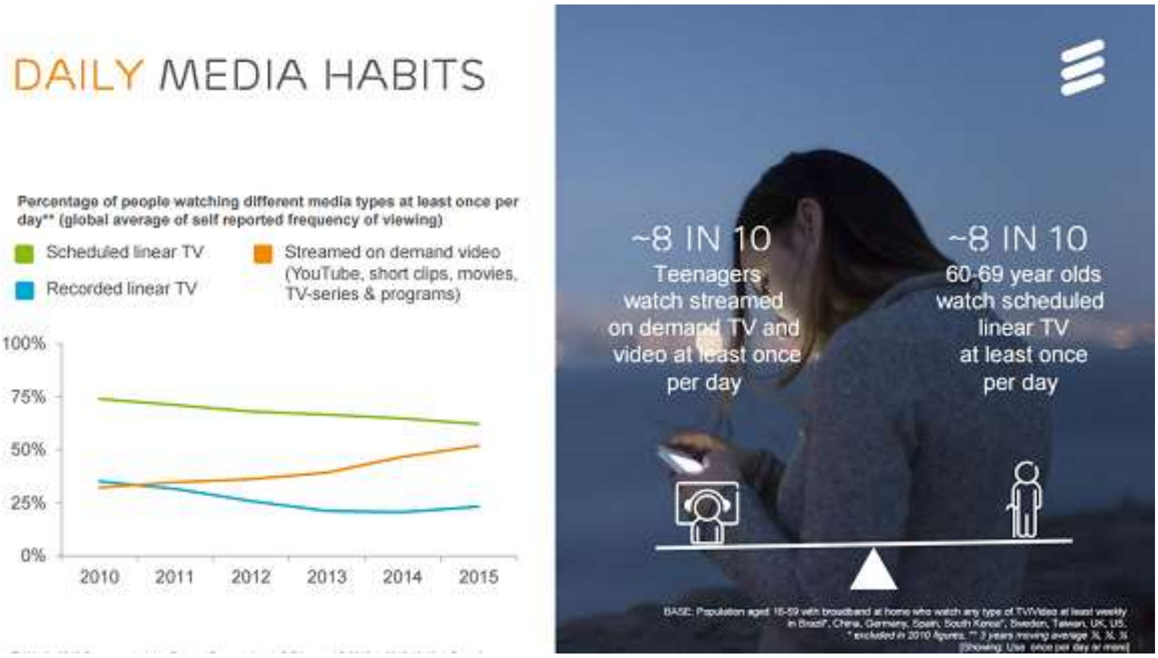
Percentage of consumers watching YouTube with different frequency [global self reported frequency of viewing]

"My wife fixed our iPad and our dishwasher by watching YouTube instruction videos. If a nuclear reactor started leaking, she would go to YouTube and then volunteer to fix it."
- Simon, 44 years, USA

30%
Watch how-to videos each week

18%
Watch gaming videos each week





Publication date (source)… *Source: ….*

Обзор мирового рынка телевидения и СМИ. 2013 год. (2)

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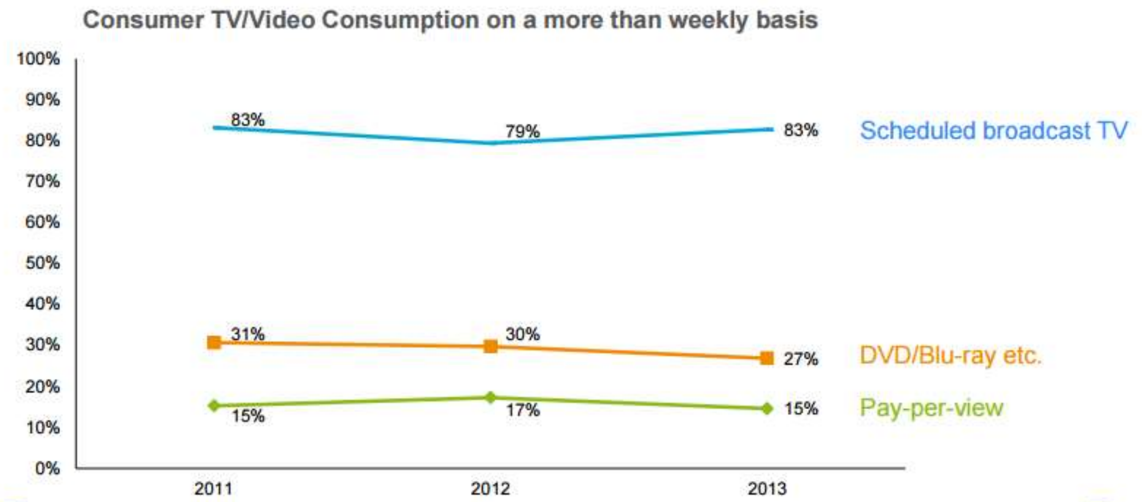
REPRESENTING >550 MILLION CONSUMERS

