equity\_perspectives

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wb <- openxlsx::createWorkbook(title = "ipcc\_ar6\_figure\_equity\_perspectives")  
  
addWorksheet(wb,"info")  
addWorksheet(wb,"geographic regions (top panels)")  
addWorksheet(wb,"ldcs and sids (lower panels)")  
  
info = data.frame(x=c("Author","Last update","Code"),y=c("William F. Lamb",as.character(Sys.time()),"https://github.com/mcc-apsis/AR6-Emissions-trends-and-drivers/blob/master/R/Analysis%20and%20figures/equity\_perspectives.Rmd"))  
  
writeData(wb, sheet="info",info,colNames=F,rowNames=F)  
writeData(wb, sheet = "geographic regions (top panels)", data, colNames = T, rowNames = F)  
writeData(wb, sheet = "ldcs and sids (lower panels)", data\_ldc\_sids, colNames = T, rowNames = F)  
  
saveWorkbook(wb,"../../Results/Plot data/ipcc\_ar6\_figure\_equity\_perspectives.xlsx",overwrite=T)

colors = colorRampPalette(brewer.pal(8, "Set2"))(11)  
  
p1 <- data %>%  
 ggplot(.,aes(x=var,y=fraction,fill=region\_ar6\_10)) +  
 geom\_bar(stat='identity',color="#737373") +  
 geom\_text(data=data %>% filter(region\_ar6\_10=="Africa"),aes(x=var,y=1.05,label=label),vjust=0,lineheight=0.75,color="#525252") +  
 geom\_text(data=data,aes(x=var,y=position,label=paste0(round(fraction,2)\*100,"%")),color="#525252") +  
 scale\_fill\_manual(values=colors) +  
 facet\_grid(.~category,scales="free",space="free",labeller = (label\_wrap\_gen(width = 32))) +  
 scale\_y\_continuous(labels = percent,breaks=c(0,0.25,0.50,0.75,1),limits=c(0,1.12)) +  
 theme(legend.title=element\_blank(),  
 legend.position="none",  
 axis.title = element\_blank(),  
 title = element\_text(face="plain"),  
 axis.text.x = element\_blank(),  
 plot.background = element\_blank(),  
 plot.margin = margin(0,0,0,0,"cm"),  
 axis.text = element\_text(size=10),  
 legend.text = element\_text(size=10),  
 strip.text = element\_text(size=12))   
  
# side panel for the labels  
p\_labels <- data %>%  
 filter(var=="Production CO2, incl. LULUCF (1850-2019)") %>%  
 ggplot(.,aes(x=1,y=position,label=str\_wrap(region\_ar6\_10,width=20),color=region\_ar6\_10)) +  
 geom\_text(hjust=0,lineheight=0.75) +  
 xlim(1,1.1) +  
 scale\_color\_manual(values=colors) +  
 scale\_y\_continuous(labels = percent,breaks=c(0,0.25,0.50,0.75,1),limits=c(0,1.08)) +  
 theme(panel.grid = element\_blank(),  
 axis.title = element\_blank(),  
 axis.text = element\_blank(),  
 axis.ticks = element\_blank(),  
 panel.border = element\_blank(),  
 plot.background = element\_blank(),  
 plot.margin = margin(0,0,0,0,"cm"),  
 legend.position="none")  
  
  
p2 <- data\_ldc\_sids %>%   
 ggplot(.,aes(x=var,y="a",label=ifelse(is.na(fraction),"",paste0(round(fraction\*100,1),"%")))) +  
 geom\_text() +  
 facet\_grid(region~category,scales="free",space="free") +  
 scale\_x\_discrete(labels=label\_wrap\_gen(width=13,multi\_line = TRUE)) +  
 theme(legend.position="none",  
 axis.title = element\_blank(),  
 title = element\_text(face="plain"),  
 axis.text.y = element\_blank(),  
 axis.text = element\_text(size=10),  
 legend.text = element\_text(size=10),  
 strip.background = element\_blank(),  
 strip.text = element\_blank())  
  
   
p\_labels\_2 <- data\_ldc\_sids %>%  
 filter(category=="b. Historical cumulative emissions by region") %>%  
 filter(var=="Production GHG, incl. LULUCF (2019)") %>%  
 ggplot(.,aes(x=1,y=c("a","b"),label=str\_wrap(c("Small Island Developing States (SIDS)","Least Developed Countries (LDCs)"),width=25))) +  
 geom\_text(hjust=0,vjust=0.5,color="Grey",lineheight=0.75) +  
 xlim(1,1.1) +  
 #scale\_color\_brewer(palette="Set2") +  
 #scale\_y\_continuous(labels = percent,breaks=c(0,0.25,0.50,0.75,1),limits=c(0,1.08)) +  
 theme(panel.grid = element\_blank(),  
 axis.title = element\_blank(),  
 axis.text = element\_blank(),  
 axis.ticks = element\_blank(),  
 panel.border = element\_blank(),  
 plot.background = element\_blank(),  
 plot.margin = margin(0,0,0,0,"cm"),  
 legend.position="none")  
  
(p1 + p\_labels + p2 + p\_labels\_2 + plot\_layout(heights=c(7,1),ncol=2,widths=c(4,1)))