- Qual: 30 in-home interviews (Sao Paolo, Seoul, Stockholm & New York)
- Quant: ~15 000 online interviews (1000/country) + booster for age 60-69
  (Brazil, Canada, Chile, China, France, Germany, Italy, Mexico, Russia, Spain, South Korea, Sweden, Taiwan, UK, US)

Source: Ericsson ConsumerLab TV & Media 2013 Study

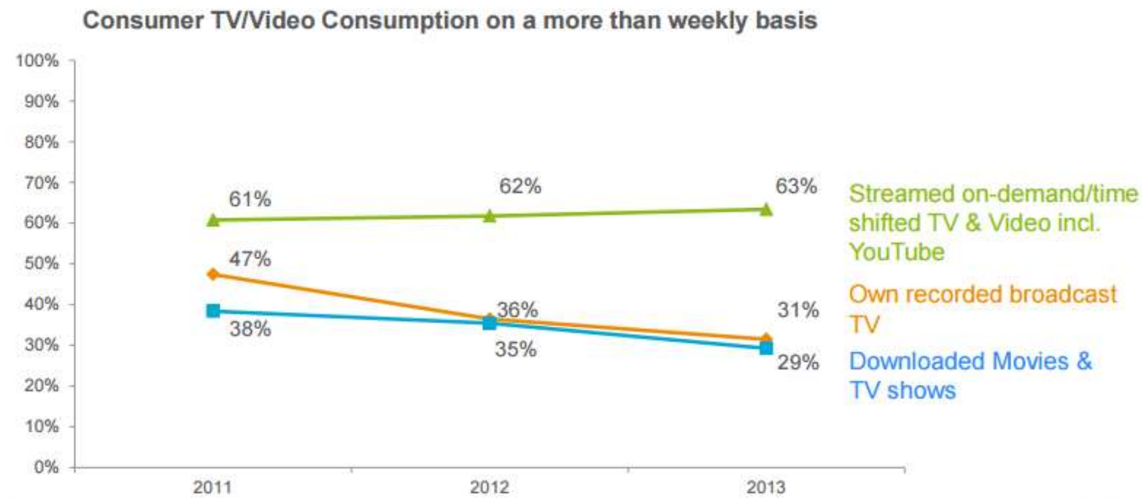
TRADITIONAL TV HABITS



Physical media continues its downward trend, while pay per view and scheduled broadcast viewing remains fairly stable

BASE: Extended 9 markets (US, UK, Germany, Sweden, Spain, China, Taiwan, Brazil & South Korea), [Showing more than weekly usage]
Source: Ericsson ConsumerLab TV & Media 2013 Study

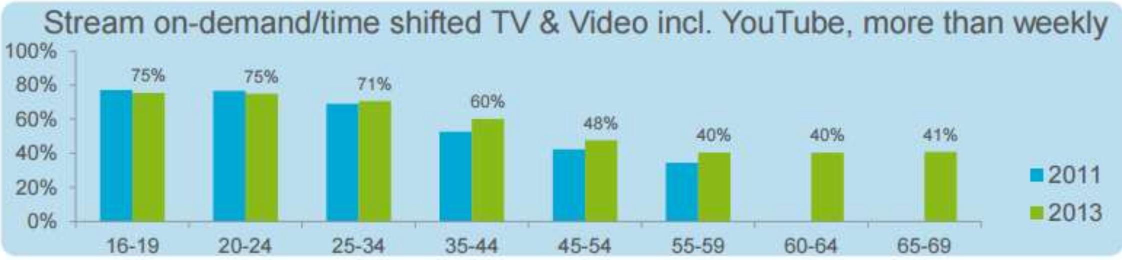
ON-DEMAND HABITS



Streaming and YouTube viewing grows, while recorded broadcast TV and downloaded content looses momentum

BASE: Extended 9 markets (US, UK, Germany, Sweden, Spain, China, Taiwan, Brazil & South Korea) [Showing more than weekly usage]
Source: Ericsson ConsumerLab TV & Media 2013 Study

LATE ADOPTERS CATCH ON...



57%

"the computer and the internet is a natural part of my TV and video consumption habits"

"I want to decide when to watch something rather than following a schedule"

+24%

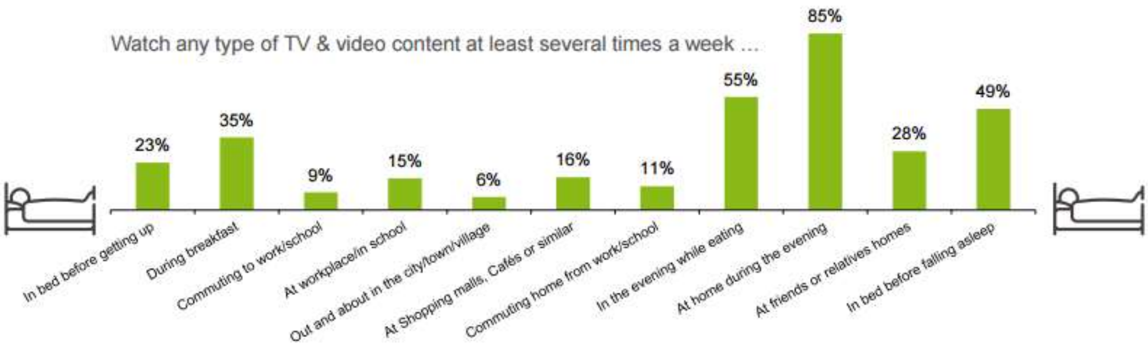
increase from 2011 to 2013 amongst late adopters

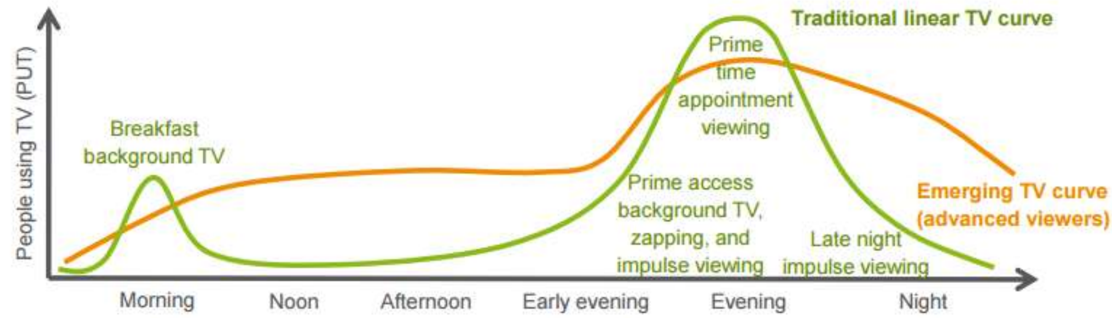
I take Netflix as seriously and [it is] as important to me as network television and cable television!

Joseph, 56, US

BASE: Extended 9 markets (US, UK, Germany, Sweden, Spain, China, Taiwan, Brazil & South Korea), [Showing more than weekly usage]
Source: Ericsson ConsumerLab TV & Media 2013 Study

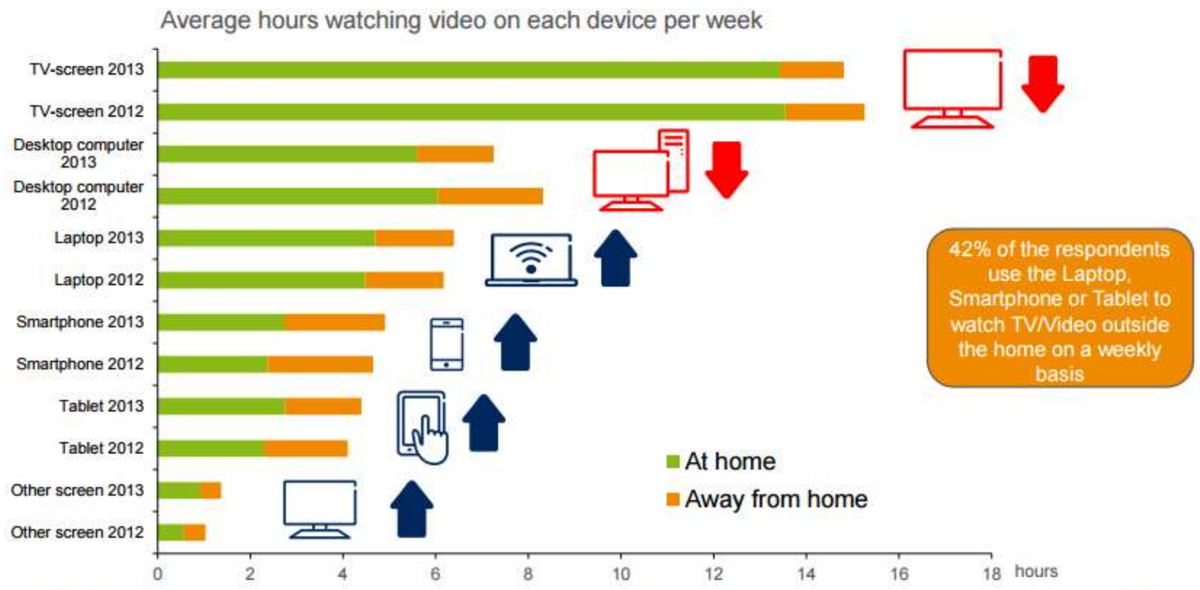
FROM SUNRISE TO SUNSET...





BASE: All 15 markets
Source: Ericsson ConsumerLab TV & Media 2013 Study

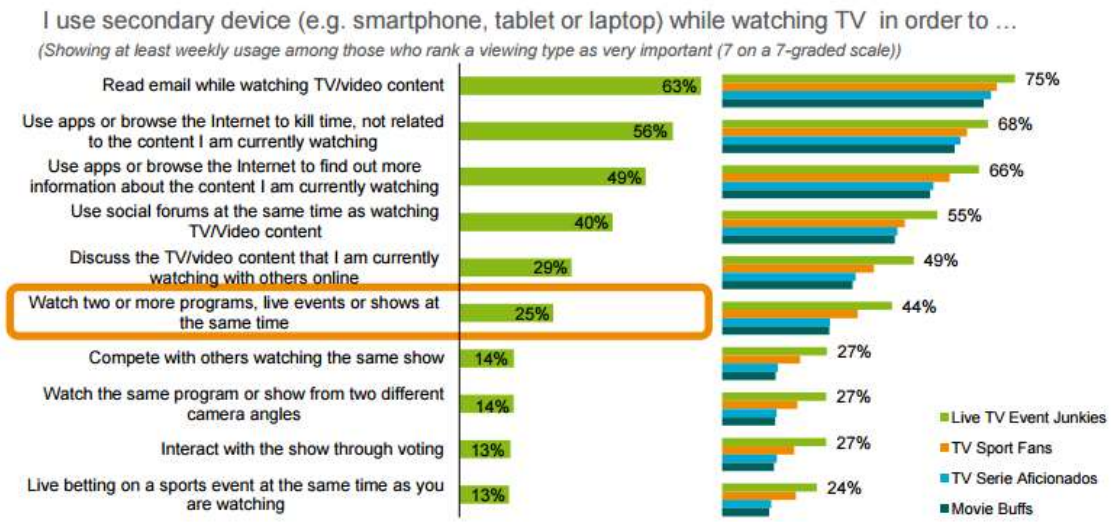
MOBILE VIEWING INCREASES



72% use mobile screens for video viewing each week

BASE: Extended 9 markets, [Those who have and use respective device]
Source: Ericsson ConsumerLab TV & Media 2013 Study
TV Media 2013 Study, Short Presentation | Commercial in confidence | © Ericsson AB 2013 | 2013-09-09 | Page 9 (20)

SECOND SCREEN USAGE



People who value live event and sport viewing are generally much more active using secondary devices while viewing

BASE: All 15 markets, [Left graph showing weekly or more usage among all consumers. Right graph showing weekly or more usage amongst those who answered top 1 on a 7-graded scale: "I agree completely" to the questions (from top to bottom above): "Being able to watch live events other than sports is very important to me", "Being able to watch live sports is very important to me", "Being able to watch good TV-series is very important to me" and finally "Being able to watch good movies is very important to me"]
Source: Ericsson ConsumerLab TV & Media 2013 Study
TV Media 2013 Study, Short Presentation | Commercial in confidence | © Ericsson AB 2013 | 2013-09-09 | Page 10 (20)

Publication date (source)… *Source: ….*

Обзор мирового рынка энергии из биомассы (англ). 2012 год. (1)

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IRENA WORKING PAPER

IRENA
International Renewable Energy Agency

RENEWABLE ENERGY TECHNOLOGIES: COST ANALYSIS SERIES

Volume 1: Power Sector
Issue 1/5

Biomass for Power Generation

June 2012

Contents

Key findings

1. The total installed costs of biomass power generation technologies varies significantly by technology and country. The total installed costs of stoker boilers was between USD 1 880 and USD 4 260/kW in 2010, while those of circulating fluidised bed boilers were between USD 2 170 and USD 4 500/kW. Anaerobic digester power systems had capital costs between USD 2 570 and USD 6 100/kW. Gasification technologies, including fixed bed and fluidised bed solutions, had total installed capital costs of between USD 2 140 and USD 5 700/kW. Co-firing biomass at low-levels in existing thermal plants typically requires additional investments of USD 400 to USD 600/kW. Using landfill gas for power generation has capital costs of between USD 1920 and USD 2 440/kW. The cost of CHP plants is significantly higher than for the electricity-only configuration.

TABLE 1: TYPICAL CAPITAL COSTS AND THE LEVELISED COST OF ELECTRICITY OF BIOMASS POWER TECHNOLOGIES

	Investment costs USD/kW	LCOE range USD/kWh
Stoker boiler	1 880 - 4 260	0.06 - 0.21
Bubbling and circulating fluidised boilers	2 170 - 4 500	0.07 - 0.21
Fixed and fluidised bed gasifiers	2 140 - 5 700	0.07 - 0.24
Stoker CHP	3 550 - 6 820	0.07 - 0.29
Gasifier CHP	5 570 - 6 545	0.11 - 0.28
Landfill gas	1 917 - 2 436	0.09 - 0.12
Digesters	2 574 - 6 104	0.06 - 0.15
Co-firing	140 - 850	0.04 - 0.13

2. Operations and maintenance (O&M) costs can make a significant contribution to the levelised cost of electricity (LCOE) and typically account for between 9% and 20% of the LCOE for biomass power plants. It can be lower than this in the case co-firing and greater for plants with extensive fuel preparation, handling and conversion needs. Fixed O&M costs range from 2% of installed costs per year to 7% for most biomass technologies, with variable O&M costs of around USD 0.005/kWh. Landfill gas systems have much higher fixed O&M costs, which can be between 10% and 20% of initial capital costs per year.

3. Secure, long-term supplies of low-cost, sustainably sourced feedstocks are critical to the economics of biomass power plants. Feedstock costs can be zero for wastes which would otherwise have disposal costs or that are produced onsite at an industrial installation (e.g. black liquor at pulp and paper mills or bagasse at sugar mills). Feedstock costs may be modest where agricultural residues can be collected and transported over short distances. However, feedstock costs can be high where significant transport distances are involved due to the low energy density of biomass (e.g. the trade in wood chips and pellets). The analysis in this report examines feedstock costs of between USD 10/tonne for low cost residues to USD 160/tonne for internationally traded pellets.

4. The LCOE of biomass-fired power plants ranges from USD 0.06 to USD 0.29/kWh depending on capital costs and feedstock costs. Where low-cost feedstocks are available and capital costs are modest, biomass can be a very competitive power generation option. Where low-cost agricultural or forestry residues and wastes are available, biomass can often compete with conventional power sources. Even where feedstocks are more expensive, the LCOE range for biomass is still more competitive than for diesel-fired generation, making biomass an ideal solution for off-grid or mini-grid electricity supply.

5. Many biomass power generation options are mature, commercially available technologies (e.g. direct combustion in stoker boilers, low-percentage co-firing, anaerobic digestion, municipal solid waste incineration, landfill gas and combined heat and power). While others are less mature and only at the beginning of their deployment (e.g. atmospheric biomass gasification and pyrolysis), still others are only at the demonstration or R&D phases (e.g. integrated gasification combined cycle, bio-refineries, bio-hydrogen). The potential for cost reductions is therefore very heterogeneous. Only marginal cost reductions are anticipated in the short-term, but the long-term potential for cost reductions from the technologies that are not yet widely deployed is good.

1. Introduction

Renewable energy technologies can help countries meet their policy goals for secure, reliable and affordable energy to expand electricity access and promote development. This paper is part of a series on the cost and performance of renewable energy technologies produced by IRENA. The goal of these papers is to assist government decision-making and ensure that governments have access to up-to-date and reliable information on the costs and performance of renewable energy technologies.

Without access to reliable information on the relative costs and benefits of renewable energy technologies, it is difficult, if not impossible, for governments to arrive at an accurate assessment of which renewable energy technologies are the most appropriate for their particular circumstances. These papers fill a significant gap in information availability because there is a lack of accurate, comparable, reliable and up-to-date data on the costs and performance of renewable energy technologies. There is also a significant amount of perceived knowledge about the cost and performance of renewable power generation that is not accurate, or, indeed, is even misleading. Conventions on how to calculate cost can influence the outcome significantly, and it is imperative that these are well-documented.

The absence of accurate and reliable data on the cost and performance of renewable power generation technologies is therefore a significant barrier to the uptake of these technologies. Providing this information will help governments, policy-makers, investors and utilities make informed decisions about the role renewables can play in their power generation mix. This paper examines the fixed and variable cost components of biomass power, by country and by region, and provides the levelised cost of electricity from biomass power given a number of key assumptions. This up-to-date analysis of the costs of generating electricity from biomass will allow a fair comparison of biomass with other power generating technologies.[1]

1.1 DIFFERENT MEASURES OF COST AND DATA LIMITATIONS

Cost can be measured in a number of different ways, and each way of accounting for the cost of power generation brings its own insights. The costs that can be examined include equipment costs (e.g. wind turbines, PV modules, solar reflectors), financing costs, total installed cost, fixed and variable operating and maintenance costs (O&M), fuel costs and the levelised cost of energy (LCOE), if any.

The analysis of costs can be very detailed, but for comparison purposes and transparency, the approach used here is a simplified one. This allows greater scrutiny of the underlying data and assumptions, improved transparency and confidence in the analysis, as well as facilitating the comparison of costs by country or region for the same technologies in order to identify what are the key drivers in any differences.

The three indicators that have been selected are:

- Equipment cost (factory gate FOB and delivered at site CIF);
- Total installed project cost, including fixed financing costs[2]; and
- The levelised cost of electricity LCOE.

The analysis in this paper focuses on estimating the cost of biomass power from the perspective of an investor, whether it is a state-owned electricity generation utility, an independent power producer or

FIGURE 1.1: RENEWABLE POWER GENERATION COSTS INDICATORS AND BOUNDARIES

an individual or community looking to invest in small-scale renewables (Figure 1.1). The analysis excludes the impact of government incentives or subsidies, system balancing costs associated with variable renewables and any system-wide cost-savings from the merit order effect. Further, the analysis does not take into account any CO2 pricing, nor the benefits of renewables in reducing other externalities (e.g. reduced local air pollution and contamination of the natural environment). Similarly, the benefits of renewables being insulated from volatile fossil fuel prices have not been quantified. These issues are important but are covered by other programmes of work at IRENA.

It is important to include clear definitions of the technology categories, where this is relevant, to ensure that cost comparisons are robust and provide useful insights (e.g. biomass combustion vs. biomass gasification technologies). Similarly, it is important to differentiate between the functionality and/ or qualities of the renewable power generation technologies being investigated (e.g. ability to scale-up, feedstock requirements). It is important to ensure that system boundaries for costs are clearly set and that the available data are directly comparable. Other issues can also be important, such as cost allocation rules for combined heat and power plants and grid connection costs.

The data used for the comparisons in this paper come from a variety of sources, such as business journals, industry associations, consultancies, governments, auctions and tenders. Every effort has been made to ensure that these data are directly comparable and are for the same system boundaries. Where this is not the case, the data have been corrected to a common basis using the best available data or assumptions. It is planned that these data will be complemented by detailed surveys of real world project data in forthcoming work by the agency.

An important point is that although this paper tries to examine costs, strictly speaking, the data available are actually prices, and not even true market average prices, but price indicators. The difference between costs and prices is determined by the amount above, or below, the normal profit that would be seen in a competitive market. The rapid growth of renewables markets from a small base means that the market for renewable power generation technologies is rarely well-balanced. As a result, prices, particularly for biomass feedstocks, can rise significantly above costs in the short-term if supply is not expanding as fast as demand, while in times of excess supply losses can occur and prices may be below production costs. This makes analysing the cost of renewable power generation technologies challenging and every effort is made to indicate whether costs are above or below

4. Global Biomass Power Market Trends

4.1 CURRENT INSTALLED CAPACITY AND GENERATION

In 2010 the global installed capacity of biomass power generation plants was between 54 GW and 62 GW (REN21, 2011 and Platts, 2011). The range suggests that power generation from biomass represents 1.2% of total global power generation capacity and provides around 1.4% to 1.5% of global electricity production (Platts, 2011 and IEA, 2011).

Europe, North America and South America account for around 85% of total installed capacity globally. In Europe, 61% of total European installed capacity using solid biomass (excluding wood chips) is in England, Scotland and Sweden. Wood-fired biomass power capacity is concentrated in Finland, Sweden, England and Germany. Together these four countries account for 67.5% of European wood-fired biomass power generation capacity. Landfill gas capacity is concentrated in England with 45% of the European total, while biogas capacity is concentrated in Germany with 37% of total European capacity. In North America wood accounts for 65% of total installed capacity and landfill gas 16% (Platts, 2011). In South America, Brazil is the largest producer of biomass electricity as a result of the extensive use of bagasse for co-generation in the sugar and ethanol industry.

Despite the large biomass resources in developing and emerging economies, the relative contribution of biomass is small, with the majority of biomass capacity located in Europe and North America. The

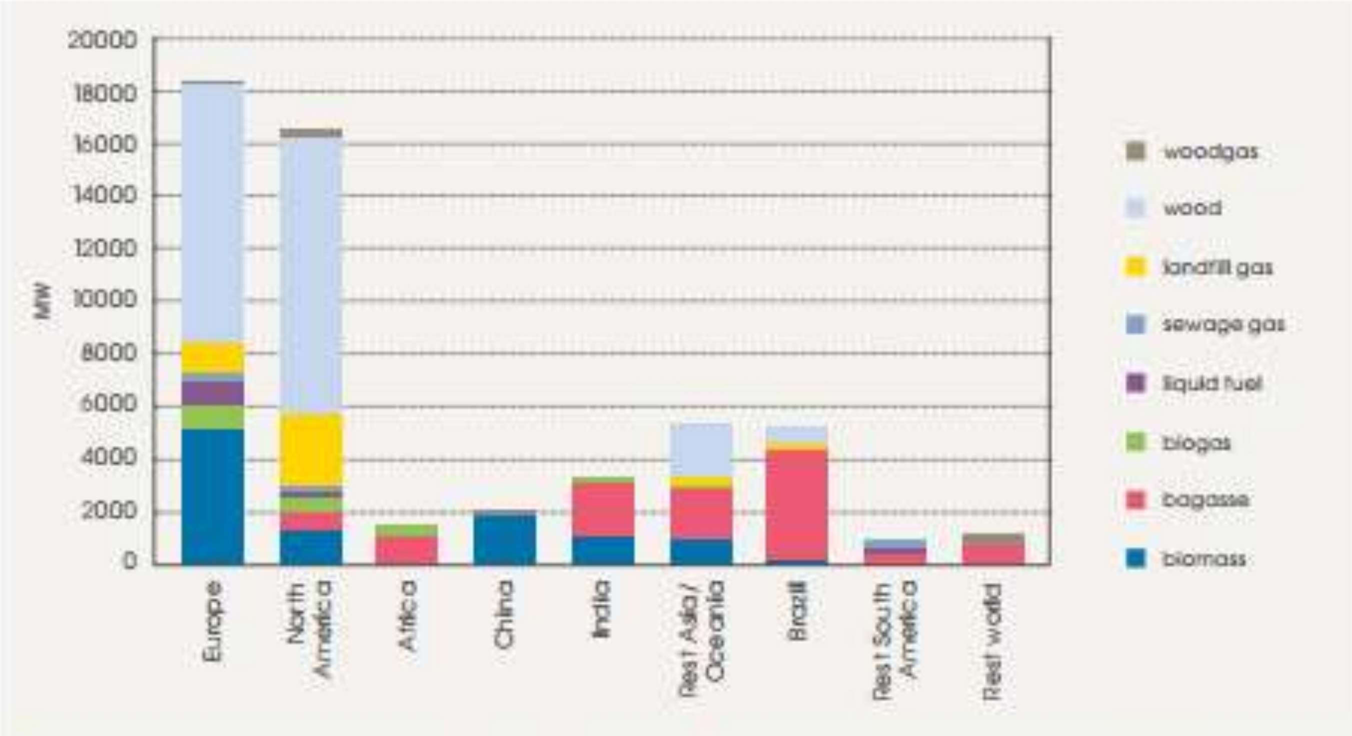

FIGURE 4.1: GLOBAL GRID-CONNECTED BIOMASS CAPACITY IN 2010 BY FEEDSTOCK AND COUNTRY/REGION (MW)

SOURCE: PLATTS, 2011.

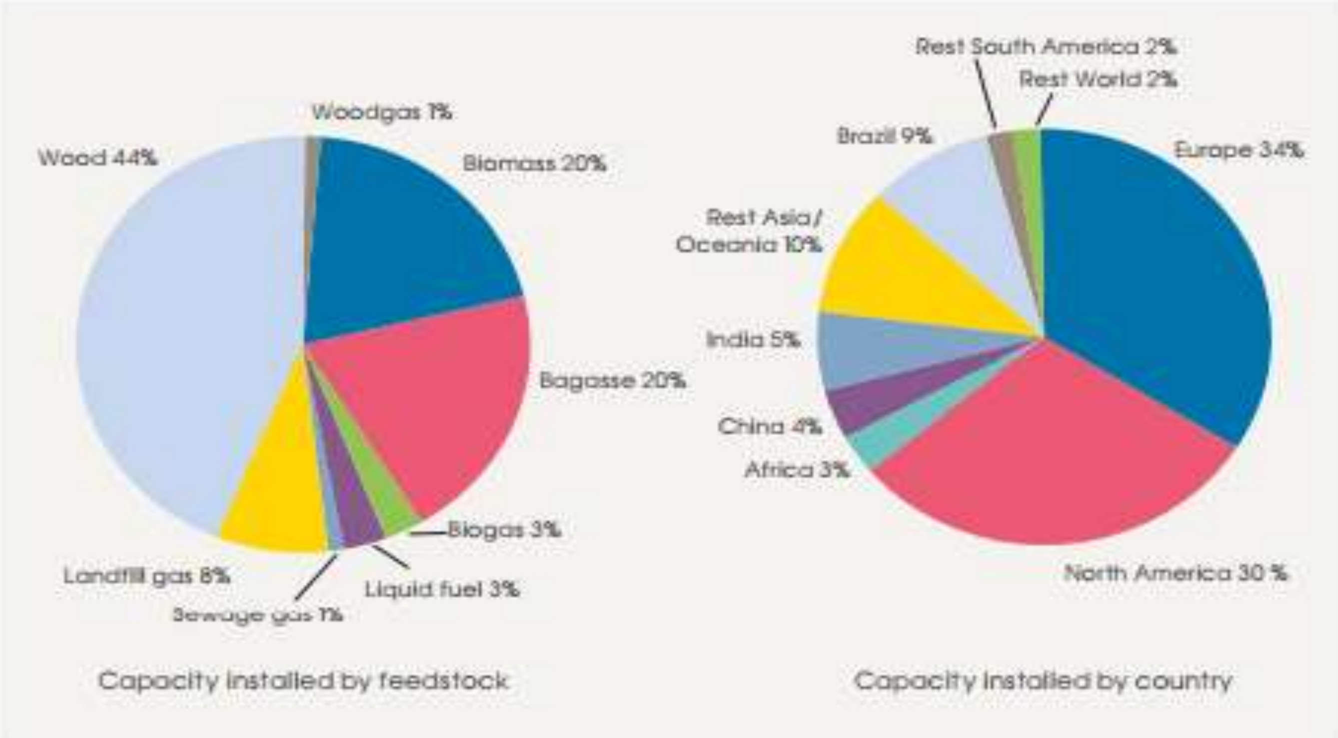

FIGURE 4.2: SHARE OF GLOBAL INSTALLED BIOMASS CAPACITY IN 2010 BY FEEDSTOCK AND COUNTRY/REGION

SOURCE: PLATTS, 2011.

combustion of bagasse is the dominant source of electricity from bioenergy in non-OECD countries. In Brazil, the combustion of bagasse from the large sugar cane industry accounted for around 4.4 GW of grid-connected capacity in 2010 (Figure 4.1)

Around 84% of total installed biomass power generation today is based on combustion with steam turbines for power generation, with around half of this capacity also producing heat (combined heat and power) for industry or the residential and service sectors.

The co-firing of thermal plants with biomass is becoming increasingly common. By the end of 2011, around 45 GW of thermal capacity was being co-fired with biomass to some extent in Europe. In North America, around 10 GW of capacity is co-firing with biomass (IEA Bioenergy, 2012 and Platts, 2011).[18]

Table 4.1 presents examples of the co-firing of biomass in coal-fired power plants in the Netherlands. The level of co-firing ranges from 5% to 35% and there is a range of technologies and feedstocks being used.

4.2 FUTURE PROJECTIONS OF BIOMASS POWER GENERATION GROWTH

Biomass currently accounts for a significant, but declining share of total renewable power generation capacity installed worldwide, but significant growth is expected in the next few years due to support policies for renewable energy in Europe and North America. In addition to the environmental and energy security benefits all renewables share, biomass has the additional advantage that is a schedulable renewable power generation source and can complement the growth in other variable renewables. Biomass for CHP can also greatly improve the economics of

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In case of any questions, You can contact us

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*or **E-mail: baza@pro-consulting.ua.***